



ARES COMMUNICATOR

Information for Scott County Amateurs



June, 2012

Accurate, Reliable Emergency Communications for our Community

Volume 12, Number 6

Field Day 2012

It's HERE! June 23 - 24

The Field Day 2012 emergency communications exercise will take place the last full weekend this month on June 23rd – 24th. All amateur radio operators in Scott County have been invited to join the fun! The local media have also been sent a media release previewing the event.

Scott ARES volunteers have reserved the park shelter at Canterbury City Park, 13400 Inglewood Ave. in Savage for the two days of the exercise. You can find details and directions to the site on the Scott ARES website:

www.scottares.org. Click on the Field Day notice.

The goal of the Field Day exercise is to contact as many other portable emergency stations as possible within the 24 hours of the exercise and enjoy the company of other ARES members. Scott ARES members will be developing their plan for the exercise during their monthly breakfast on the second Saturday of the month, June 9th.

Join the group for good food and discussion at the Perkins restaurant in Savage starting around 7:30 am. Updates on the planning will be available on the weekly training net on Monday evening at 7:00 pm on 146.535 simplex. Check in and contribute your two cents worth!

The Field Day exercise is sponsored by The American Radio Relay League (ARRL), the national organizations for Amateur Radio, has been an annual event since 1933.



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

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Reader submissions encouraged!

Kids Day 2012

June 16th

Kids Day is an on-air event to encourage young people (licensed or not) to have fun with Amateur Radio. It is designed to give on-the-air experience to youngsters and hopefully foster interest in getting a license of their own. It is also intended to give older hams a chance to share their station and love for Amateur Radio with their children.

The second Kids Day event of 2012 will take place on Saturday, June 16th. Kids Day always runs from 1800 UTC through 2359 UTC. Operate as much or as little as you like.

Suggestions for topic during the QSO include: Name, age, location and favorite color. Be sure to work the same station again if an operator has changed. To draw attention, call "CQ Kids Day."

All participants are eligible to receive a colorful certificate. You can download this certificate for free, customized with the youngster's names, after filling out the Kids Day Survey found on the same page as the certificate generator. <http://www.arrl.org/kids-day-survey-certificate>

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ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, June 9th

Digital Monday, June 11th

ARES Nets

MN ARES Phone Net		
	6:00PM Sunday	Freq: 3.568 mhz
ARRL MN Phone Net		
	12:00p, 4:30p CST Daily	Freq: 3.568 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 3.870 mhz	6:00pm
Wisconsin:	Daily 3.985 mhz	5:30pm
Iowa:	Daily 3.970 mhz	12:30/5:30pm

Test Your NIMS Knowledge

This month we will review some of the points from the course ICS-200b: ICS for Single Resources and Initial Action Incidents. Check your recall of the course material with these questions.

1. Representatives from Assisting or Cooperating Agencies and Organizations coordinate through:
 - A. Liaison Officer
 - B. Operations Section Chief
 - C. Public Information Officer
 - D. Logistics Section Chief
2. Typing resources allows managers to make better resource ordering decisions by:
 - A. Describing the size, capability, and staffing qualifications of a specific resource
 - B. Indicating how the resource can be used when deployed at the incident site
 - C. Linking resources needed to execute typical response and recovery activities
 - D. Providing detailed information about the best sources for procuring a needed resource

Check next month's ARES Communicator for the solution



ANNAPOLIS, Md. (May 29, 2012) Graduates in the U.S. Naval Academy Class of 2012 toss their covers following the school's annual graduation and commissioning ceremony. The Class of 2012 graduated 810 ensigns and 267 Marine Corps 2nd lieutenants at Navy-Marine Corps Memorial Stadium in Annapolis, Md.

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May NIMS Knowledge Solution

1. Select the TRUE statement:
 - C. Formal communication is used in reporting progress of assigned tasks
2. The Medical Unit is responsible for the development of the Medical Plan, obtaining medical aid, and:
 - A. Transportation for injured and ill incident personnel

Google to Notify Users Infected With DNSChanger Trojan

Google is embarking on an effort to notify Internet users if their computers or home routers are still infected with the DNSChanger Trojan, a piece of sophisticated malware that has compromised an estimated 500,000 systems. The outreach campaign comes a little more than a month ahead of July 9, the date on which the FBI is set to take all computers corrupted with the malware offline.

