



ARES COMMUNICATOR

Information for Scott County Amateurs



March, 2019

Accurate, Reliable Emergency Communications for our Community

Volume 19, Number 3

What's a Co-Mex?

The Newest Item on the Taco Bell Menu?

Could it be that combo-taco you heard about? Hit the drive-thru for a combo Polish Sausage/Spicy Beef taco with kraut, cheese, jalapenos and a couple of packs of Kraut juice? Or.

Comex? Just military-speak for communications exercise. Why exercise communications? Some believe that all it takes to be an emergency communicator is the ability to squeeze the button with your thumb and talk into the mic. When told about an upcoming exercise their response is, "That's stoopid! We don't need no stinkin' exercise!"



Experience has shown over and over again that if you don't practice, or exercise, a skill regularly, you become less skilled. With this in mind, let's learn about the quarterly Comex.

The exercises fulfill a number of objectives: Served agencies at the Federal level are continually assessing their information needs during emergencies. Communications organizations that gather the needed information are developing skills and tactics to collect the information and pass to the agency in a manner most useful to the agency.

The information collection and reporting groups are Military Auxiliary Radio System, MARS, Shared Resources high frequency radio system, SHARES, ARES, and ham radio operators. One factor these groups have in common is that they are capable of functioning independently of landline and cellular networks.

The system functions using the ARES and ham ops as the eyes on the ground gathering local information needed by the Feds to respond in an emergency. This local observation is vital to rapid, effective, timely response.

MARS operators train to develop and refine a digital HF data transmission network. The MARS network can gather local

COMEX *cont'd on page 3*

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

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HELP NEEDED

Volunteers are needed for Net Control Station for the Monday evening Scott ARES Net. A sudden medical issue has forced the usual NECOS off the air for a while.

Serving as NECOS provides valuable experience in emergency communications. You never know when you might be expected to assume the NECOS role in an emergency. Gaining NECOS experience in a non-emergency setting is a real confidence builder.

The 7PM net meets the first Monday of the month on the Carver Repeater (147.165) while the remaining nets meet on 146.535s.

The Net is a directed net that runs under emergency operating procedures. There are detailed scripts for the NECOS on the Scott ARES website. To assume NECOS control or have your questions answered, just email Bob at N0BHC@ScottARES.org. Jump in and gain some fun experience.

ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, April 13th

Digital Monday, April 15th

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

SKYWARN Training Time

Skywarn training classes have begun for the 2019 season. If you didn't take a class last year check the schedule and pick a date. For class questions and scheduling email training@metroskywarn.org You can view the on-line listings at: www.eventbrite.com/o/metro-skywarn-inc-7885991211

Chaska Class Re-scheduled

May 8th, Wednesday, Chaska

6 PM – 10 PM

(arrive by 5:45pm for security screening)

Carver County Government Center

Emergency Operations Center

Carver County Gov Center

606 East 4th Street

Chaska, MN

Walk ins welcome, but please pre-register.

Facility info only: jwalker.mn@gmail.com

BREAK - OVER

Monday Evening 7PM

The Scott ARES net meets every Monday evening at 7:00 PM either on 146.535 simplex or on the first Monday of the month the WBORMK repeater 147.165 (PL 107.2).

The net is in a directed net format and provides the opportunity to practice working in an emergency net style.

There is help available in setting up and using NBEMS digital messaging software and generally a weekly digital message for practice.

Everyone is welcome to check in and contribute two cents worth!

Scott County ARES Contacts

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Asst Emergency Coordinator
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Chaska, MN
KD0UWZ at scottares.org



Test Your NIMS Knowledge

This month we begin our review of ICS-700, An Introduction to National Incident Management System. This course is designed to enable personnel to operate efficiently during an incident or event within the Incident Command System (ICS). ICS-700 provides an overview of the NIMS structure.

Check your recall of the course material with this question.

1. The act of directing, ordering, or controlling by virtue of explicit statutory, regulatory, or delegated authority at the field level is referred to as:

- A. Coordination
- B. Command
- C. Direction
- D. Leadership

Check next month's ARES Communicator for the solution

February NIMS Knowledge Solution

1. Incident managers begin planning for the demobilization process:

- C. As soon as possible to facilitate accountability of the resources.

Q: What is seen in the middle of March and April that can't be seen at the beginning or end of either month?

NBEMS Current Versions

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

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

Here are the most recent releases as of Mar 19, 2019.

