



ARES COMMUNICATOR

Information for Scott County Amateurs



December, 2007

Accurate, Reliable Emergency Communications

Volume 7, Number 12

Skywarn Recognition Day Saturday, December 1, 2007

The ninth annual SKYWARN Recognition special event will take place Saturday, December 1. This celebration of a lifesaving partnership is cosponsored by the National Weather Service (NWS) and ARRL, the national association for Amateur Radio. SKYWARN Recognition Day is the National Weather Service's way of expressing its appreciation to Amateur Radio operators for their commitment to help keep communities safe.



During the 24-hour special event, Amateur Radio operators, working together with their local National Weather Service (NWS) offices, will activate Amateur Radio stations and work as a team to contact other hams across the world.

"This is a fun event," said Allen Pitts, spokesperson for the ARRL. "For 364 days of the year, hams aid in providing the NWS offices with real-time information on severe weather when people and property are at risk. But this one day is for fun, friendship and recognition of the critical services given to communities by the hams."

"Radio amateurs are a tremendous resource for the National Weather Service", says Scott Mentzer (N0QE), organizer of the event and Meteorologist-In-Charge at the NWS office in Goodland, Kansas. "These folks are dedicated, and the assistance they provide throughout the year is invaluable. Skywarn Recognition Day is our way of saying thank you".

Last year, 90 NWS offices across the country participated and logged 16,209 radio contacts according to David Floyd

Skywarn cont'd on page 2

The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.
EDITOR: Bob Reid, Scott County Emergency Coordinator
Snail Mail: 13600 Princeton Circle
Savage, MN. 55378
E-Mail: N0BHC@aol.com
Phone: Home 952-894-5178 Portable 612-280-9328

St. Francis Hospital Radio Active

The St. Francis Regional Medical Center officially incorporated Amateur radio as a part of their emergency response in a drill in November. This use of amateur radio was the result of several years of cooperation between the St. Francis emergency planners and the Scott County ARES group.

St. Francis purchased the amateur equipment and enlisted Scott County ARES members for assistance with some of the finer points of station installation and setup. Bob Minor, W0NFE, worked with J.R. Theis, Lead Engineer, and Mike Theisen, Facility Manager to terminate coax, connect the equipment, and test the transceiver and antenna. The station consists of a GP9 Comet Antenna, TM-D700A Kenwood dual band transceiver, and an Astron RS20 power supply.

Scott ARES members Bob Myster, KB0FH, and Bob Minor, W0NFE, operated the station to support St. Francis Regional Medical Center emergency personnel during a drill on November 15th. The object of the drill was to test the capabilities of various medical centers in central Minnesota to communicate during an emergency. The consensus was that communications are possible and communications procedures need to be developed for future exercises. Scott ARES is committed to supporting St. Francis Regional Medical Center in their use of amateur radio during emergencies.

BREAK - OVER

ARES Activities

**Weekly Net Monday 7 PM 146.535 mhz (s)
Breakfast Saturday, December 8th**

SELECTED TRAFFIC NETS			
Designator	Freq.	Local Times	
MN Phone	3.860Mhz	Noon, 5:30pm	Daily
MN CW	3.605Mhz	6:30pm, 9:50pm	Daily
ARES			
Scott ARES	146.535 S	7:00pm	Monday
Carver ARES	147.165+	8:30pm	Sunday
Bloomington	147.090+	9:00pm	Sunday
Neighboring Nets			
North Dakota	3.937Mhz	6:30pm	Daily
South Dakota	3.870Mhz	6:00pm	Daily
Wisconsin	3.985Mhz	5:30pm	Daily

SKYWARN *cont'd from pg. 1*

(N5DBZ), the Warning Coordination Meteorologist at Goodland. In typical SKYWARN operations during severe weather, direct communication between mobile spotters and local NWS offices provides critical "ground truth" information for forecasters. In summer, spotter reports of hail size, wind damage and storm rotation in real time greatly assist the radar warning operator since that information can be correlated with Doppler radar displays. In winter, snow nets are held, in which reports of snow totals, ice accumulations and whiteout conditions in blowing snow help NWS forecasters assess the extent and severity of winter storms. In recent years during wildfire situations, amateur radio operators have reported the precise locations of thick smoke and zero visibility, which allowed forecasters to provide crucial weather updates to fire fighters.

"NWS offices utilize the real-time reporting of weather events to assist in warning operations, but certainly hurricanes Katrina and Rita have shown us that ham radio operators are equally important during the recovery phase of large-scale natural disasters," Floyd pointed out. Floyd also cited the example of the Hurricane Watch Net (HWN) which organized in 1965 during Hurricane Betsy, started out as an informal group of amateurs but has since developed a formal relationship with the National Hurri-

cane Center in Miami via its Amateur Radio station WX4NHC.