If your computer is among the affected crop, Google will alert you via special messages that will appear at the top of search results, reading, "Your computer appears to be infected," Google security engineer Damian Menscher explained in a May 22 blog post. Google's hope is to directly warn as many as 500,000 affected users within the week, although Menscher admitted, "We realize we won't reach every affected user."

If your computer shows signs of DNSChanger corruption, you will receive, along with the notification, recommendations from Google as to how to purge the malware from your devices. Although Google cannot guarantee its tips will fully excise the Trojan, Menscher said, "If more devices are cleaned and steps are taken to better secure the machines against further abuse, the notification effort will be well worth it."

The fear surrounding DNSChanger, and the possibility that people would lose their Internet access, began last November, when the FBI's "Operation Ghost Click" took down an Estonian cybercrime ring that had infected 4 million computers and routers worldwide (and at least 500,000 computers in the U.S.) with the Trojan.

DNSChanger (DNS is short for Domain Name System) enabled the crooks to hijack Web traffic and reroute it to compromised sites under their control, a process from which they netted \$14 million in fraudulent advertising revenue.

Following the November bust, the FBI set up temporary DNS "surrogate" servers to keep the systems infected with the dangerous malware online while they were scrubbed of the malicious software. On March 5, a federal judge granted the government 120 days to keep the proxy servers running; a subsequent order pushed the deadline back to July 9.

If the Google alert tells you that your computer or router is affected, there are three things you need to do. First, you'll have to change some technical settings on your computer. Click here for instructions on how to do so. That will make sure you still have Internet access when the fateful day comes.

The second thing to do will be to update and run strong anti-virus software that will clean up your machine, because these particular malware infections are pretty nasty. You'll probably have to pay for the software. Here's a list of recommended anti-virus software.

cont'd col. 2

ICOM and BSA Team Up

Irving, Texas, and Bellevue, Washington (May 18, 2012)— Today, at the 2012 Dayton Hamvention in Dayton, Ohio, Icom America announced a sponsorship agreement with the Boy Scouts of America (BSA) for the organization's 2013 National Scout Jamboree. As the BSA's official amateur radio transceiver supplier for the jamboree, Icom will provide equipment and technical support for the K2BSA radio operation, the Radio merit badge, and Jamboree-on-the-Air.

Icom has supported the Boy Scouts of America's jamboree amateur radio operation, K2BSA, since 1981. Over those eight Jamborees, more than 30,000 Scouts have been able to experience amateur radio as a potential lifetime hobby or as an entry to a vocation in technology and communication. For the 2013 jamboree, Icom will provide all amateur radio transceivers, associated power supplies, microphones, and speakers. They will also be installing VHF and UHF repeaters that will remain in place year round to support Summit activities and the local community.

In addition to supporting the jamboree, Icom America and the BSA will select local councils to receive a loan of a complete amateur radio station for use in merit badge advancement activities and to introduce Scouts to the fun and technology of amateur radio. Up to 10 stations will be available for this program beginning this year. Since its introduction, more than 150,000 Scouts have earned the Radio merit badge, which was introduced as the Wireless merit badge in 1918.

The BSA, by virtue of its active membership and its outdoor program, represents a significant source of potential new radio operators looking to use amateur radio for emergency communications while in the field, as well as for education, experimentation, and friendship. Leveraging Icom's expertise in state-of-the-art amateur radio equipment, the BSA will be able to offer a first-class experience to jamboree participants and to the local councils selected for the station loan program.

Icom America is also a supporter of Jamboree-on-the-Air, the largest Scouting event in the world, with nearly 750,000 Scouts participating annually. In 2011, more than 6,000 amateur radio stations from 150 countries participated in the event, which takes place the third weekend of October each year. To find out more about JOTA, visit www.scouting.org/jota.

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Google Warning *cont'd from col. 1*

The third step is to check it again once you've done the first two. If you're still seeing the Google alert, check the DNS Changer Check-Up.

If that's red, your router may be infected. Check the manufacturer's website for a firmware update. At worst, you may have to buy a new router.

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ARES Mutual Assistance Team (ARESMAT) Concept

The ARESMAT concept recognizes that a neighboring section's ARES resources can be quickly overwhelmed in a large-scale disaster. ARES members in the affected areas may be preoccupied with mitigation of their own personal situations and therefore not be able to respond in local ARES operations. Accordingly, communications support must come from ARES personnel outside the affected areas. This is when help may be requested from neighboring sections' ARESMAT teams.

