



# ARES COMMUNICATOR

Information for Scott County Amateurs



March, 2014

Accurate, Reliable Emergency Communications for our Community

Volume 14, Number 3

## SKYWARN Picnic

Saturday May 17<sup>th</sup>

By: Howard Lund, Metro Skywarn

Metro Skywarn is proud to announce the 3rd annual Spotter Appreciation picnic to be held on Saturday May 17th from 12pm - 3pm. We have planned Sunday May 18th as the rain date alternative.

The picnic will be held at the NWS Chanhassen facilities located at 1733 Lake Drive West, Chanhassen, MN 55317.

The Board will provide hot dogs and beverages, plates, napkins, utensils, etc. We would ask any attendees to bring something to share (Not Mandatory, but would be appreciated) such as snacks, salads, desserts, etc.

It would be very helpful if we had some idea the number of folks planning on attending. If you could please RSVP to: [howard.lund@rcemhs.com](mailto:howard.lund@rcemhs.com) with the number of people in your group and maybe an indication of the dish you could bring to share, that would be great!

Remember that we encourage this to be a Family event, so bring the kids! We will have games, facility tours and is always a good time had by folks of all ages.

This is just one way that the Board Members of Metro Skywarn can say "Thank-You" to each of you and to your family, for all the time, effort and support you each give back to the community with your dedication with regards to severe weather spotting.



BREAK - OVER

## Field Day 2014

June 28<sup>th</sup> -29<sup>th</sup>

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

Field Day is an informal contest, practice for emergencies, a picnic, and, most of all, FUN! It is a time where many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities.

Field Day is an excellent opportunity to demonstrate Amateur Radio to the organizations that Amateur Radio might serve in an emergency, as well as the general public. ARRL Field Day is one of the highlights of the annual calendar for many groups.



Field Day *cont'd on page 2*

## ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, March 8th

Digital Monday, March 10th

### 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

The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.

EDITOR: Bob Reid, Scott County Emergency Coordinator

Snail Mail: 13600 Princeton Circle  
Savage, MN. 55378

E-Mail: [N0BHCA@aol.com](mailto:N0BHCA@aol.com)

Phone: Home 952-894-5178 Portable 612-280-9328

## Field Day - cont'd from page 1

The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions.

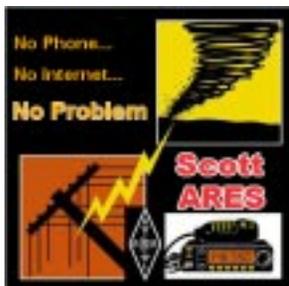
Amateurs use these same skills when we help with events such as marathons and bike-a-thons; fund-raisers such as walk-a-thons; celebrations such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities. But despite the development of very complex, modern communications systems — or maybe because they ARE so complex — ham radio has been called into action again and again to provide communications in crises when it really matters. Amateur Radio volunteers are well known for our communications support in real disaster and post-disaster situations.

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## Scott County ARES Contacts

Emergency Coordinator  
Bob Reid N0BHC  
13600 Princeton Circle  
Savage, MN 55378  
952-894-5178  
N0BHC@arrl.net



## Test Your NIMS Knowledge

This month we will continue our review of ICS-700a: National Incident Management System (NIMS) An Introduction. Check your recall of the course material with this question.

Which entity provides a structure for developing and delivering incident-related coordinated messages by developing, recommending, and executing public information plans and strategies?

- A. Joint Information Base
- B. Joint Information System
- C. Joint Information Operation
- D. Joint Information Center

Check next month's ARES Communicator for the solution

## February NIMS Knowledge Solution

1. Which position is responsible for the direct management of all incident-related tactical activities?

- C. Operations Section Chief

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## Comments on Digital Modes Needed

From: ARRL Bulletin No. 7

At the January ARRL Board of Directors meeting, the Directors asked for member feedback and input pertaining to the increasing popularity of data modes. The information gathered is to be used by the HF Band Planning Committee as a means to suggest ways to use our spectrum efficiently so that these data modes may “compatibly coexist with each other.”

