



ARES COMMUNICATOR

Information for Scott County Amateurs



May, 2009

Accurate, Reliable Emergency Communications

Volume 9, Number 5

Monday

Digital Mondays

11

"If you don't use it, you will loose it!" "It's fun to operate!" "Something different is always fun!" These are some of the comments regarding our recent exercise that utilized the Narrow Band Emergency Messaging software. The digital modes are a lot of fun to operate and are an important tool in emergency communications for our served agency.

In order to provide more digital experience, we will designate one net session each month to exercising digital sound card modes. The Digital Monday will be the net following the informal second Saturday breakfast get together.

The Digital Monday will provide a couple of opportunities. First it will give everyone the opportunity to get their equipment operating smoothly, tackling hardware and software questions. Second, everyone will get the chance to originate and relay messages. Third operators will learn the rules of the road for digital operation in a directed net.

The Digital Monday net will begin with our customary voice check-in and round of comments. Following the standard features, the net will move to a discussion / operating session dealing with any digital questions members bring to the net.

You do not have to operating a digital mode to participate in Digital Monday. Everyone is welcome to bring their questions. Guaranteed there will be plenty to learn just by listening.

BREAK - OVER

E - V - E Planet Bounce

DL Team Transmits, Receives Signals From Venus

On March 25, a group from AMSAT-DL bounced radio signals off the surface of Venus, marking the first time Amateur Radio operators have bounced radio signals off another planet. According to AMSAT-DL President Peter Guelzow, DB2OS, the Earth-Venus-Earth (EVE) transmission is another step in preparing for a mission to Mars. According to an AMSAT-DL press release, the team's transmitter was generating about 6 kW CW on a frequency of 2.4 GHz.

Guelzow said that signals were sent from a ground control station at the IUZ Sternwarte observatory in Bochum: "After traveling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. This was the first German success to receive echoes of other planets. In addition, this is the farthest distance crossed by radio amateurs, over 100 times further than echoes from the moon (EME reflections)."

The EVE experiment was repeated on March 26 for several hours with "good echoes" from Venus, Guelzow said. "Morse code was used to transmit the well-known 'HI'

E - V - E Contact cont'd on page 2

ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, May 9th

Digital Monday May 11th

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

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

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Reader submissions encouraged!

E - V - E Contact - cont'd from page 1

signature known from the AMSAT OSCAR satellites."

For receiving the EVE reflections, Guelzow said that the team used a fast Fourier transform (FFT) analysis with an integration time of 5 minutes. "After integrating for 2 minutes only, the reflected signals were clearly visible in the display," he said. "Despite the bad weather, signals from Venus could be detected from 1038 UTC on until the planet reached the local horizon."

Guelzow explained that with the EVE reflections, the high power amplifier "has therefore passed this crucial test as a final key component for the planned P5-A Mars mission. By receiving generated echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT-DL team is now gearing up for building the P5-A space probe. AMSAT-DL wants to show that low-budget interplanetary exploration is possible with its approach."

Development, design and construction of this first German Mars mission have been achieved by AMSAT-DL and its partner organizations, Guelzow explained. "Already a third of the total project costs were performed. More work shall follow during the mission. AMSAT-DL would like to demonstrate that their approaches to low-cost space missions are feasible." — Information provided by AMSAT-DL