To effect inter-sectional support mechanisms, each Section Emergency Coordinator (SEC) should consider adopting the following principles in their ARES planning:

- Pre-disaster planning with other sections in the Division, and adjoining sections outside the Division. - -
- Planning should be conducted through written memoranda, and in-person at conventions and director-called cabinet meetings. An ARESMAT inter-sectional emergency response plan should be drafted.
- Development of a roster of ARESMAT members able, willing and trained to travel to neighboring sections to provide communication support inside the disaster area.
- Inter-sectional communication/coordination during and immediately following the onslaught of the disaster.
- Post-event evaluation and subsequent revision/updating of the inter-sectional emergency response plan.

When developing ARESMAT functions, ARES leadership should include the following basic action elements:

Pre-Departure Functions - Team leaders should provide ARESMAT members with notification of activation/assignment. Credentials should be provided for recognition by local authorities. They should provide a general and technical briefing on information drawn principally from the requesting authority, supplemented by reports from Amateur Radio, commercial radio, W1AW bulletins and ARRL officials. The briefing should include an overview of equipment and communication needs, ARESMAT leadership contacts and conditions in the disaster area.

The host SEC's invitation, transportation (including routes in disaster area) and accommodations considerations, and expected length of deployment should all also be reviewed with the team members.

In-Travel Functions - Before and while in travel to the affected areas, team leaders should review the situation's status with the team: job assignments, checklists, affected area profile, mission disaster relief plan, strengths and weaknesses of previous and current responses, maps, technical documents, contact lists, tactical operation procedures and response team requirements.

Arrival Functions - Upon arrival, team leaders should check with host ARES officials and obtain information about frequen-

cies in use, current actions, available personnel, communication and computer equipment, and support facilities that could be used by the team to support the relief effort. The host's ARES plan in effect for the disaster should be obtained. A priority upon arrival should be the establishment of an initial intra-team communication network and an HF or VHF channel back to the home section for morale traffic.

Team leaders should meet with served agencies, Amateur Radio clubs' communications staff, local ARRL communications authority, and others as needed to obtain information and coordinate the use of frequencies. Communication site selections should take into account team requirements and local constraints.

In-situ Functions - Team leaders should make an initial assessment of functioning communication facilities, and monitor host ARES officials' communications, and other response team relief efforts to coordinate operations and reduce duplication of effort. Team members should be monitored and their capabilities to perform their duties evaluated. Proper safety practices and procedures must be followed. A daily critique of communication effectiveness with served units and communication personnel should be conducted.

Pre-Demobilization and Demobilization Functions - An extraction procedure for ham communicators should be negotiated with served agencies and host ARES officials before it is needed. To get volunteers' commitment to travel and participate, they must be assured that there will be an end to their commitment. Open-ended commitments of volunteers are undesirable, partly because they make potential volunteers hesitate to become involved.

Leaders must coordinate with the host ARES officials and served agencies, and other functions to determine when equipment and personnel are no longer needed. A demobilization plan should be in effect.

A team critique, begun on the trip home, should be conducted. Individual performance evaluations on team members should be prepared. Copies of critiques should be sent to both the home SEC and in-disaster SEC. Problems stemming from personality conflicts should be addressed and/or resolved outside of formal reports, as they only provide distractions to the reports. Equipment should be accounted for.

A post-event evaluation meeting should always be conducted, and a final report prepared so that an update to the inter-sectional ARESMAT plan can be made.

ARESMAT Member Qualifications - The individual filling the role of ARESMAT member must have high performance standards, qualifications, experience, and the ability to work with a diverse group of team members that will be required to

ARESMAT - cont'd from page 4

provide relief to the affected areas. He or she must be able to work efficiently in a disaster relief operation under the most adverse conditions.

Additionally, a member should have demonstrated ability to be an effective team player, in crisis situations, a strong personal desire and strong interpersonal communication skills. A knowledge of how ARRL, Red Cross and other agencies function at both the national and local levels is helpful. A working knowledge of the incident command system is useful as many events are managed under this system.

Members should be respected and recognized by officials and peers as competent communicators and should understand a broad range of disaster response organizations' capabilities and communication requirements.