Operating Instructions

1. Object - For all amateur stations to exchange QSO information with as many National Weather Service Stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters are permitted. SKYWARN Recognition Day serves to celebrate the contributions to public safety made by amateur radio operators during threatening weather.
2. Date - NWS stations will operate Saturday, December 1, 2007, from 0000 - 2400 UTC.
3. Exchange - Call sign, signal report, QTH, and a one or two word description of the weather occurring at your site ("sunny", "partly cloudy", "windy", etc.).
4. Modes - NWS stations will work various modes including SSB, FM, AM, RTTY, CW, and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g., N0A/NWS).
5. Event and QSL Information - The National Weather Service will provide event information via the internet. Event certificates may be requested from: SKYWARN Recognition Day, 920 Armory Road Goodland, KS 67735. Simply enclose a self-addressed stamped envelope with a list of NWS stations worked. The certificate size is 8.5 x 11 inches.

Separate stations will also individual QSL cards. See the web site for a list at <http://hamradio.noaa.gov>. QSL Information for the Minnesota National Weather Service Offices is as follows: K0MPX - Chanhassen, MN (Minneapolis/St. Paul): National Weather Service, 1733 Lake Drive West, Chanhassen, MN 55317
K0NWS - Duluth, MN: SKYWARN Recognition Day 2007, NWS Duluth -K0NWS, 5027 Miller Trunk Hwy, Duluth, MN 55811

BREAK - OVER

Scott County ARES Contacts

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



Asst. Emergency Coordinator
Bob Minor W0NFE
5210 West 141st Street
Savage, MN 55378
952-894-2657
W0NFE@arri.net