The feedback may include, but is not limited to, the recent proposal to the FCC, RM 11708, regarding the elimination of the symbol rate restrictions currently in effect. A FAQ on RM 11708 can be found on the web at, <http://www.arrl.org/rm-11708-faq>

ARRL member comments must be received no later than March 31, 2014 to be included in the Committee's report to the Board at the July 2014 ARRL Board of Directors meeting. You can e-mail your comments to: [HF-Digital-Bandplanning@arrl.org](mailto:HF-Digital-Bandplanning@arrl.org) You may also contact the Division Director by mail, telephone or in person with any relevant information.

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## United States Citizenship!

Have you ever thought about your United States citizenship? Probably not since that Civics course a long time ago! Foreigners who want to become a United States Citizen must pass a short exam that covers some key concepts important to America. Test your knowledge on the citizenship test.

Check next month for the answer to this month's question.

1. After the Vice President who is next in line of succession for the presidency?

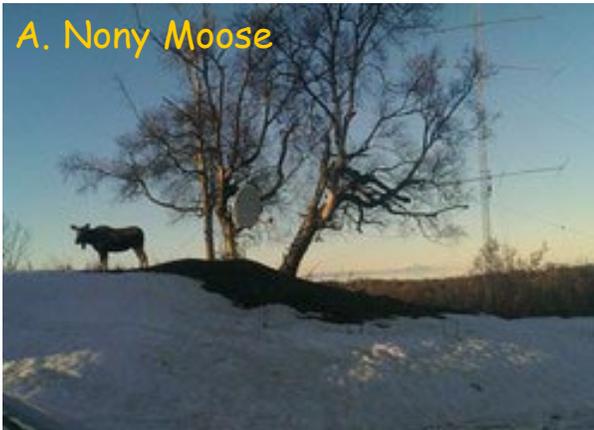
- A Speaker of the House
- B President Pro Temp of the Senate
- C The First Lady
- D Secretary of State
- E The Chief Justice of the Supreme Court

## February Citizenship Exam Answer

Name **one** problem that led to the Civil War.

- C. slavery

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Our occasional tight-fisted contributor, A. Nony Moose, MOOSE, was recently spotted inspecting the antenna farm at KL7RA near Kenai, Alaska.

## Midwinter Madness 2014

**Saturday March 29, 2014**

8:00am – 1:00pm

Buffalo Civic Center

1306 County Road 134

Buffalo MN 55313

Sponsored by KOLTC.org, Inc. Maple Grove Radio Club

Check the website for complete info: <http://www.koltc.org/mwm.html>

## 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. Here is this month's sample:

In the PACTOR protocol, what is meant by an NAK response to a transmitted packet?

- A. The receiver is requesting the packet be re-transmitted
- B. The receiver is reporting the packet was received without error
- C. The receiver is busy decoding the packet
- D. The entire file has been received correctly

What is the solar-flux index?

- A. A measure of the highest frequency that is useful for ionospheric propagation between two points on the Earth
- B. A count of sunspots which is adjusted for solar emissions
- C. Another name for the American sunspot number
- D. A measure of solar radiation at 10.7 cm

How might a sky-wave signal sound if it arrives at your receiver by both short path and long path propagation?

- A. Periodic fading approximately every 10 seconds
- B. Signal strength increased by 3 dB
- C. The signal might be cancelled causing severe attenuation
- D. A well-defined echo might be heard

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

## February General Pool Answers

1. What does the abbreviation "RTTY" stand for?
  - B. Radioteletype
2. What is a major advantage of MFSK16 compared to other digital modes?
  - D. It offers good performance in weak signal environments without error correction
3. How does the receiving station respond to an ARQ data mode packet containing errors?
  - B. Requests the packet be retransmitted