Software	Version
Fldigi	4.1.01
Flwrap	1.3.4
Flmsg	4.0.8
Flamp	2.2.04

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.



COMEX - cont'd from page 1

information from Hams on the 30M channels. The information is then consolidated, encrypted, and reported to the Agency in their preferred format via the MARS network.

Let's get down to the nuts and bolts of a Comex from the Ham's view.

The place where Hams and MARS meet is the 60M band. The band is broken into five "channels" to make efficient use of the narrow slice of spectrum. The activity may peak on various channels depending on propagation conditions at the specific time of day. (Currently FEMA Region V stations will be found on channel V.) A half-wave dipole cut for the center of the band would be 43'7" for each leg.

60M Band / Channels

Ch #	Dial Freq
I	5.330.5
II	5.346.5
III	5.366.5
IV	5.371.5
V	5.403.5

During an exercise any MARS station will gladly take your local information! Okay, now what is this "information"?

The Served Agency determines the event for the exercise. Some examples include:

General failure of the electrical power grid throughout North America

General failure of all terrestrial and satellite telecommunications services throughout North America.

Weather Observation

1. Location - County / Zip
2. Time
3. Wind Dir - in degrees (North = 0)
4. Wind Speed
5. Visibility
6. Cloud Cover
7. Max Temp.
8. Min Temp.
9. Optional: Dewpoint or Bar. Pressure

County Status

1. Power / Electricity
2. Water
3. Sanitation / Sewer
4. Medical / Hospitals, Clinics
5. Communications
6. Transportation
7. Zip Code

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You can listen to the traffic flow to get the idea of the information being collected. The MARS station will be asking for the same info from each Ham contact during the exercise. You can take some notes, jot down your answers and minimize the time for you to report your info.

The nation-wide Comex exercises are held quarterly so watch for COMEX 19-2 coming up soon. When the exercises are announced, there is little information beyond the dates of the exercise. When asked for more pre-exercise info, the Agencies observed that emergencies do not come with a three day notice! The exercises generally run for a couple of days so go ahead and submit a couple of reports. The more reports the better because one goal is to break the MARS network with an ever increasing volume of traffic! Pile on! The Served Agencies also track participation by area which is another reason to check in to make a good showing for Minnesota.

That is all it takes to participate in a Comex! Jump in and have some fun. Better get some extra napkins!

BREAK - OVER



Gmail "Dot" Problem

Business technology news website ZDNet reported recently that scammer groups are exploiting so-called Gmail "dot accounts" for online fraud.

A lesser-known characteristic of Gmail is that it ignores the dot character within Gmail addresses. "Dots don't matter in Gmail addresses," a Gmail Support response explains. "If someone accidentally adds dots to your address when emailing you, you'll still get that email."

Google pointed out, though, that if you use Gmail through work, school, or other organization (such as yourdomain.com or yourschool.edu), dots **do** change your address.

ZDNet says crooks use "dotted" Gmail addresses to file fraudulent claims for unemployment benefits and fake tax returns, and to circumvent trial periods for online services.

More recently, someone exploited dotted Gmail accounts to trick Netflix account holders into adding credit card details to scammers' accounts, registered with the user's dotted Gmail address. A legitimate "update your card details" Netflix email would arrive in a real user's inbox, who would then unknowingly update a scammer's account instead of their own.

The ZDNet article cited a report from the security firm Agari, which said criminal groups took advantage of dotted Gmail addresses to, among other things, file multiple credit card applications with financial institutions.

Crane Hassold, Agari's Senior Director of Threat Research, told ZDNet, "In essence, this allows cybercriminals to centralize their fraudulent activity within a single Gmail account, rather than

Gmail cont'd on page 4

FT8 DXing

Option for poor props.

In the 2018 update of his survey of modes used on the air, Club Log's Michael Wells, G7VJR, says the number of Club Log users uploading at least one FT8 contact to the site grew from 8,000 in 2017 to 14,200 in 2018. Wells worked with data from Club Log users who, he reports, uploaded 41.3 million contacts in 2018, up by 12% from last year.

"I think that fact is more significant given the ongoing decline of this particular solar cycle, and it's possible evidence of extra activity from FT8 and newly active amateurs who'd run out of steam on CW and SSB, but are back to try digital modes," Wells said.

He reports that 13,900 users uploaded at least one CW contact, and 18,000 had at least one phone contact. The total number of active users was just under



22,000 across all modes in 2018, Wells said, who added that number has been dropping each year since 2015.