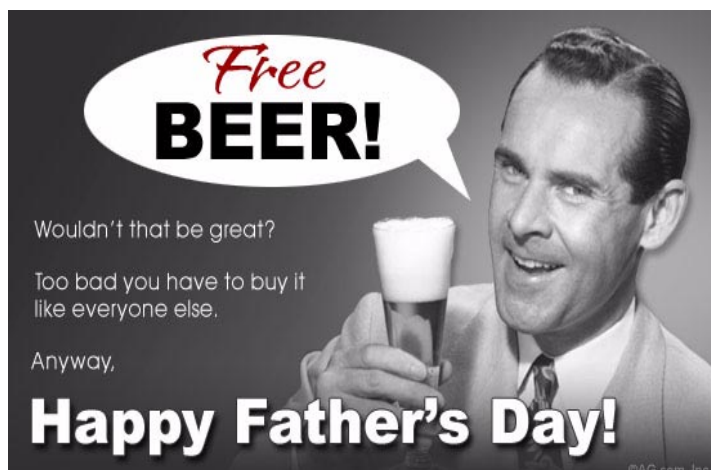
Important: Members must be available with the consent of their employer to participate! They should be physically fit to perform arduous work under adverse environmental conditions.

Summary - It should be noted that there is a fine balance of authority over a deployed ARESMAT. The in-disaster SEC (or delegated authority) should be able to make decisions as to use and deployment of an incoming team. Therefore, an incoming team should be prepared to submit themselves to such authority; this is evidenced by the fact that any team, internal or external, has only a limited view of the overall operation. The supervising authorities will have a better overview of the whole situation.

In turn, however, the in-disaster authority should be discouraged from abusing the resources of incoming teams. Should a team no longer be required, or a situation de-escalate, the team should be released at the earliest possible time, so that they may return home to their own lives.

The ARESMAT tool should be one of last resort. Whenever possible, amateurs from the affected section should be used for support. It is a lot to ask of a volunteer to travel far from home, family and job for extended periods of arduous and potentially dangerous work.

BREAK - OVER



Return of the Vacuum Tube?

Most people associate vacuum tubes with a time when a single computer took up several rooms and "debugging" meant removing the insects stuck in the valves, but this technology may be in for a resurgence with news that researchers at NASA and the National Nanofab Center in South Korea are working on a miniaturized "vacuum channel transistor" - a best-of-both-worlds device that could find application in space and high-radiation environments.

Vacuum tubes, or thermionic valves, have almost disappeared from our day-to-day life, save for some purist sound rigs and high-power radio base stations. Their replacement - solid-state transistors - are easier to manufacture, cheaper, lighter, last longer, and consume much less power. Valves, on the other hand, are more robust in high-temperature and high-radiation environments and yield a higher frequency/power output than standard transistors.

NASA/Nanofab researchers are developing a device that combines the best aspects from both vacuum tubes and solid-state transistors. Their prototype "vacuum channel transistor" is only 150 nanometers in size, can be manufactured cheaply using standard silicon semiconductor processing, can operate at high speeds even in hostile environments, and could consume just as much power as a standard transistor.



In a vacuum tube, electrons flow from the cathode to the anode by thermionic emission, the heat-induced flow of electrons. This means the cathode needs to be heated before it can emit electrons. The heating process requires a lot of power for the conventional macroscale tubes, but the energy expenditure drops dramatically as the device becomes smaller and the gap between the electrodes shrinks.

The nanoscale vacuum channel transistors being developed can operate at less than 10 volts, a significant improvement over standard tubes. The researchers say that, once the gap between the emitter and the collector is further reduced to only 10 nanometers, the power requirements will drop to less than a volt, which would be competitive with modern semiconductor technology.

The device also offers significant gains in terms of how fast the electrons can pass through. In semiconductors electron speed is limited to about 500 km (310 miles) per second, but in the vacuum they could travel at the speed of light - 600 times as fast.

This new technology could be used for sensing hazardous chemicals, noninvasive medical diagnostics, high-speed telecommunications, as well as in extreme environment military and space applications.

The results were published on the journal Applied Physics Letters.