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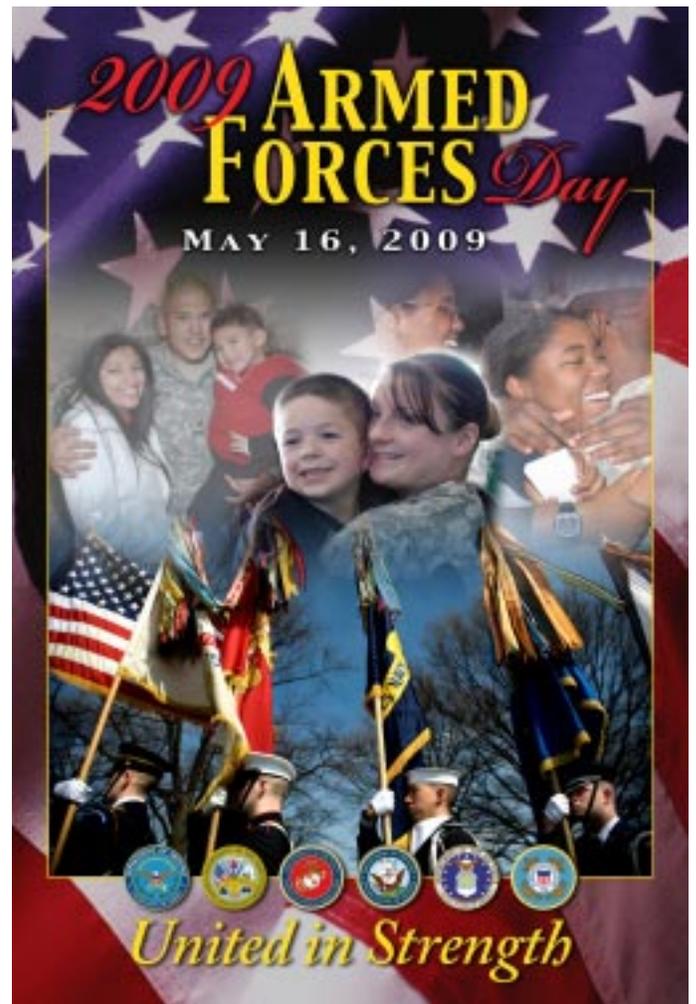
Armed Forces Day

"United in Strength"
Saturday, May 16, 2009

President Harry S. Truman led the effort to establish a single holiday for citizens to come together and thank our military members for their patriotic service in support of our country.

On August 31, 1949, Secretary of Defense Louis Johnson announced the creation of an Armed Forces Day to replace separate Army, Navy, Marine Corps and Air Force Days. The single-day celebration stemmed from the unification of the Armed Forces under one department — the Department of Defense.

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"Prediction is hard, especially concerning
the future"

Niels Bohr, Physicist

Formal Message Elements – 4th in a Series

ARRL Radiograms

Message Text

ARRL Numbered Radiograms are a standardized list of often-used phrases. Each phrase on the list is assigned a number. There are two groups: Group One is for emergency relief and consists of 26 phrases numbered consecutively from "ONE" to "TWENTY SIX," and preceded by the letters "ARL." For example, "ARL SIX" means "will contact you as soon as possible."

Group Two contains 21 routine messages, including number "FORTY SIX" and from "FIFTY" through "SIXTY NINE." Earlier printed versions of this list do not contain the latest additions. 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 _____.

ARRL Text Messages Group 1

Emergency/priority messages originating from official sources must carry the signature of the originating official.

ONE—Everyone safe here. Please don't worry.

TWO—Coming home as soon as possible.

THREE—Am in _____ hospital. Receiving excellent care and recovering fine.

FOUR—Only slight property damage here. Do not be concerned about disaster reports.

FIVE—Am moving to new location. Send no further mail or communication. Will inform you of new address when relocated.

SIX—Will contact you as soon as possible.

SEVEN—Please reply by Amateur Radio through the amateur delivering this message. This is a free public service.

EIGHT—Need additional _____ mobile or portable equipment for immediate emergency use.

NINE—Additional _____ radio operators needed to assist with emergency at this location.

TEN—Please contact _____. Advise to standby and provide further emergency information, instructions or assistance.

ELEVEN—Establish Amateur Radio emergency communications with _____ on _____ MHz.

TWELVE—Anxious to hear from you. No word in some time. Please contact me as soon as possible.

THIRTEEN—Medical emergency situation exists here.

FOURTEEN—Situation here becoming critical. Losses and damage from _____ increasing.

FIFTEEN—Please advise your condition and what help is needed.

SIXTEEN—Property damage very severe in this area.

SEVENTEEN—REACT communications services also available. Establish REACT communication with _____ on channel _____.

EIGHTEEN—Please contact me as soon as possible at _____.

NINETEEN—Request health and welfare report on _____. (State name, address and telephone number.)

TWENTY—Temporarily stranded. Will need some assistance. Please contact me at _____.

TWENTY ONE—Search and Rescue assistance is needed by local authorities here. Advise availability.

TWENTY TWO—Need accurate information on the extent and type of conditions now existing at your location. Please furnish this information and reply without delay.