"When we look at the graph of QSOs, you can deduce that FT8 users must be prolific in terms of the number of QSOs they make when they're on the air," Wells said. "Once you start making FT8 QSOs, I get the feeling it's more likely you'll be on the bands for longer in a session, as it can be quite addictive working DX in the noise. Having those absolute signal-to-noise figures is compelling."

In his discussion, Wells reported that operators from some 270 DXCC entities were active on FT8 in 2018. "It's quite a showing for FT8," he allowed, pointing out that the figure is close to the computed 287 active DXCC entities. About two-thirds of DXpetitions using Club Log used FT8 while active, and a bit more than 6% of Club Log DXpedition contacts were on FT8 last year.

Wells observed that while it's likely that more modest stations are logging rare DX, especially in DXpedition mode where FT8 favors weaker signals, its use comes at the expense of speed — or rate.

"With many expeditions to rarer locations being somewhat constrained logistically, and not having the luxury of staying a long time, operating FT8 could be seen as something of a trade-off," Wells said. "Even so, for pure throughput, it seems expeditions are still getting the numbers from other modes."

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Expeditioners like to work pileups and amass as many contacts as they can, after all."

Wells posits that FT8 may be the only way to stay in the hobby for operators living on small lots and confronting stringent zoning regulations. "However, I think we mustn't romanticize those particular situations too much. A lot of the FT8 on the bands today is just plain old competitive," he concluded. "It's generally become a QRO [high-power] mode, and it's fierce in its ways. SSB and CW CQs are often going unanswered, while a tiny sliver of each band heaves with FT8. This pattern hasn't relented in 2018. That's not great news."

BREAK - OVER

National PB & J Day



April 2nd

Lunch time staple since 1901

Gmail - *cont'd from page 3*

having to monitor a bunch of different accounts, increasing the efficiency of their operations."

Two other Gmail characteristics that scammers could abuse: A Gmail address such as <username>+<randomword>@gmail.com will always redirect emails back to <username>@gmail.com. Also, all emails addressed to <username>@googlemail.com will arrive at <username>@gmail.com.

BREAK - OVER

First Thursday Net

Metro District Hospital Net

The Metro District ARES Hospital net is held on the first Thursday of each month. The purpose of the net is to provide an opportunity to exercise Dual-band xcvrs installed at hospitals and clinics in the metro area. The net is open to all amateur radio ops and provides the opportunity to participate in a directed net and practice directed net procedures.



Everyone is welcome!

- First Thursday of each month
- 12:30PM (lunch time)
- 146.700 - (PL118.8)

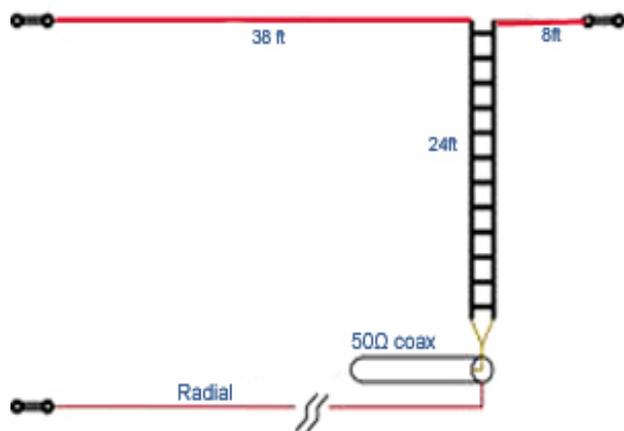
Small Yard Antenna

G7FEK's original "Nested Marconi Antenna" was first designed in 1988 and comprised two quarter-waves in parallel, fed against ground in inverted L. The original antenna was roughly 50 feet long x 22 feet high. During 2007 the antenna was optimized and tested at sunspot minimum to improve performance and multi-band operation. The difference in feed impedance between elements determines which element is coupled to the feeder and which element floats, thus automatic band switching occurs without the need for traps.

The dimensions have been carefully optimized for best multi band performance and to maintain a low angle radiation pattern on all bands for best DX working, while taking up only a small physical space.

This design is very easy and cheap to build and unlike many limited space antennas, it works very well on 80 meters, a band that many Radio Amateurs with restricted space have previously been denied.

Support the antenna only at the ends if possible. Avoid using a metal mast directly alongside the vertical. If you need support at the feeder, use a fiberglass mast.



