



# ARES COMMUNICATOR

## Information for Scott County Amateurs



February, 2014

Accurate, Reliable Emergency Communications for our Community

Volume 14, Number 2

### Training Net Change

March 3<sup>rd</sup> on WBORMK 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 with February, the first Monday of each month following, the weekly training net will be called on the WBORMK 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.

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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### SKYWARN Training Time

Spring can't be too far away when Metro SKYWARN announces their spring schedule of training sessions. Can it? The Metro Skywarn requires that you must attend a training session every two years to remain an active spotter. Some classes require registration so consult the detailed class schedule contained on the Metro SKYWARN website: <http://www.metroskywarn.org/index.php/class-schedule> Metro SKYWARN is responsible for scheduling and conducting spotter training classes for the Twin Cities metro area.



The National Weather Service, Chanhassen, is responsible for spotter training in Minnesota outside the metro area. The schedule for out-state Skywarn training session may be found at the Chanhassen NWS site here: <http://www.crh.noaa.gov/mpx/skywarnSchedule.php>

A partial listing of the metro area classes located closest to Scott County are shown in the following list.

SKYWARN 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

## 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.

1. Which position is responsible for the direct management of all incident-related tactical activities?
- A. Finance/Administration Section Chief
  - B. Logistics Section Chief
  - C. Operations Section Chief
  - D. Planning Section Chief

Check next month's ARES Communicator for the solution

## January NIMS Knowledge Solution

The Public Information Officer:

- B. Interfaces with the public and media and/or with other agencies regarding incident-related information requirements.

**Q. What cake do  
baseball players eat?**



**A. Bunt cake!**

### Scott County ARES Contacts

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## Skywarn South Classes - cont'd from page 1

**Sat March 1, 2014 9 AM -1 PM**

Twin Cities Repeater Club  
Open Circle Church  
2400 Highland Dr  
Burnsville, MN  
Jeff Goodnuff [w0kf@tcr.org](mailto:w0kf@tcr.org)  
952-927-0201

**Sat March 8, 2014 8 AM -12 PM**

Twin Cities FM Club  
Ridgedale Public Library - RHR Room  
12601 Ridgedale Dr Minnetonka, MN  
(Behind Ridgedale Shopping Center)  
Earl Jarosh [earl@jarosh.org](mailto:earl@jarosh.org)  
763-545-3275

**Wed March 19, 2014 6 PM – 10 PM**

Carver County Gov Center  
600 East 4th Street  
Chaska, MN  
Joe Mertenkc8son@[yahoo.com](mailto:yahoo.com)  
614-657-1276

**Sat April 5, 2014 8 AM – 12 PM**

Bloomington Emergency Communications  
Bloomington Fire Station #1  
10 West 95th St.  
Bloomington, MN  
Gene Clemens [scoutgc@earthlink.net](mailto:scoutgc@earthlink.net)  
952-831-3089

**Sat May 17, 2014 9 AM - 1 PM**

Twin Cities Repeater Club  
Open Circle Church  
2400 Highland Dr  
Burnsville, MN  
Jeff Goodnuff [w0kf@tcr.org](mailto:w0kf@tcr.org)  
952-927-0201

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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.

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

- A. sugar
- B. westward expansion
- C. slavery
- D. oil
- E. fascism

## January Citizenship Exam Answer

Who is the Chief Justice of the Supreme Court?

D John Roberts

BREAK - OVER



*"If you can find a path with no obstacles,  
it probably doesn't lead anywhere."*

Frank A. Clark



## Canada to Get Five 60 Meter Channels

Industry Canada has granted Amateur Radio operators there the use of five 60 meter channels on a non-interference basis. The center-channel frequencies harmonize with those available to US radio amateurs on 60 meters: 5332 kHz, 5348 kHz, 5358.5 kHz, 5373 kHz, and 5405 kHz.

"Given that use of these frequencies was requested, in part, to allow for cross-border communications in times of emergency," Industry Canada said, "harmonization of the frequencies with the United States would facilitate such communications between the Canadian and the US Amateur Radio communities."