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



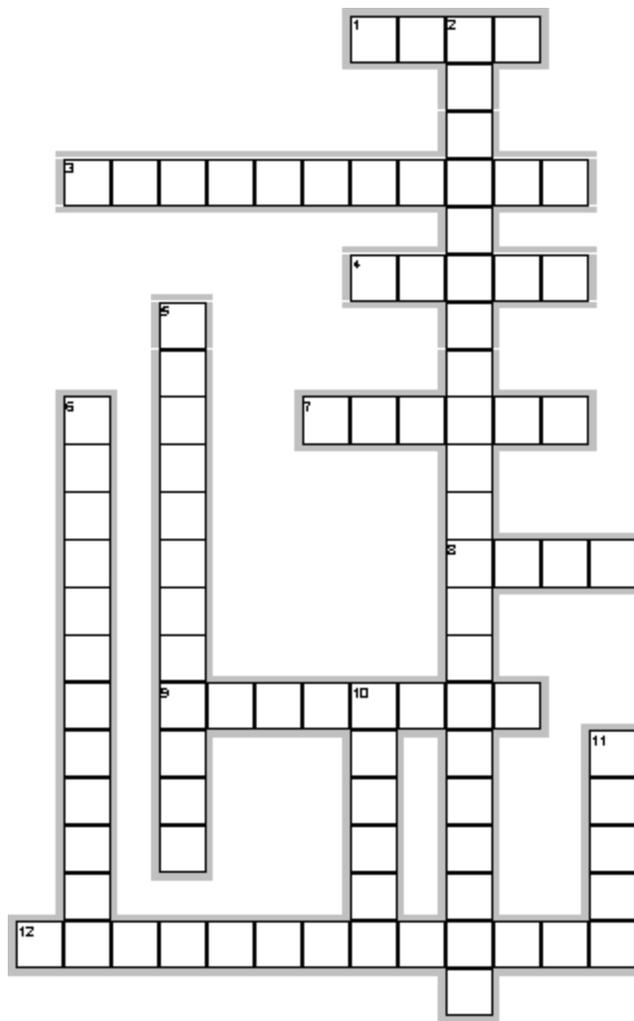
101110010101 Digital Modes

Across

1. A very simple technique which uses a five-bit code to represent all the letters of the alphabet, the numbers, some punctuation and some control characters.
2. Traditionally used to describe the three popular “error free” communication modes. The main method for error correction is from a technique called ARQ.
3. An advancement to another mode and encodes 16 tones. Uses Fast Fourier Transform technology to decode the ASCII characters, and Constant Phase Frequency Shift Keying to send the coded signal. Continuous Forward Error Correction (FEC) sends all data twice with an interleaving technique to reduce errors from impulse noise and static crashes. A new improved Varicode is used to increase the efficiency of sending extended ASCII characters.
4. Another new DSP sound card mode that attempts to use Fast Fourier Transform technology. Is based on tone pairs with several characters represented by single tones. It is defined as a “2 of 8 + 1 tone” system, or more simply put, it is based on the decode of tone pairs from a palette of 9 tones.
5. New DSP based mode for sending keyboard text over paths that experience fading and interference from other signals. It is accomplished by a complex scheme to encode text in a matrix of 64 tones over time and frequency.
6. A simple variable length text code with a narrow bandwidth phase-shift keying signal using DSP techniques. This mode is designed for “real time” keyboard operation and at a 31 baud rate is only fast enough to keep up with the typical amateur typist.
7. An FSK mode and is a standard on modern Multi-Mode TNCs. It is designed with a combination of packet and AMTOR Techniques.
8. An FSK mode with a fast transfer rate compared to Pactor. Uses a data inter-leaving system that assists in minimizing the effects of atmospheric noise and has the ability to fix garbled data. Attempts all transmissions at 300 baud but drops to 200 baud if difficulties are encountered and finally to 100 baud.
9. A FSK mode that is an adaptation of a very popular radio code used on VHF (1200 baud) FM amateur radio. Recently enjoyed a resurgence in popularity since it is the protocol used by APRS - Automatic Position Reporting System.
10. A PSK mode which provides a full duplex simulation. It is well suited for HF operation. Has good band-width efficiency with high error-corrected data rates. Adapts to conditions by constantly monitoring the received signal.
11. An FSK mode, has 5 bits and can not transfer extended ASCII or any binary data.
12. A method of sending and receiving text using facsimile technology. This mode has been around along time. It was actually developed by Germany prior to World War II.

Down

2. Traditionally used to describe the three popular “error free” communication modes. The main method for error correction is from a technique called ARQ.
5. New DSP based mode for sending keyboard text over paths that experience fading and interference from other signals. It is accomplished by a complex scheme to encode text in a matrix of 64 tones over time and frequency.



6. A simple variable length text code with a narrow bandwidth phase-shift keying signal using DSP techniques. This mode is designed for “real time” keyboard operation and at a 31 baud rate is only fast enough to keep up with the typical amateur typist.
10. A PSK mode which provides a full duplex simulation. It is well suited for HF operation. Has good band-width efficiency with high error-corrected data rates. Adapts to conditions by constantly monitoring the received signal.
11. An FSK mode, has 5 bits and can not transfer extended ASCII or any binary data.



November Crossword Solution Radio: from the crossword dictionary

Across

- FLASH—News brief
- RADIATOR—Transmitting antenna.
- STATIC—Interference
- CONSOLE—Radio cabinet.
- MURROW—Newscaster Ed.
- MARCONI—”Father” of radio.
- TUBE—Valve

Down

- TALENT—Radio performer
- WIRELESS—Old time radio.
- HAM—Amateur operator
- DISCJOCKEY—Spins stacks of wax
- CALLETTTERS—Station ID.
- STUBBLEFIELD—True inventor of radio.
- COMMERCIAL—Advertisement
- CRONKITE—Newscaster Walter.
- FALLOUT—Radioactive shower.
- REMOTE—Radio control

BREAK - OVER



Name That Christmas Carol!

How many of these cleverly-disguised Christmas Carol titles can you decipher? The answers can be found on pg. 6

- Bleached Yule
- Castaneous-colored Seed Vesicated in a Conflagration
- Singular Yearning for the Twin Anterior Incisors
- Righteous Darkness
- Arrival Time 2400 hrs - Weather Cloudless
- Loyal Followers Advance
- Far Off in a Feeder
- Array the Corridor
- Bantam Male Percussionist
- Monarchical Triad
- Nocturnal Noiselessness
- Jehovah Deactivate Blithe Chevaliers
- Red Man En Route to Borough
- Frozen Precipitation Commence
- Proceed and Enlighten on the Pinnacle
- The Quadruped with the Vermillion Proboscis
- Query Regarding Identity of Descendant
- Delight for this Planet
- Give Attention to the Melodious Celestial Beings
- The Dozen Festive 24 Hour Intervals

Test Your ICS Knowledge

This month we will take a look at some of the concepts from the IS-100 course, Introduction to Incident Command System. This is the first of the FEMA courses all ARES members must complete before participating in any response activities. You can find the course materials at this site: <http://training.fema.gov/EMIWeb/IS/is100.asp>. Now, test your knowledge of the ICS.

Which of the following would you expect to see in an Incident Action Plan?