To make the ground counterpoise, several buried radials can be used. Make these about 30ft long (any longer is not a big advantage) but you will need at least 4 (and preferably a lot more) for a usable ground. Alternately you can ground the coax shield at the feed point to a good ground rod(s).

Fine tune the antenna elements to resonance. Once you have a low VSWR (< 2:1) at a nearby frequency, fine tune the two elements to resonance on 3.700 and 7.100 MHz respectively. If you find the SWR dip occurs too low in frequency (say 3.58 MHz), then just shorten the appropriate element end by folding and twisting the wire back on itself (No need to cut it). When you have tuned resonance to 3.7 and 7.1 MHz, the antenna is ready for use on all other bands. Initially, you might want to make the wires a little longer than shown to allow for a wider range of adjustment.

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.

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

1. What is the primary purpose of a screen grid in a vacuum tube?
 - A. To reduce grid-to-plate capacitance
 - B. To increase efficiency
 - C. To increase the control grid resistance
 - D. To decrease plate resistance
2. What is an advantage of the low internal resistance of nickel-cadmium batteries?
 - A. Long life
 - B. High discharge current
 - C. High voltage
 - D. Rapid recharge
3. When is it acceptable to recharge a carbon-zinc primary cell?
 - A. As long as the voltage has not been allowed to drop below 1.0 volt
 - B. When the cell is kept warm during the recharging period
 - C. When a constant current charger is used
 - D. Never

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



The Letter 'R'



February General Pool Answers

1. Which of the following components should be added to an inductor to increase the inductance?
 - D. An inductor in series
2. Which of the following solid state devices is most like a vacuum tube in its general operating characteristics?
 - B. A Field Effect Transistor
3. What is the minimum allowable discharge voltage for maximum life of a standard 12 volt lead acid battery?
 - C. 10.5 volts

Amateur Radio License Exam

Want to become a ham? Want to upgrade your license? You can find information and resources to success in ham radio at this page: <http://www.scottares.org/License Info.htm>

If you want to ask questions or find a local Elmer (Mentor) just drop an email to: newhaminfo@scottares.org

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

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

Walk-ins allowed at most sessions however it is always best to check the details at the specific session you are planning to attend. Below is a list of scheduled sessions close to Scott County. Good Luck!

March 30, 2019 Saturday 8:45 AM

Sponsor: Bloomington Off/Emergency Mgmt
Daniel J. Royer (952) 888-9756

Email: dandroyer@gmail.com

Location: City Hall-Police Department
1800 W Old Shakopee Rd
Bloomington MN 55431

April 6, 2019 Saturday 10:00 AM

St Paul Radio Club
Leon H. Dill (651) 688-9964

Email: w0coe@arrrl.net

Location: Ramsey Co Library Maplewood
3025 Southlawn Dr
Saint Paul MN 55109-1577

Walk-ins allowed, Pre-reg requested

April 10, 2019 Wednesday 7:00 PM

Sponsor: VARC
James C. Rice (612) 384-7709

Email: jrice@danpatch.org

Location: Perkins Restaurant & Bakery
17387 Kenyon Avenue
Lakeville MN 55044-4459

Walk-ins allowed, Pre-reg requested

April 20, 2019 Saturday 9:00 AM

Sponsor: SEMARC
Daniel M. Franz (651) 769-0358

Email: wd0gup@hotmail.com

Location: Zion Lutheran Church
8500 Hillside Trail South
Cottage Grove MN 55016

Walk-ins allowed, Pre-reg requested

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April 27, 2019 Saturday 8:45 AM

Sponsor: Bloomington Off/Emergency Mgmt
Daniel J. Royer (952) 888-9756

Email: dandroyer@gmail.com

Location: City Hall-Police Department
1800 W Old Shakopee Rd
Bloomington MN 55431

April 30, 2019 Tuesday 6:00 PM

Sponsor: SMARTS
Dale A. Blomgren (952) 402-2155

Email: kdzerob@aol.com

Location: Carver County Library
7711 Kerber Blvd
Chanhassen MN 55317

Walk-ins allowed, Pre-reg requested

BREAK - OVER



ARES Breakfast

Saturday
April 13th 2019
7:30AM

Hy-Vee Market Grille,
6150 Egan Dr, Savage, MN

NECOS Schedule April 2019

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

Date NECOS _____

April 2019

Apr 1st - WA0DGW John
First Mon. Net

Apr 8th - KD0UWZ Chad

Apr 15th - open

Apr 22nd - WA0DGW John

Apr 29th - KD0UWZ Chad

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