Amateur stations will be restricted to USB, data, RTTY and CW modes, with a maximum bandwidth of 2.8 kHz, and a maximum power output of 100 W ERP - the same the US allows.

"Canadian amateur operations shall not cause interference to fixed and mobile operations in Canada or in other countries," Industry Canada ruled, "and, if such interference occurs, the Amateur Service may be required to cease operations. The Amateur Service in Canada may not claim protection from interference by the fixed and mobile operations of other countries.

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## 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. What does the abbreviation "RTTY" stand for?
  - A. Returning to you
  - B. Radioteletype
  - C. A general call to all digital stations
  - D. Repeater transmission type
2. What is a major advantage of MFSK16 compared to other digital modes?
  - A. It is much higher speed than RTTY
  - B. It is much narrower bandwidth than most digital modes
  - C. It has built-in error correction
  - 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?
  - A. Terminates the contact
  - B. Requests the packet be retransmitted
  - C. Sends the packet back to the transmitting station
  - D. Requests a change in transmitting protocol

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



## January General Pool Answers

1. What is the maximum transmitting power an amateur station may use on 10.140 MHz?
  - A. 200 watts PEP output
2. What license examinations may you administer when you are an accredited VE holding a General Class operator license?
  - C. Technician only
3. Which of the following is an advantage when using single sideband as compared to other analog voice modes on the HF amateur bands?
  - B. Less bandwidth used and higher power efficiency
4. What segment of the 80 meter band is most commonly used for data transmissions?
  - A. 3585 – 3600 kHz

## 2M Wipeout!

See where this trail led . . . .

A tale of woe from a ham who lives in Northern New Jersey on the mysterious RFI:

“I’ve been tearing my hair out for 2 months because of unbelievable RFI on 2 meters, rendering terrestrial and EME (Earth-Moon-Earth or Moonbounce communications) impossible. The following text pretty much sums up what I finally found today. This may be a big problem because the FCC considers that once identified, the liability for correction is on the generator of the RFI and if not stopped immediately then they can be fined. Who would have thought the LED’s could radiate so far? If you want to see some pictures from the spectrum analyzer I’ll send them down. You wouldn’t believe it!

“At last the source of the RFI has been positively identified!

To recap, the wideband RFI centered on 145 MHz which began in mid-December was isolated to a specific house at 22 Cedars Road in Caldwell, NJ about 700 feet from my home. The RF level was about 20db over S-9 or nearly 1 millivolt, yes, “millivolt” at my receiver. It wiped out the entire 2 meter band as well as the lower portion of the public safety and aircraft spectrum.

While the RFI sounded like AC line buzz, looking at it on a spectrum analyzer showed a 20 MHz wide signal that swept and pulsed. PSEG (local utility) was instrumental in first identifying that the RFI was wideband and close to the residence in question as I had determined from walking the area. I then used a 4 element 2 meter yagi to positively identify the direction of the source. I considered that the problem might be channel 18 leakage from Comcast cable but that did not prove to be the case.

I was able to talk to the home owner who was very cooperative in working with me to find the source. I first thought that it was associated with TV usage but several tests did not yield the precise problem though the Comcast cable box and Samsung large screen TV were able to be heard inside the house on my Yaesu HT in AM mode but nowhere near the level I was seeing at times at my home. It seemed that when the homeowner was not home the RFI would disappear and in that case TV’s were off.

Today, another test was made where the homeowner turned off all TV’s and the RFI was still present. She then started tripping breakers and the RFI completely disappeared! It was now positive that the RFI was from something in the home. Further testing revealed the source as 9 LED lamps in the kitchen that had been installed in mid-December, at the time I first noticed the beginning of the problem.