- Detailed cost estimates for implementing the proposed activities.
- Listing of all staff members currently deployed to the incident.
- Measurable strategic operations to be achieved within the specified period.
- A schematic showing all communication equipment in use at the incident.

Which incident facility is the location where personnel and equipment are kept while waiting for tactical assignments?

- Base
- Camp
- Incident Command Post
- Staging Area

Which General Staff position manages costs related to the incident, and provides accounting, procurement, time recording, and cost analyses?

- Finance/Administration Section Chief
- Logistics Section Chief
- Operations Section Chief
- Planning Section Chief



Answers for the November ICS Quiz

One ICS principle relates to the supervisory structure of the organization and pertains to the number of individuals or resources one incident supervisor can manage effectively. This operating guideline is referred to as:

B. Span of control.

Which General Staff position is responsible for ensuring that assigned incident personnel are fed and have communications, medical support, and transportation as needed to meet the operational objectives?

B. Logistics Section Chief

Which Command Staff position monitors safety conditions and develops measures for assuring the safety of all assigned personnel?

D. Safety Officer

BREAK - OVER

It Takes Two Choosing Communications Options

by: Jerry Wellman, W7SAR
WorldRadio, Dec. 2007

I received some nice photos of a portable station a fellow had put together using a nice case and a fold-up two-wheel cart. to enable transport into a communications center. Several of his radios were what I'd call "esoteric" rigs. He had a 220 MHz, a 6 Meter and an old RTTY controller.

I'm a BIG fan of thinking outside of the box and I salute his efforts to include other frequencies besides the over-worked VHF band. I asked him if he or his local EmComm group had a plan in place for local use of 220 MHz or 52 MHz. He said that they had discussed it, but nothing formal. He had a buddy who could work those frequencies, and that was his basis of what to include in his portable kit.

Some years ago I took a 220 rig and a 1.2 GHz rig to an exercise. I thought I'd impress the locals with both my ability to operate on those bands and with my thinking outside the box. Several folk made comments, but I soon realized the futility of my choice of rigs. There was no one to talk to! Granted these bands offered (then) some security from people with scanners and I could send messages - to no one. I had forgotten the fundamental rule of communications: You need to reliably deliver messages from point A to point B. I could certainly send the message, but there was no one to receive it.

I have a nice 1.2 GHz radio in my shack. I also have a couple of portables. The only use they get is for me to talk to Janet (K7UTE) when I'm downtown. And often she's busy and really doesn't want to sit in the shack and wait for me to holler just to test the frequency. As we plan for emergencies, we need to consider whether or not the equipment we choose to bring will be of value. It's great to have one or two other people using, for example Six Meters. Would I take that radio with me locally to a comm center? No. The two or three people I visit with are not usually active in EmComm activities. While it may be a nice frequency to use, uncluttered and unscanned, without the "other end" it's a poor choice.

A year or two ago I was asked what I thought of 29.600 FM. I replied that it's a great frequency and that I have an old Azden that I use in the shack. When the band opens I like to make an FM contact or two around the country. Locally I've talked to Don Lloyd, KD7BA. Great radio, but unless Don is available during the same hours I am, it's a poor choice for an emergency operation.

I'm seeing the same scenario lately with packet, RTTY, Morse code, D-Star, PSK, AMTOR, ATV and other

modes. If (and that's a critical word) you have enough operators to ensure you can reliably send messages, by all means use the mode or band. If you have one or two people with similar equipment, it may work - but it's not a reliable addition to your emergency gear.

Lesson? Use the strengths of your group. If you have people with packet stations, use them. If packet radio (not APRS) has kind of died out in your area, it's not a good choice. You can also use these modes to encourage growth or to develop systems your group may be interested in.

D-Star is a wonderful mode. If you have enough interest, develop it into an EmComm tool.

I would also caution you to NOT just reject a mode or frequency just because you have few stations with similar capability. Years ago someone told me packet would never be popular. They were wrong and it was wildly popular for many years. Locally we had a hundred or more active stations. Today, that number has dropped to dozens. In its heyday, CB radio was worthless. Today I monitor it at home and find a nice group of users and actually enjoy visiting once in a while. Could it be used for a neighborhood group? You bet. If it works and you have enough support, use it! We have a group working with D-Star. Can it be a great EmComm mode? Absolutely, when you have enough operators who can reliably respond.

One constant about EmComm planning is its ever-changing nature. You cannot just write an ops plan and consider it done. Repeaters come and go. Modes come and go. People come and go. Revisit your plan regularly to ensure you and your group can operate AND support the communications function. Seek to attract users with common interests and develop interests in new modes and bands. One of our Amateur Radio strengths is our ever-changing and ever-developing nature. As we attract new operators with various modes and frequencies, incorporate their excitement into your plan.

