Training Net Change

1ST Mondays on WB0RMK Repeater!

Scott ARES members meet Monday evening at 7:00pm on 146.535 MHz simplex to improve their skills in directed net operation and digital message handling. The goal of these activities is to provide assistance to a served agency in time of a disaster.

Beginning on February 3rd, and on the first Monday of each month following, the weekly training net will be called on the WB0RMK repeater located in Carver. You can find the repeater at 147.165/147.765 MHz and there may have a PL (CTCSS) tone of 107.2 if it is active.

There will be a digital bulletin on the net to provide practice in fldigi operation along with updates from ARES members and other topics as they arise. We will limit the net to 30 minutes to not monopolize repeater use.

We realizing Scott ARES is a visitor on the repeater, and our thanks go to the Southwest Metro Amateur Radio Transmitting Society (SMARTS), who sponsor the repeater, for allowing us to use the repeater on the first Monday of each month.

The repeater has excellent coverage over the southwest metro and will provide an opportunity for amateurs who have difficulty participating in a simplex net to practice some digital messaging and become acquainted with Scott ARES.

Digi-Monday is the second Monday of the month when the simplex net (146.535 MHz) will concentrate on fldigi operation and generally have some message passing fun!

Scott ARES does actually meet informally face-to-face once a month as well. There is a breakfast gathering at the Perkins Restaurant in Savage on the second Saturday of each month that begins around 7:30 – 8:00am and generally solves the world's vexing radio problems by 9:30am. Perkins is located at 14435 Hwy 13 in Savage, just south of the junction of County Rd 42 and Hwy 13.

Stop by the net(s) or join the group for breakfast, we look forward to seeing you

BREAK - OVER

ARRL Centennial Year

The year 2014 marks the centennial of the ARRL's founding in Hartford, CT. In May 1914, Hiram Percy Maxim, W1AW — a leading inventor and industrialist in Hartford, Connecticut — founded the American Radio Relay League, together with Clarence Tuska, 1WD, the secretary of The Radio Club of Hartford. Today, the ARRL serves more than 158,000 members, mostly licensed radio amateurs, in the US and around the world.

There are many events scheduled throughout the year to commemorate the founding of the ARRL. The centennial national convention will be held July 17 – 19 in Hartford, CT.

The centennial observation also includes many on-the-air activities throughout the year including commemorative callsigns and special operating certificates.

You can find out more by visiting the ARRL website: www.arrl.org/about-arrl. Join the fun and get radio-active this year!

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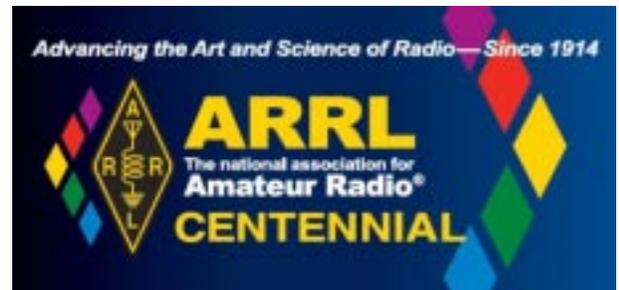
ARES Activities
Weekly Net Monday 7 PM 146.535 mhz (s)
Breakfast Saturday, February 8th
Digital Monday, February 10th

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

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.

The Public Information Officer:
A. Directs the Joint Information Center operation with the Emergency Operations Center.
B. Interfaces with the public and media and/or with other agencies regarding incident-related information requirements.
C. Serves as a press secretary for the Agency Executive or Senior Official during the incident.
D. Controls messaging and limits the independence of other organizations participating in the incident.

Check next month's ARES Communicator for the solution

December NIMS Knowledge Solution

Which organization has line authority to oversee the management of multiple incidents being handled by separate Incident Command organizations?

C. Area Command

Scott County ARES Contacts

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

Asst Emergency Coordinator
Daniel Vande Vusse N0PI
5722 West 141st Street
Savage, MN 55378
952-440-1878
N0PI@arrl.net

Submarine Drone Launch

From submerged submarine

In early December the US Naval Research Laboratory (NRL) announced that it had successfully launched a drone from a submerged submarine. The all-electric eXperimental Fuel Cell Unmanned Aerial System (XFC) was launched in the Bahamas from the Los Angeles-class nuclear-powered attack submarine USS Providence (SSN 719) using a system that allowed the drone to be deployed without modifications to the boat, or requiring it to surface.