The lamps were obtained at Home Depot and are the EcoSmart brand, MR-16 halogen replacements and are rated at 50w = 8 watts consumption. Obviously this is going to become a really big problem, not only for PSEG as people bite the bullet



EcoSmart 50W Equivalent  
MR16 LED Flood Light Bulb  
Model # ECS 16 WW V2 NFL

and purchase these things but it will also become a FCC issue as well as they clearly exceed any radiated emission spec’s for consumer devices.

For now, since we know the source of the problem, I am working out with the homeowner a plan to perhaps go back to the halogen lamps. This problem needs to be escalated to Home Depot, the FCC, and anybody else that should be notified before the entire 2 meter spectrum, and nearby public service communications bands, are lost to licensed users in this country and others.”

An engineer added his two cents worth: Also..one technical detail. The RFI isn’t from the LED. It’s from the power supply used to drive the LED(s) in the fixture (lamp assembly). For most lighting manufacturers the LED cost is fixed. To be able to hit a retail price point that leaves the fixture itself and the power supply (also called a driver). Corners are often cut in the power supply to drive down cost.

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## 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.w1hjk.com/download.html](http://www.w1hjk.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.



BREAK - OVER

Part 6 of a Series

## Formal Traffic Handling

### Sending the Message

Transmitting the radiogram for the first time applies both to originated radiograms and radiograms that have been received for relay. Let's assume you have found a station to receive your radiogram, either by your own efforts to find one or as a result of having been told by a net control station to transmit it to WA0XCQ. The net control station would direct the distribution of traffic by saying, "KC0XYZ, call WA0XCQ and pass your one routine Shakopee." The **station being called** answers first, "This is WA0XCQ ready to copy." You then proceed to transmit your message. An example would go something like this: "Message Follows, number one five, routine, KC0XYZ, eight, Burnsville, Minnesota, two one five one CST, February one four. Mrs. Judy Smith, one nine zero eight Moon Street Northeast, Shakopee, Minnesota, 55394, telephone nine five two two nine eight six four zero eight. BREAK. Mother and Dad arrived home safely Sunday afternoon. Break. Uncle George. BREAK, no more"..

Phone operators use the proword "break" for separation of the address and signature from the text. It is incorrect procedure to use the words "going to" preceding the address and "break and the text" preceding the text.

Radiograms should be sent by voice, not read. That is, reading puts emphasis on certain syllables and words, and this means de-emphasis of others. In transmitting a radiogram by voice, no word or syllable should be de-emphasized. Letting your voice fall at the end of a sentence as would be done in reading is poor practice in voice traffic work, as is letting your voice fall for unaccented syllables. You are not a broadcast announcer. Keep in mind that the receiving operator must put down what you transmit, completely and accurately.

Avoid giving dates as "four, twelve, eighty-eight." Just say "April twelve" and forget the year. (We hope no message will be over a year old! Also, don't say "today's date." Spell all difficult or unusual words (e.g., "Ferrier, I spell F-E-R-R-I-E-R"). If the word is very difficult, unusual, or a group of letters not forming a word, spell it out using ITU phonetics (e.g. "NCOIC, I spell: November, Charlie, Oscar, India, Charlie.") Using phonetics excessively is poor procedure. Usually simply spelling the word is sufficient.

Speak slowly enough to allow the receiving station time to copy the message word for word. If you think you are going too slowly, you should probably slow down even more. Try printing the message yourself as you transmit the information. This, along with on-the-air practice, should give you a feel for the proper speed.

cont'd col. 2

Here is an example using the proper prowords for accurate, rapid message transmission.

#### MESSAGE FOLLOWS

15 Routine KC0XYC 8 Burnsville, MN 2151CST Feb 14  
Mrs. Judy Smith  
1908 Moon Street N.E.  
Shakopee MN 55394  
952 298 6408

#### BREAK

Mother and Dad arrived home  
Safely Sunday afternoon

#### BREAK

Uncle George

#### BREAK NO MORE OVER

BREAK - OVER



## Trouble Shooting

### from the Yeawoodcom group

Sometimes it's not QUITE that simple.