BREAK - OVER

Morse Code Interpreter Strip

BSA to Offer Morse Code Recognition

For many years, Boy Scouts and Scouters have been able to earn an interpreter strip to wear on their uniforms. This strip — worn on the uniform above the right pocket — denotes proficiency in a foreign language or sign language. Each language has its own strip (with the name of the language embroidered in that language), and some Scouts and Scouters wear more than one strip. Now those hams involved with the Boy Scouts can show their proficiency in Morse code with a Morse code interpreter strip (with M-O-R-S-E spelled out in Morse code).

According to BSA Director of Communication Services Jim Wilson, K5ND, the idea for a Morse code interpreter strip came about during meetings preparing for the 2012 Jamboree on the Air (JOTA). “One of the ideas presented was a variation on an interpreter strip for Morse code,” Wilson told the ARRL. “We played around with it a bit and then approached the BSA Awards Committee with the idea. They liked it, so we decided to explore the idea a bit more. We looked at the existing requirements for interpreter strips to see how they could be adapted for code. The BSA approved the strip in April, but we decided to wait until the strips were available before we announced it.” Wilson also serves as the BSA’s National JOTA Organizer and is President and Trustee of K2BSA, the BSA Headquarters Amateur Radio station in Texas.

The requirements to earn the Morse code interpreter strip are in line with the requirements of interpreter strips for other languages:



Morse Code Interpreter Strip

- Carry on a five-minute conversation in Morse code at a speed of at least five words per minute, and
- Copy correctly a two-minute message sent in Morse code at a minimum of five words per minute. Copying means writing the message down as it is received, and
- Send a 25 word written document in Morse code at a minimum of five words per minute.

“Together, Amateur Radio and Boy Scouting is a wonderful thing,” Wilson told the ARRL. “The new Morse code interpreter strip is a nice recognition of the special skill of Morse code and its use in emergency communications. From my perspective, the strip gives us more buzz on things happening in Amateur Radio. In the past couple of decades, we have seen a tremendous increase in the number of Radio merit badges that have been awarded. In 1991-2000, we awarded 20,000 Radio merit badges. But in 2001-2010, we awarded 54,000! The interest in this badge has grown by leaps and bounds, indicating not only a keen interest in the art and science of radio, but in technology, too.”

BREAK - OVER

‘Smishing’

Attacks Are on the Rise

Text messaging is the most common non-voice use of a mobile phone. There are trillions of text messages received around the world each day, and an increasing number of them are spam, or phishing attacks of some sort. ‘Smishing’, the term used to describe texting phishing, is a more promising tool for cyber criminals than email phishing because at the moment users have fewer preventative tools.

A report from the Pew Internet and American Life Project claims that 73 percent of adults with a mobile phone use text messaging—sending and receiving an average of 41.5 messages per day. That average jumps to a startling 110 messages per day for individuals between 18 and 24.

Think twice about clicking that link in the suspicious text message. Cyber criminals are good at identifying lucrative markets and targeting weak links. Computer users are conditioned to recognize suspicious messages and security threats on PCs, and there’s generally security software in place to detect and prevent attacks. But, many people assume mobile phones are inherently safe, and don’t realize that malware and phishing attacks are a concern for mobile devices as well.

Smartphone users are used to receiving text messages, and are not likely to think twice about the security implications of clicking on a link in a text. The major Web browsers have phishing protection built in to alert the user to suspicious sites, and users can generally hover over a link to display the true URL on a PC, but mobile phones aren’t equipped to help users avoid malicious text messages.

Security experts advise that everyone needs to take a hard line with text messages; don’t trust anything. If you have the slightest doubt about the authenticity of the message, don’t even think about clicking. You might also consider adding security software for your mobile device. You may think of it as a mobile phone, but smartphones are just smaller computers loaded with gigabytes of sensitive information that attackers want. Use the same tools and common sense with your mobile phone that you use to avoid malware and phishing attacks on your PC.

BREAK - OVER

Q. What do you call a Grizzly without shoes?



A. Bear-foot!

Working Split DX

This is just a friendly reminder everyone to please listen carefully before transmitting with the goal of trying to work that rare DX station on the air for a short time. You've all heard Listen, Listen, Listen. But what exactly is meant by that.

Chances are that the DX frequency is transmitting on one frequency, answering stations calling on an separate frequency. Often the DX station will announce, "listening up 10 to 15." You will have to operate 'split' to make contact with this station. Hit the split or duplex button and verify you are listening on VFO "A".