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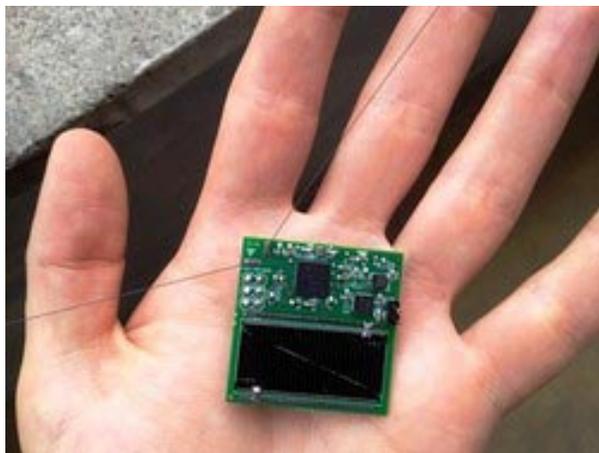


## Smallest Earth-Orbiting Satellites

ARRL Letter

When the third SpaceX ISS resupply mission launches on March 16 from Cape Canaveral, it will carry the 3U KickSat CubeSat into orbit. NASA TV is scheduled to broadcast the launch live. If all goes according to plan, KickSat, in turn, will release 200 “Sprite” satellites — each about the size of a small cracker — into Earth orbit. Zac Manchester, KD2BHC — a Cornell University PhD student in aerospace engineering — is heading up the project, which was funded via Kickstarter.

The tiny Sprite spacecraft will be single-function, short-lifespan units operating on 437 MHz. Each is essentially a double-sided printed circuit board measuring 3.5 cm × 3.5 cm, incorporating a microcontroller or two, radio, and solar cells. Each can carry single-chip sensors, such as thermometers, magnetometers, gyroscopes, and accelerometers. All Sprites operate on the same frequency — 437.240 MHz — and use Code Division Multiple Access (CDMA). Transmitters run 10 mW output.



A Sprite satellite.

When KickSat reaches its appropriate attitude and orbit, a command signal from the ground will trigger deployment, and the Sprites will be released as free-flying spacecraft. The Cornell ground station in Ithaca, New York, will monitor telemetry and sensor measurements from the individual Sprites, with assistance from several other Amateur Radio ground stations around the world.

Due to their low orbit, the Sprites can remain in orbit for as long as 6 weeks in a best-case scenario, depending on atmospheric conditions.

KickSat is being planned as a technology demonstration mission for the Sprite spacecraft. It's being launched through NASA's Educational Launch of Nanosatellite program.

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## RFI Reporting

When you have run out of ideas to track down that signal wiping out a large part of the band, there is help. If you cannot locate the source of the interference and the problem continues, you can file a complaint with the FCC, which has established rules to reduce interference.

Don't forget, you need to file a complaint each and every time you have a problem. The primary problem is people making one call, once.

Don't forget to mention Part 15.3(n) and 15.5(b)(c), make it easy by pointing out the specific violation. Provide as much specific information such as Frequency being interfered with, the mode used, time of day interference occurs, to start.

There is no charge for filing a complaint. You can file your complaint using an online complaint form. You can also file your complaint with the FCC's Consumer Center by calling 1-888-CALL-FCC (1-888-225-5322) voice or 1-888-TELL-FCC (1-888-835-5322) TTY; faxing 1-866-418-0232; or writing to: Federal Communications Commission  
Consumer and Governmental Affairs Bureau  
Consumer Inquiries and Complaints Division  
445 12th Street, SW  
Washington, DC 20554

Amateur Radio is used for public safety, don't forget here:  
<http://transition.fcc.gov/eb/sed/>

Good luck tracking down that interfering signal.

## NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at [www.scottares.org](http://www.scottares.org). Look under the 'Help Sheets' heading.

Be sure to check to make sure you have the current software on your thumb drive.

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](http://www.w1hkj.com/download.html) and <http://www.scottares.org/NBEMS.htm>

Here are the most recent releases as of February 4, 2014.

Software	Version
Fldigi	3.21.78
Flwrap	1.3.4
Flmsg	1.1.33
Flamp	2.1.02

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



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## Severe Weather Myths

Spring will arrive, sooner or later, and with it the increasing risk of severe weather. Metro SKYWARN has already issued its spring spotter training class schedule for those needing the bi-annual refresher.

FEMA has announced a list of severe weather myths in order to help increase public awareness and safety. Here are some of the myths.