A couple of years ago our entire office moved into a new building where we were stuffed into cubicles instead of offices. We were all told to just put our computers together, plug all the power cords into the outlet strip, and hook up the network cable (not an insurmountable job considering that we had moved around a couple of times before and always had to take our own computers apart and move them ourselves).

One guy couldn't get his to power back on, but the IT' guy was supposed to come around to check everything anyway so he just waited for the IT' guy.

The IT' guy spent about a half hour trying to get the computer to power up, then decided it must be a bad outlet strip so he unplugged everything getting ready to take the outlet strip to be swapped out — THAT was when he discovered that one of the things plugged in to the outlet was the outlet strip itself!

BREAK - OVER



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.

On VOA Radiogram during the weekend of 15-16 February 2014 was another trial of simultaneous transmission of text and an image. This time it was text in MFSK32 centered on 2000 Hz, and the image in MFSK64 centered on 1000 Hz.

Here is the procedure: 1) Have two instances of Fldigi running, 2) Turn on the RxID (green) on both instances of Fldigi, 3) After the mode changes to MFSK64, turn off the RxID on your second instance of Fldigi.

Here is the lineup for the VOA Radiogram program 15-16 February 2014:

1:35 MFSK32: Program preview

3:50 MFSK32/64: Press freedom index with simultaneous image\*

10:49 MFSK32: Bing accused of censorship, with image

16:41 MFSK32: Hacking at Sochi Olympics, with image

22:09 MFSK32: Sample of VOA Chinese text\*\*, with image

25:22 MFSK64L: Same sample of VOA Chinese text

27:28 MFSK32: Closing announcements

Notes: \*Run two instances of Fldigi, starting with RxID on in both instances. Text will be centered on 2000 Hz, the image on 1000 Hz.

\*\*Use UTF-8 character set. In Fldigi: Configure > Colors & Fonts > Rx/TX > Set top (white) box to UTF-8.

#### 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: A shortwave radio receiver, A basic personal computer, A patch cord from the audio output of the radio to the audio input of the PC, and software to decode the digital text.

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 can follow the current activity on the VOA Radiogram site: <http://voaradiogram.net/>

## DX Info

### Zambia 9J2T

Members of the Italian DXpedition Team, led by I2YSB, Silvano, have announced their next DXpedition will take place from Zambia as 9J2T. We now know the dates are February 28-March 17.

They will have three Elecraft K3's, a KX3 and four KPA500 amplifiers.

Activity will be on 1.8 through 50 MHz on CW, SSB and RTTY from Siavonga on the northern end of Lake Kariba. IK7JWY, Art, will be the HF pilot station, while IK0FTA, Sergio, will hand the 6 meter pilot duties.

The team plans to use the IH9GPI real-time logging software. Their official website can be found at <http://www.i2ysb.com/idt/> with their forum page at: <http://www.hamradioweb.org>. QSL Direct via I2YSB.

They will be using LoTW.

### W1AW/KG4

**Guantanamo Bay Operation Set:** As part of ARRL's Centennial QSO Party, Ed Williams, KN4KL, and Bill Verebely, W4WV, will activate W1AW/KG4 from Guantanamo Bay, Cuba in late February and early March! The operation will take place Wednesday, February 26, through Tuesday, March 4 UTC. This may mark the first time the US Navy has authorized the use of a "portable" call sign from Gitmo. QSL via ARRL Headquarters (225 Main St, Newington, CT 06111) or Logbook of The World.

Keep up to date on the latest DX activity through The Daily DX, The Weekly DX, or How's DX? You can check out a two week trial at - <http://www.dailydx.com/trial.html>

BREAK - OVER



MEDITERRANEAN SEA  
Lt. Luqman Haskett monitors message traffic in the combat information center aboard the Arleigh Burke-class guided-missile destroyer USS Stout (DDG 55) during a general quarters drill. Stout is on a scheduled deployment supporting maritime security operations and theater security cooperation efforts in the U.S. 6th Fleet area of responsibility. U.S. Navy photo.