Once you find the DX station's transmitting frequency, take a few minutes to listen. Are you able to copy the full call signs he is working? Where is he mostly working (Europe, W6, ZL, JA, South America)? Put your receiver on his transmit frequency (VFO "A").

When he gives a call sign of the next station he is working take your "B" VFO and see if you can hear the station he is trying to work. Switch back and forth for a few minutes until you figure out some key things.

- Where is he listening in between (frequency range),
- Who is he mostly working (what area has propagation to the DX station),
- How long in between QSOs is it taking him to pick up the next call.

These are all clues as to what's going on. Your object is to be the next QSO and you need to anticipate where he will be listening next and make your call at the right time.

In order to do that you are going to be much more successful if you don't call in the blind, but rather figure out his operating pattern. Spend a few minutes doing this and it will save you a lot of minutes (or hours) of just blind calling and frustrating others also trying to make the DX contact.

A few other points. Make sure you do not transmit on top of the DX station. If you don't know how to operate split, read the manual or ask someone to show you how to do it. The most important point to keep in mind is, if you don't hear the DX station, don't call, wait and LISTEN until you can.

Following these simple points will make that rare DX contact more fun for everyone and develop your reputation as a skilled and considerate operator.

BREAK - OVER

"To compel a man to subsidize with his taxes the propagation of ideas which he disbelieves and abhors is sinful and tyrannical."

Thomas Jefferson

The Last Drop!

You'll never waste a drop of ketchup again.
Just in time for grilling season!

It's one of the most common and infuriating dining problems everyone encounters: getting ketchup to pour smoothly out of bottle and onto your plate. You've probably heard a number of solutions from "tap the 57" to "spin the bottle between your hands," but even those methods can still drown your fries in sauce in the end. Luckily, science - or rather, a research group working at MIT - has finally taken notice and concocted an impressive solution. By coating the inside of any bottle with the slippery LiquiGlide coating, anything from ketchup to mayonnaise to jam flows right out like water, barely leaving a smudge behind.



The Varanasi Research Group spent two months working out of a MIT lab to develop the revolutionary substance, which was originally intended as an anti-icing or anti-clogging coating. But shifting the focus to food bottles wasn't just to make life easier on people eating at greasy diners.

So far, the team has yet to find a type of container that can't be coated and has found LiquiGlide gives any surface a unique feeling of being firm, but slippery. This quality makes foods that would normally stick to the sides of a container just slide right out as if they were touching nothing at all. The group is remaining tight-lipped on exactly which substances were used to create it, but has revealed that it is completely comprised of food-safe materials that have already been approved by the Food and Drug Administration.

Fortunately, LiquiGlide has already gained the attention of several bottle companies, thanks in no small part to it taking home second place in the MIT \$100k Entrepreneurship Competition, beating out 213 other teams. Even though the focus has been on food packaging, the group hopes its coating could have other applications in oil pipes, gas lines and windshields, among other things.

BREAK - OVER

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:

1. Why do most amateur stations use lower sideband on the 160, 75 and 40 meter bands?

- A. Lower sideband is more efficient than upper sideband at these frequencies
- B. Lower sideband is the only sideband legal on these frequency bands
- C. Because it is fully compatible with an AM detector

2. Which of the following is true concerning access to frequencies?

- A. Nets always have priority
- B. QSO's in process always have priority
- C. No one has priority access to frequencies, common courtesy should be a guide
- D. Contest operations must always yield to non-contest use of frequencies

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

May General Pool Answer

1. Which mode of voice communication is most commonly used on the high frequency amateur bands?

C. Single sideband

2. Which of the following statements is true of the single sideband (SSB) voice mode?

B. Only one sideband is transmitted; the other sideband and carrier are suppressed

BREAK - OVER

Congratulations

2012

Graduates



Blue Angels Graduation Fly-over



ANNAPOLIS, Md. (May 29, 2012) Midshipmen cheer as the Navy Blue Angels fly overhead during the U.S. Naval Academy Class of 2012 graduation and commissioning ceremony. The Class of 2012 graduated 810 ensigns and 267 Marine Corps 2nd lieutenants at Navy-Marine Corps Memorial Stadium in Annapolis, Md.



ARES Breakfast

Saturday June 9th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule May 2012

4 June	W0NFE Bob
11 June	KB0FH Bob
18 June	KC0YHH Tony
25 June	N0PI Dan
2 July	W0NFE Bob
9 July	KB0FH Bob