**Myth 1:** Urban areas and communities near lakes, rivers, and mountains are safe from tornadoes.

**Fact & Act:** No place is safe from tornadoes. Ensure you know the warning system in your community and where to go in the event of a tornado. Contact your local emergency management office to learn the warning system in your area. Outdoor warning sirens are intended to alert individuals who are already outside, so it is important to have a weather radio so you'll be aware of dangerous weather no matter where you are.

**Myth 2:** Tornadoes aren't a risk during the winter months.

**Fact & Act:** Although the likelihood is lower during colder months, tornadoes are a risk any time of year. Most recently, an outbreak of destructive tornadoes hit southern Illinois on February 29, 2012; two days later, a second string caused widespread damage in southern Indiana. It's important to have a family preparedness plan year-round to ensure you're always ready for severe weather.

**Myth 3:** Windows should be opened before a tornado approaches to equalize pressure and minimize damage.

**Fact & Act:** Opening windows doesn't reduce the risk of home damage from a tornado or severe weather. Instead, close windows to keep high winds out and minimize damage from flying debris.

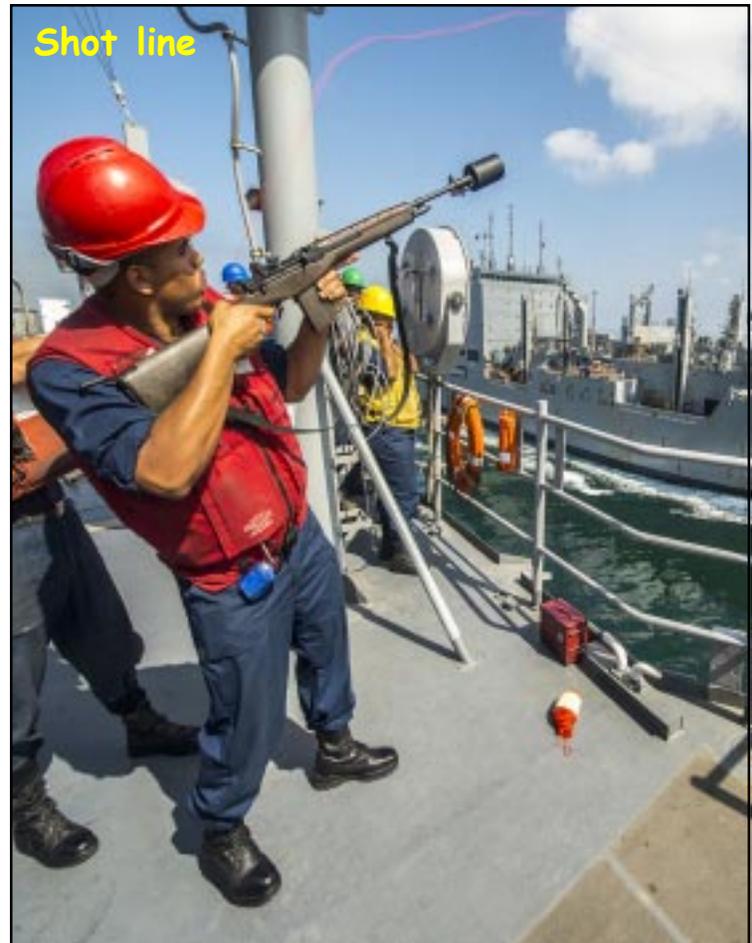
**Myth 4:** If a tornado hits while you're driving, seek shelter under highway overpasses.

**Fact & Act:** Do not seek shelter under highway overpasses or under bridges – these areas can actually become dangerous wind tunnels that collect flying debris. If possible, you should drive away from the tornado or seek shelter in a nearby structure. If a shelter isn't available, and driving away is not an option, stay in the car with the seat belt on, placing your head below the window and covering it with your hands. If you can safely get lower than the roadway, exit your car, lie in that area and cover your head with your hands.

**Myth 5:** Staying in a mobile home is safer than going outside.

**Fact & Act:** Evacuate immediately! Mobile homes are vulnerable to overturning and destruction from strong winds and tornadoes. If possible, leave and go to a community shelter. If no shelter is available, a ditch, culvert, or other low lying area may offer better protection, but be wary that debris tends to collect in these areas and flash flooding may be possible as well.