## Preventing 2M Mayhem

Tuning across a popular HF band when propagation is good and maybe a contest in progress and you have an example of chaos. Signals piled on top of each other with signal levels changing rapidly leading to confusion for the communicator.

Compare this to the 2 meter band in the metro, and out-state locations. Communications over the local repeater are generally clear and free from interference. Have you ever stopped to consider why?

This dramatic difference is due in large part to the cooperation and coordination among repeater owner/operators. The process used to accomplish this feat is the MN Repeater Council.

Formed around 1973 the MN Repeater Council (MRC) has four basic purposes:

1. Foster interest in amateur repeater communications and to improve the state of the art,
2. Coordinate amateur radio repeater activities and frequencies in the State,
3. Determine and recommend technical and operational standards and policies, and
4. Provide other assistance and services as may be within the scope of the Council.

There are slightly over 300 repeaters in Minnesota. The actual number is constantly changing as new repeaters are born and others retired. Each of these transmitter/receivers is coordinated according to their frequency pair and a designated physical coverage area, nominally determined by modeling, to minimize interference to other users.

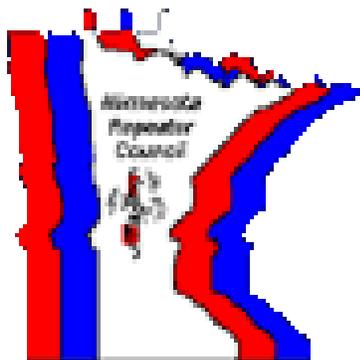
A coordinated repeater must meet several requirements:

1. Coordination must be renewed annually,
2. Any conditions of coordination, such as channel bandwidth, access controls (CTCSS, DPL, etc), or mode (FM, Digital, Etc) must be met at all times,
3. The state of the repeater, its coverage, and its equipment must be kept current,
4. Must remain on the air for at least 305 days of the year,
5. Coverage must be similar to and no more than the modeled coverage results using the repeater's specification, and
6. Must not interfere with other repeaters.

Before the MRC was formed, a group who wanted to put a new repeater on the air monitored the designated repeater frequencies in the area to see where an opening existed, ordered a set of crystals (this was before synthesized rigs) and with fingers crossed, hoped for the best. The MRC has done a lot to take the uncertainty and luck out of the process.

There are instances of interference that crop up from time to time. These are generally inadvertent and involve users picking frequencies for simplex and other remote base operations in the repeater input areas or base stations using remote repeaters bringing up more than the intended repeater.

Realizing that a repeater's signal doesn't stop at the state border, the MRC contacts the neighboring state (or country)



repeater coordinator to help minimize any interference to existing operations.

The MRC currently has eighty members. You do not have to be a repeater owner to be a member of the MRC. Membership in the MRC is not required to have a repeater coordinated. A meeting of the group is held annually with the location varying between a metro and out-state site. Repeater owners can become Regular members of the MRC and interested amateurs may become Associate members by submitting an application and paying the appropriate dues.

You can find more information about the MRC at their website: [www.mnrepeaters.org](http://www.mnrepeaters.org) Be sure to visit the site, specifically the 'Information' link. There you will find a list of all repeaters in the state sorted by frequency, city, and region. The list includes all the important info about the repeater. You will also find membership applications, technical specs, and other interesting documents. If you would like to keep informed of MRC activity, you can request to be included on the E-mail list.

Jerry Dorf, N0FWG, the MRC Frequency Coordinator provided some info for this article and his assistance is appreciated greatly.

BREAK - OVER



### ARES Breakfast

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

## NECOS Schedule February 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 Feb | KC0YHH Tony |
| 24 Feb | N0PI Dan    |
| 3 Mar  | KD0UWZ Chad |
| 10 Mar | KC0YHH Tony |
| 17 Mar | N0PI Dan    |
| 24 Mar | KD0UWZ Chad |
| 31 Mar | KC0YHH Tony |
| 7 Apr  | N0PI Dan    |
| 14 Apr | KD0UWZ Chad |