The XFC unmanned aircraft was developed by the NRL in less than six years from initial concept to current stage. It's all electric and powered by a fuel cell that allows it to stay aloft for more than six hours. According the the NRL, the UAV is relatively low cost, flies at low altitude, and is designed for Intelligence Surveillance and Reconnaissance (ISR) missions. The craft has folding wings and is designed to be launched from a pickup truck or small surface vessel.

Sequence photo of the launch of the XFC

For the submarine test, the XFC was placed inside of a "Sea Robin" launch vehicle. The Sea Robin fits inside of a standard vertical Tomahawk missile launch tube, such as those aboard the USS Providence. After launching, the Sea Robin rose to the surface and took on the appearance of a spar buoy.

After the Sea Robin opened, the XFC used its electrically-assisted take-off system to raise itself vertically out of the container, and after reaching operating speed and altitude unfolded its wings for horizontal flight. The XFC flew for several hours as it beamed back a video feed to the Providence.

It then returned to the submarine and its surface support vessels before landing at the Naval Sea Systems Command Atlantic Undersea Test and Evaluation Center (AUTEC), on Andros Island in the Bahamas.

BREAK - OVER

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.

Who is the Chief Justice of the Supreme Court?
A Sandra Day O'Conner
B William Rehnquist
C Antonin Scalia
D John Roberts
E Sonya Sotomayor

December Citizenship Exam Answer

The House of Representatives has how many members?

A   435

BREAK - OVER

Q. What kind of bees don't sting?

A. Spelling Bees

Technician License Study Class

Feb 10th, Ten Weeks, 7pm

When: Thursday's starting February 10th and runs ten weeks.
Class time 7 - 9 pm
Where: Maple Grove Fire Station #2 - Upper entrance
13450 Maple Knoll Way, Maple Grove, MN
Cost: $10 registration fee due first night of class.
You will also need to purchase a text book for about $22.
Details will be emailed to you after you register for the class.
To Register or get answers to your questions: Email: registration@mnyarc.org
Please include your name, Address, and phone contact information as well as your email address.
The Technician License exam will be offered on the last night of class for an additional $15 fee.
This class is sponsored by the Maple Grove Radio Club.

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:

What is the maximum transmitting power an amateur station may use on 10.140 MHz?
A. 200 watts PEP output
B. 1000 watts PEP output
C. 1500 watts PEP output
D. 2000 watts PEP output

What license examinations may you administer when you are an accredited VE holding a General Class operator license?
A. General and Technician
B. General only
C. Technician only
D. Extra, General and Technician

Which of the following is an advantage when using single sideband as compared to other analog voice modes on the HF amateur bands?
A. Very high fidelity voice modulation
B. Less bandwidth used and higher power efficiency
C. Ease of tuning on receive and immunity to impulse noise
D. Less subject to static crashes (atmospherics)

What segment of the 80 meter band is most commonly used for data transmissions?
A. 3585 – 3600 kHz
B. 3500 – 3525 kHz
C. 3700 – 3750 kHz
D. 3775 – 3825 kHz

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

December General Pool Answers

1. What is the most common frequency shift for RTTY emissions in the amateur HF bands?
   B. 170 Hz

2. What does the abbreviation "MFSK" stand for?
   B. Multi (or Multiple) Frequency Shift Keying

3. Which of the following amateur radio HF frequencies are least reliable for long distance communications during periods of low solar activity?
   D. 21 MHz and higher

Ed note: Some things are just too good to save for the April issue!

At this juncture in time, humanity does not know how to travel into the past, or even if such a concept has any meaning. So if you are an astrophysicist who wants to uncover evidence of time travel, what do you do? If you're Michigan Technological University astrophysics professor Robert Nemeroff and his PhD student Teresa Wilson, you look for time travelers on Twitter.

Time travel into the future is a fact – we do it every day. Accelerated time travel into the future can be measured using atomic clocks in fast airplanes. However, time travel into the past is a dicier proposition. While it appears that this is not forbidden by any current physics, we also don't know how to accomplish the task.

There is a (rather short) tradition of attempts to contact people who have arrived here from the future. In 2005, an MIT graduate student held a convention for time travelers. Despite considerable pre-convention publicity, no time travelers owned up at the convention. In 2012, Stephen Hawking held a party for time travelers, sending out the invitations after the party was held. Again, no one came to his party.