*cont'd col. 2*



ARABIAN GULF Gunner's Mate 3rd Class Jonathan Tineo, assigned to the amphibious dock landing ship USS Harpers Ferry (LSD 49), from Brooklyn, N.Y., fires a shot line to the Military Sealift Command dry cargo and ammunition ship USNS Richard E. Byrd (T-AKE 4) during a replenishment-at-sea. Harpers Ferry is part of the Boxer Amphibious Ready Group and, is deployed in support of maritime security operations and theater security cooperation efforts in the U.S. 5th Fleet area of responsibility.

## SuperBertha!

There are antennas, then there is super Bertha! What an impressive aluminum tree growing in the back yard! Check out the product line here: [www.superbertha.net/](http://www.superbertha.net/)

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*cont'd from col. 1*

Have a plan of action prepared before a storm hits.

You can always find valuable tips to help you prepare for severe weather at [www.ready.gov/severe-weather](http://www.ready.gov/severe-weather) and or download the free FEMA app, available for your Android, Apple or Blackberry device. Visit the site or download the app today so you have the information you need to prepare for severe weather.

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## Happy Birthday

### The Web turns 25

On March 12, 1989 Tim Berners-Lee, while working as a contractor at the CERN laboratories in Switzerland, submitted *Information Management: A Proposal*, which sparked the greatest advance in information technology since Gutenberg invented the printing press. At the time, it was just a way for CERN scientists to share data, but a quarter of a century later, it's grown from a curiosity into a necessity without which our world can no longer function.

For something that has had such an impact on our lives, the Web is surprisingly simple ... but so is the starter button on a McLaren P1. In many ways, it didn't even seem like that big a leap at the time. Computers had been around for decades and throughout the 1980s they'd grown smaller, cheaper, more powerful, and more common. As far back as Vannevar Bush's work in the 1940s, scientists and engineers had been working on how to get computers to communicate with one another, and the internet itself had been under development since 1969.

The problem was that in 1989, unless you were an accountant or a writer, the average computer was like an Alfa Romeo Spyder. It might be a great piece of technology, but it spent most of the time in the garage. That's because no one had yet sorted out a way for any computer to communicate with any other computer.

Then in March 1989, Tim (now Sir Tim) Berners-Lee submitted his proposal for a new information management system that would allow the scattered scientific personnel of CERN to easily share data. His boss, Mike Sendall, called it "vague, but exciting" and allowed Berners-Lee to continue work on his idea.

This idea was very simple. It involved marrying hypertext to the internet by means of three essential technologies developed by Berners-Lee and his team. The first was a system of unique identifiers for each page, image, or other resource on the internet called a URI or URL. Then there was HyperText Markup Language (HTML), which was a simple way of creating web pages, and finally, there was Hypertext Transfer Protocol (HTTP), which is a protocol to exchange or transfer hypertext.

Though similar systems had already been developed, Berners-Lee used unidirectional links rather than bidirectional ones, so links could be added without the page being linked from needing to do anything, and allowed web servers and browsers to be easily built. Berners-Lee and his team went on to write the first web page editor/writer, which he called the "WorldWideWeb," the first server, which was housed in an unassuming NeXT computer, and in 1990, the first web page. In 1991, CERN opened the web up to users outside the laboratory, and in 1993, it was given to the world royalty free.

Even then, the Web wasn't much to write home about. There

were already ways that people could get onto the internet with primitive modems using such things as BBS and Compuserve, but these were proprietary, limited, and most computer networks were largely closed off. However, thanks to a mixture of good engineering, marketing, and dumb luck, the Web eventually won out.

It was decentralized, owned by no-one, controlled by no-one, was built by individuals for their own purposes rather than tailored for a specific task, and while its competitors were like trains running on fixed tracks, the Web was more like motor cars that the users could drive where they wished. Then along came the Mosaic browser that brought a graphical user interface to the Web, kickstarting rapid growth that would see the number of web users explode to 50 million inside of five years.