BREAK - OVER



"Taking the high road will always make for a more rewarding and sometimes difficult journey. But you will never get lost."

Peg Woods

Quick Training Tips

Directed Net Operations

We operate under a directed net format in ARES so that we can reliably exchange information accurately and rapidly. Let's review some of the basic procedures in directed net operation.

- Assume the net is being operated on a simplex frequency. Do not rely on a repeater courtesy beep to signal the end of a transmission.
- Each communication should consist of only the information necessary to get the message across clearly and accurately.
- All messages and communications during an emergency should be in plain language.
- Always use the ITU Phonetic Alphabet.
- Pro-words are procedural terms with specific meanings. They are used to save time and ensure that everyone understands precisely what is being said.
- Tactical call signs should be used for all emergency nets and public service events if there are more than just a few participants.
- The FCC requires that you identify at ten-minute intervals during a conversation and at the end of your last transmission. You DO NOT have to identify the other station and it is a waste of valuable net time.
- The phrase "Back to net" is NEVER used on a directed net. The NECOS is ALWAYS in control. Simply end your transmission with your callsign and the proword over or OUT.
- Checking in to a directed net.
 - o To become part of a *directed net*, listen for the NECOS to ask for "check-ins" and listen to any specific instructions, such as "check-ins with emergency traffic only." At the appropriate time, give only your call sign.
 - o If a long period passes with no request for additional check-ins, you wait for a pause in the net's activity and briefly call the NCS like this: "Net control, W1FN, with traffic." BREAK - OVER

"Experience is a hard teacher. She gives the test first and the lessons afterwards."

A. Nony Moose



Answers to Christmas Riddles!!!

1. White Christmas
2. Chestnuts Roasting on an Open Fire
3. All I Want for Christmas is My Two Front Teeth
4. O Holy Night
5. It Came Upon a Midnight Clear
6. O Come, All Ye Faithful
7. Away in a Manger
8. Deck the Hall
9. Little Drummer Boy
10. We Three Kings
11. Silent Night
12. God Rest Ye, Merry Gentlemen
13. Santa Claus is Coming to Town
14. Let it Snow
15. Go, Tell It on the Mountain
16. Rudolph, the Red-nosed Reindeer
17. What Child is This?
18. Joy to the World
19. Hark! The Herald Angels Sing
20. The Twelve Days of Christmas

BREAK - OVER



The Night Before Christmas

'Twas the night before Christmas,
he lived all alone,
in a one bedroom house
made of plaster and stone.

I had come down the chimney
with presents to give,
and to see just who
in this home did live.

I looked all about,
a strange sight I did see,
no tinsel, no presents,
not even a tree.

No stocking by mantle,
just boots filled with sand,
on the wall hung pictures
of far distant lands.

With medals and badges,
awards of all kinds,
a sober thought
came through my mind.

For this house was different,
it was dark and dreary,
I found the home of a soldier,
once I could see clearly

The soldier lay sleeping,
silent, alone,
curled up on the floor
in this one bedroom home.

The face was so gentle,
the room in such disorder,
not how I pictured
a United States soldier.

Was this the hero
of whom I'd just read?
Curled up on a poncho,
the floor for a bed?

I realized the families
that I saw this night,
owed their lives to these soldiers
who were willing to fight.

Soon round the world,
the children would play,
and grownups would celebrate
a bright Christmas day

They all enjoyed freedom
each month of the year,
because of the soldiers,
like the one lying here.

I couldn't help wonder
how many lay alone,
on a cold Christmas Eve
in a land far from home.

The very thought
brought a tear to my eye,
I dropped to my knees
and started to cry

The soldier awakened
and I heard a rough voice,
"Santa don't cry,
this life is my choice;

I fight for freedom,
I don't ask for more,
my life is my God,
my Country, my Corps."

The soldier rolled over
and drifted to sleep,
I couldn't control it,
I continued to weep.

I kept watch for hours,
so silent and still
and we both shivered
from the cold night's chill.

I didn't want to leave
on that cold, dark, night,
this guardian of honor
so willing to fight.

Then the soldier rolled over,
with a voice soft and pure,
whispered,
"Carry on Santa, it's
Christmas day,
all is secure."

One look at my watch,
and I knew he was right.
"Merry Christmas my
friend,
and to all a good night



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

NECOS Schedule - December, 2007

3 Dec	KB0FH Bob
10 Dec	Open
17 Dec	N0PI Dan
24 Dec	Merry Christmas Eve!
31 Dec	Happy New Year!
3 Jan	WONFE Bob