Surely one of the main ways to vet someone who claims to be a time traveler is their knowledge of something that has not yet occurred. This concept inspired Nemeroff (co-creator and editor of the Astronomy Picture of the Day website) and Wilson to search the internet for signs of anachronistic factoids. For example, a post from 2006 containing the phrase "President Obama" would hardly be anachronistic, as his potential candidacy was already being discussed.

It seems there are very few events that can be uniquely identified by a couple of words. Such events have to be surprises to the extent that the descriptive words have likely never previously been combined. The Michigan Tech astrophysicists came up with "Comet ISON", which was discovered on September 21, 2012, and "Pope Francis", a name first appearing on March 16, 2013.

No comet had previously been called Comet ISON, and no previous pope was named Francis, so these phrases are unlikely to have been used previously. Even if they appeared in some context ("there may someday be a Pope Francis"), it would be easy to eliminate these as possibilities. What they were looking for was a text from one person to another in 2009 accidentally referring to Pope Benedict XVI as "Pope Francis."

Most search engines have a great deal of difficulty searching for items posted within a given slice of time. After studying the capabilities of a number of search engines and social media, our intrepid investigators chose Twitter as their hunting ground. With one exception deemed overly speculative (as described above), they came up empty. No evidence of precogniscience appeared in roughly a trillion tweets. They further performed a number of related searches, which came up empty.

Although this may seem a silly bit of research (IgNoble Prize material?), it is actually a reasonable attempt to see if time travelers have left traces of their anachronistic presence in the blogosphere. However, now that the concept of such searches has surfaced, it seems unlikely that any more will be carried out. Fake evidence of time travel would be too easy to retrofit into the collective memories of our history. While time may be out of joint, it appears that no one sent from the future to set it right has left obvious traces, at least on Twitter.

Read the entire paper here: http://arxiv.org/ftp/arxiv/papers/1312/1312.7128.pdf

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NBEMS Current Versions

The current version of the Fldigi manual is availale at NBEMS Info page at 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 and http://www.scottares.org/NBEMS.htm

Here are the most recent releases as of November 25, 2013.

Software	Version
Fldigi	3.21.77
Flwrap	1.3.4
Flmsg	1.1.33
Flamp	2.1.01

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.

BREAK - OVER

Part 5 of a Series

Formal Traffic Handling

Message Text

ARRL Numbered Radiograms

ARRL Numbered Radiograms are a standardized list of often-used phrases. Each phrase on the list is assigned a number. There are two groups of ARL text messages. Group Two contains 21 routine messages, including number "FORTY SIX" and from "FIFTY" through "SIXTY NINE." For the complete list, see http://www.arrl.org/FandES/field/forms/fsd3.pdf

When using numbered radiograms, the letters "ARL" are placed in the "check" block of the preamble, just prior to the number indicating the word count, as in "ARL7."

In the text of the message, the numbered radiogram is inserted by using the letters "ARL" as one word, followed by the number written out in text, not numerals. For example: "ARL FIFTY SIX."

It is important to spell out the numbers letter by letter when sending using voice. This allows the receiving station to correctly copy what is being sent, and not inadvertently write the figures out as "FIVE SIX" instead of "FIFTY SIX." "ARL FIFTY SIX" is counted as three words for the "check" block. Two common receiving errors are to write "ARL-56" and count it as one word, or "ARL 56" and count it as two words.

Some numbered messages require a "fill in the blank" word in order to make sense. Here are two examples:

ARL SIXTY TWO: Greetings and best wishes to you for a pleasant _____ holiday season.

ARL SIXTY FOUR: Arrived safely at _____.

ARL Text Messages Group 2

FORTY SIX—Greetings on your birthday and best wishes for many more to come.

FIFTY—Greetings by Amateur Radio.

FIFTY ONE—Greetings by Amateur Radio. This message is sent as a free public service by ham radio operators at _____. Am having a wonderful time.

FIFTY TWO—Really enjoyed being with you. Looking forward to getting together again.

FIFTY THREE—Received your _____. It's appreciated; many thanks.

FIFTY FOUR—Many thanks for your good wishes.

FIFTY FIVE—Good news is always welcome. Very delighted to hear about yours.

FIFTY SIX—Congratulations on your _____, a most worthy and deserved achievement.

FIFTY SEVEN—Wish we could be together.