In the 25 years since Berners-Lee's proposal, the Web's come a long way from the days when its main function was to host Kirk vs Picard flame wars. It's had a huge impact that has touched every facet of our lives, from entertainment to politics to manufacturing to medicine. It's become so pervasive in such a short time that to do justice to its effects would mean describing most of our technology and economy, as well as a great swatch of our culture.

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## Are You Burglarproof?

Take a look at this short video and see if you might be at risk. Chances are you will be headed to the garage to install some inexpensive protection. [https://www.youtube.com/watch?v=kSO\\_HTBHLFI](https://www.youtube.com/watch?v=kSO_HTBHLFI)

What an ingenious solution.



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*"Wisdom is the reward you get for a lifetime of listening when you'd have preferred to talk."*

Doug Larson

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## Asteroid Break-up

NASA Science News

NASA's Hubble Space Telescope has recorded the never-before-seen break-up of an asteroid into as many as 10 smaller pieces. Fragile comets, comprised of ice and dust, have been seen falling apart as they approach the sun, but nothing like this has ever before been observed in the asteroid belt.

"This is a rock, and seeing it fall apart before our eyes is pretty amazing," said David Jewitt of the University of California at Los Angeles, who led the astronomical forensics investigation.



The crumbling asteroid, designated P/2013 R3, was first noticed as an unusual, fuzzy-looking object by the Catalina and Pan STARRS sky surveys on Sept. 15, 2013. A follow-up observation on October 1 with the W. M. Keck Observatory on the summit of Mauna Kea, a dormant volcano on the island of Hawaii, revealed three bodies moving together in an envelope of dust nearly the diameter of Earth.

"The Keck Observatory showed us this thing was worth looking at with Hubble," Jewitt said. "With its superior resolution, space telescope observations soon showed there were really 10 embedded objects, each with comet-like dust tails. The four largest rocky fragments are up to 400 yards in diameter, about four times the length of a football field."

Hubble data showed the fragments drifting away from each other at a leisurely one mph. The asteroid began coming apart early last year, but new pieces continue to reveal themselves, as proved in the most recent images.

It is unlikely the asteroid is disintegrating because of a collision with another asteroid, which would have been instantaneous and violent by comparison to what has been observed. Debris from such a high-velocity smashup would also be expected to travel much faster than observed. Nor is the asteroid coming unglued due to the pressure of interior ices warming and vaporizing.

This leaves a scenario in which the asteroid is disintegrating due to a subtle effect of sunlight, which causes the rotation rate of the asteroid to gradually increase. Eventually, its component pieces — like grapes on a stem — succumb to centrifugal force and gently pull apart. The possibility of disruption in this manner has been discussed by scientists for several years, but never reliably observed.

## Newbie Soldering Tips

Top 10 Soldering Safety Tips from Jameco customers published in the Jameco Electronics e-letter. You will smile but don't laugh! You know you made some of these mistakes too.

Remember, soldering is not supposed to be a contact sport — your finger with the iron!

1. Don't burn yourself
2. Don't burn anything else
3. When you do burn yourself — because you will — be sure to have first aid supplies near by:

- First Aid Kit
- Bandages
- Cold Packs
- Aloe Vera
- Fire Extinguishers

4. Wear pants to protect your legs, safety glasses and don't wear polyester clothing
5. Work in a clean area free of oils, grease and anything that is flammable
6. Don't eat greasy foods while you solder
7. Solder slowly and stay focused
8. Always return the soldering iron to the stand after each use and grab the cool end when you use it (one expert offered the advice, "If it smells like fried chicken, you picked up the wrong end!")
9. Remember: It takes a long time for the soldering iron to cool off
10. Always unplug the soldering iron when you're done



**ARES Breakfast**  
Saturday March 8th  
7:30AM  
Perkins Restaurant  
Savage, MN

## NECOS Schedule March 2014

The first Monday or the month the net is held on the WB0RMK repeater, Carver. You will find WB0RMK here: 147.165/765 PL 107.2

17 Mar	KC0YHH Tony
24 Mar	KD0UWZ Chad
31 Mar	KC0YHH Tony
7 Apr	N0BHC Bob
14 Apr	KD0UWZ Chad
21 Apr	KC0YHH Tony
28 Apr	N0BHC Bob