FIFTY EIGHT—Have a wonderful time. Let us know when you return.

FIFTY NINE—Congratulations on the new arrival. Hope mother and child are well.

SIXTY—Wishing you the best of everything on _____.

SIXTY ONE—Wishing you a very Merry Christmas and a Happy New Year.

SIXTY TWO—Greetings and best wishes to you for a pleasant _____ holiday season.

SIXTY THREE—Victory or defeat, our best wishes are with you. Hope you win.

SIXTY FOUR—Arrived safely at _____.

SIXTY FIVE—Arriving _____ on _____. Please arrange to meet me there.

SIXTY SIX—DX QSLs are on hand for you at the _____ QSL Bureau. Send _____ self addressed envelopes.

SIXTY SEVEN—Your message number _____ undeliverable because of _____. Please advise.

SIXTY EIGHT—Sorry to hear you are ill. Best wishes for a speedy recovery.

SIXTY NINE—Welcome to the _____. We are glad to have you with us and hope you will enjoy the fun and fellowship of the organization.

The Importance of the Signature

During an emergency, the messages you handle can easily contain requests for expensive supplies that have a very limited "shelf life" (such as blood for an aid station), or for agencies that will only respond to authorized requests (i.e.: for medevac helicopters). For this reason, it is critical that you include that the signature and title of the sender in every message.

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W100AW

Centennial Callsign Approved

The FCC has authorized the Maxim Memorial Station W1AW to also use the call sign W100AW during 2014, the ARRL's centennial year.

Contacts made from the Maxim Memorial Station in Newington, from regional Centennial conventions, and during the IARU HF Championship will use W100AW, with portable designators as appropriate. The "W1AW WAS" operations throughout 2014 from each of the 50 states will use W1AW, not W100AW.

Bulletins and code practice transmissions during 2014 also will still use W1AW. Contacts with W100AW are worth 100 points in the ARRL Centennial QSO Party.

Information on the ARRL Centennial QSO Party may be found on the web at, http://www.arrl.org/centennial-qso-party .

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VOA Radiogram

VOA Radiogram is a Voice of America program experimenting with digital text and images via shortwave broadcasting. It is produced and presented by Dr. Kim Andrew Elliott.

VOA Radiogram transmission schedule
(all days and times UTC)
Sat 0930-1000 5745 kHz
Sat 1600-1630 17860 kHz
Sun 0230-0300 5745 kHz
Sun 1930-2000 15670 kHz
All via the Edward R. Murrow transmitting station in North Carolina.

The digital modes vary from week to week so be sure to check in regularly. Pictures are included in some sessions as well. You never know what you will find while using new fldigi modes.

To decode and read the VOA Radiogram text and image transmissions, you will need the following items:
1. A shortwave radio. The radio does not need to have single sideband (SSB) capability. Even if you do have SSB capability, listening in the AM setting will probably work best.
2. A basic personal computer. It does not have to be particularly powerful.
3. A patch cord from the audio output of the radio to the audio input of the PC. This is usually from the earphone jack of the radio to the microphone jack of the PC. If you do not have a patch cord, placing your radio's speaker near the built-in mic of a laptop PC ("acoustic coupling") might work.
4. Software to decode the digital text. This includes the free Fldigi program (also download companion Flmsg and Flamp programs), and others. Configure the software for the soundcard your PC uses. You might also have to go into your PC's audio settings to select the correct record source. You should see a "waterfall," showing audio from your radio, moving from top to bottom. A good way to test this is to find a station playing music. If you have a radio with SSB capability, tune to 14070 kHz USB and try to decode the BPSK31 amateur stations that are often heard on this frequency.

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NBEMS Options

By, Dave, KB3FXI
paNBEMS Founder

Some folks are new to NBEMS so I thought I would make some observations on some of the best use case scenarios for both FLMSG and FLAMP.

The FLMSG application is best suited for sending shorter messages such as the built in form-based messages or small text files. The application "wraps" the message with a checksum calculation and also includes a minimal amount of code for the message header and for the form formatting. The transmission method for FLMSG is a single uninterrupted transmission from which receiving stations can either confirm or deny 100% accurate receipt. If a receiving station gets a check sum error, the entire message has to be repeated.

FLAMP is quite different from FLMSG in that it is specifically designed for sending files. FLAMP breaks the file down into user defined check sum blocks. Some FLAMP files might only be a few blocks and larger files could be 30, 40 or many more. The receiving stations' FLAMP receives the file header info and the subsequent blocks. FLAMP shows the receiving station operator the progress of the received blocks and if all blocks are confirmed 100%, the receiving station can then either save, view, relay or email that file.

FLAMP has the advantage over FLMSG in the case where a larger message has only a few errors. With FLMSG, the entire message would have to be resent, whereas with FLAMP, the receiving station sends a report to the sending station listing only the blocks in the file that were missed. The sending station then sends only those missed blocks.

FLMSG is still our best bet for short text files and messages using the built in forms.

FLAMP is best for large files using fast modes to a few other intended recipients or for bulletin broadcasts of very short messages to many. In the short message bulletin broadcast scenario, the sending station would pick a slower, more robust mode such as MFSK-32 and would retransmit or repeat the same file transmission several times. This helps ensure that as many receiving stations as possible receive the file with all blocks and the file 100% confirmed.
 NOTE: Scott ARES Monday evening training net is the place to fine tune your NBEMS technique with live on-air practice. Stop by and enjoy the fun.

BREAK - OVER

Life Defined

ADULT:

A person who has stopped growing at both ends and is now growing in the middle.

DUST:

Mud with the juice squeezed out.

Science and Engineering

A post on a group debating the ideal vs the practical

"Exactly right. I recall a great story from my days in EE school. A mathematician and an engineer were out drinking, and noted a lovely young thing at the other end of the bar. They wagered that they could move half the distance between themselves and the sweet young thing with each drink. The mathematician never got there, but the engineer got close enough for practical purposes.

"Engineering is the practical application of science. I just returned from two days at a meeting of the Acoustical Society of America, where I heard many presentations about exactly that — the practical application of science to solve problems in acoustics. I told one myself, about an acoustician who had died a year ago and was being honored, and it was one he had told to a group in a workshop I attended 30 years previous.

"His client was the owner of a home recording studio, and the problem was that he was hearing excessive traffic noise. The "knee jerk" solution was quite expensive — a room within a room with floating floors, air space between rooms, isolating doors, and so on. The acoustician surveyed the situation, did some mental sums of costs of various solutions, and told his client to hire a paving contractor to fill the potholes in the road.

BREAK - OVER

"The best way to predict the future is to create it."
Earl Lee Byrd

Cabin Fever Reliever Hamfest
February 15th, 2014

Vendor entry starts at 7:00 a.m
General Entry will begin at 9:00 a.m.

St. Cloud National Guard Armory
1710 Veterans Drive, St. Cloud, MN

Check the Cabin Fever Reliever Hamfest webpage on www.w0sv.org for details.
Table reservations, comments, questions or suggestions please send an email to wa0njr@gmail.com

Cold Temps, Hot Electricity

Real-time Electric Prices Soar

Washington (Platts)—6Jan2014 - Real-time prices in the Midcontinent Independent System Operator (MISO) region soared Monday, Jan. 6th, morning as the central US experienced record-low temperatures.

Hubs across the system saw prices spike above $1,000/MWh for five-minute increments between 9:30 am and 11:30 am EST as loads climbed during the morning ramp period.

MISO's reliability coordinator has declared cold weather and conservative operations alerts for the central and northern regions of MISO through Tuesday, Jan 7th. Temperatures were in the teens and single digits across much of MISO, but temperatures in the northern region of the grid operator's footprint were below zero.

Temperatures also were falling in MISO's southern region, driving up real-time prices with hubs there seeing higher average prices than those in the north.

Indiana Hub real-time prices hit a high of $1,247.16/MWh between 9:30 am and 11:30 am EST, with an average of $173.66/MWh.

The Minnesota Hub spiked to $1,190.45/MWh, with an average of $128.75/MWh. Real-time prices at the Texas Hub shot up to $1,144.95/MWh and averaged $372.91/MWh, while Louisiana Hub prices reached $1,182.43/MWh and averaged $410.84/MWh.

(These prices are slightly over $1.00 per kilowatt hour!)

BREAK - OVER

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

NECOS Schedule January 2014

Date	Call	Name
6 Jan	KC0YHH	Tony
13 Jan	N0PI	Dan
20 Jan	KD0UWZ	Chad
27 Jan	KC0YHH	Tony
3 Feb	N0PI	Dan
10 Feb	KD0UWZ	Chad
17 Feb	KC0YHH	Tony