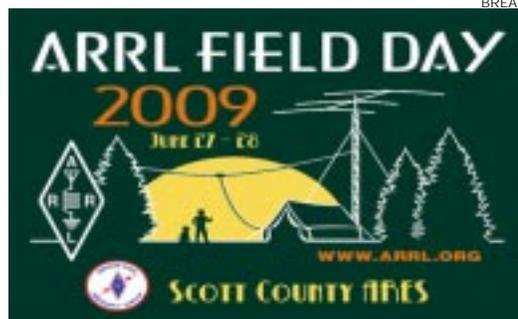
TWENTY THREE—Report at once the accessibility and best way to reach your location.

TWENTY FOUR—Evacuation of residents from this area urgently needed. Advise plans for help.

TWENTY FIVE—Furnish as soon as possible the weather conditions at your location.

TWENTY SIX—Help and care for evacuation of sick and injured from this location needed at once.

BREAK - OVER



Ham Radio Q and A

ARRL PR Reflector

David A. Lane, KG4GIY, ARES Emergency Coordinator and RACES Officer for Prince William County, VA takes a look at some typical questions about amateur radio. David says, "I have spend most of my career in the hobby answering them in a logical and direct manner and it isn't hard to cite examples."

Here are some of the questions he routinely receives:

Q: "What useful purpose does amateur radio provide today when people can so easily communicate over the internet or phone?"

A: David's answer to this is a group of "people" named: Bonnie, Katrina, Gaston, Ivan and Charlie. I could throw in Andrew as well. Or some F class tornadoes. Also, the Internet requires power (as do cell phones) and people in New York and the entire Northeast corridor can tell you how useful cell phones can be in a black out. Locally I point out that during our Dulles airport drills, within an hour most cell phones have gone dry and since the people using them are so far from a power source, they generally stay dry (unless they are lucky enough to find an amateur operator who has a deep-cycle battery they can charge off of).

Q: "Isn't amateur radio dieing out, with mostly old guys left?"

A: At the last exam session I participated in, we licensed 20 new amateurs all under the age of 20. The hobby is getting younger as people realize they cannot rely on the technology.

Q: "Doesn't this hobby cost an inordinate amount of money to practice (that stuff looks expensive)?"

A: You can enter the hobby for as little as \$150. For less than \$1000, you can talk to the world. Most PCs cost \$600-\$2000.

Q: "Aren't antenna towers unsightly and damaging to the community viewscape?"

A: Yes, we generally find cell towers to be quite ugly.

Q: "Doesn't amateur radio cause interference to others?"

A: Amateur radio causes less interference to others than they cause to our operations. Especially during emergencies.

Q: "I hear that radio spectrum is in critically short supply these days...can't amateur radio bands put to better use in some other way?"

A: Radio spectrum is very plentiful and outside of the amateur and military spectrum, quite badly allocated.

Ten Top Reasons For Enjoying EmComm:

You get to:

- learn about places that you have never heard of.
- visit places you would probably never visit. By radio and/or in person.
- learn about various time zones.
- meet people and make new friends.
- learn how to improvise.
- improve your spelling and other clerical skills.
- learn about weather patterns and how to properly report observations.
- assemble field radio and "go kits"...and use them.
- encounter less lids than in other aspects of amateur radio.
- reap a "spiritual" reward. The sheer pleasure of serving in and of itself. Of giving back or contributing. Of a job well done.

from Emcomm Monthly May, 2009

BREAK - OVER



Q: "Haven't hams died falling off towers and trees or electrocution?"

A: Sure. So have home owners and linemen. Accidents happen when you do not take proper precautions.

Q: "What about that child who suffered head injuries from climbing and falling off of a neighbor's ham tower; why don't hams do more to protect kids?"

A: Trespassing is illegal in most states in the union. What sort of additional protection would you suggest? It wouldn't be any different if it had been a TV antenna like back in the 60s and 70s.

Q: "Why is there an exception for hams in our recent laws against using hand-held mobile phones while driving?"

A: This one is tough to answer. Frankly there is the "emergency" aspect of what we do that is the best answer but I personally have an issue with the exemption in non-emergency situations. The ARRL offers this distinction: "Two-way radio use is dissimilar from full-duplex cellular telephone communications because the operator spends little time actually transmitting; the time spent listening is more similar to, and arguably less distracting than listening to a broadcast radio, CD or MP3 player. There are no distinctions to be made between or among Amateur Radio, public safety land mobile, private land mobile or citizen's radio in terms of driver distraction. All are distinguishable from mobile cellular telephone communications in this respect."

BREAK - OVER

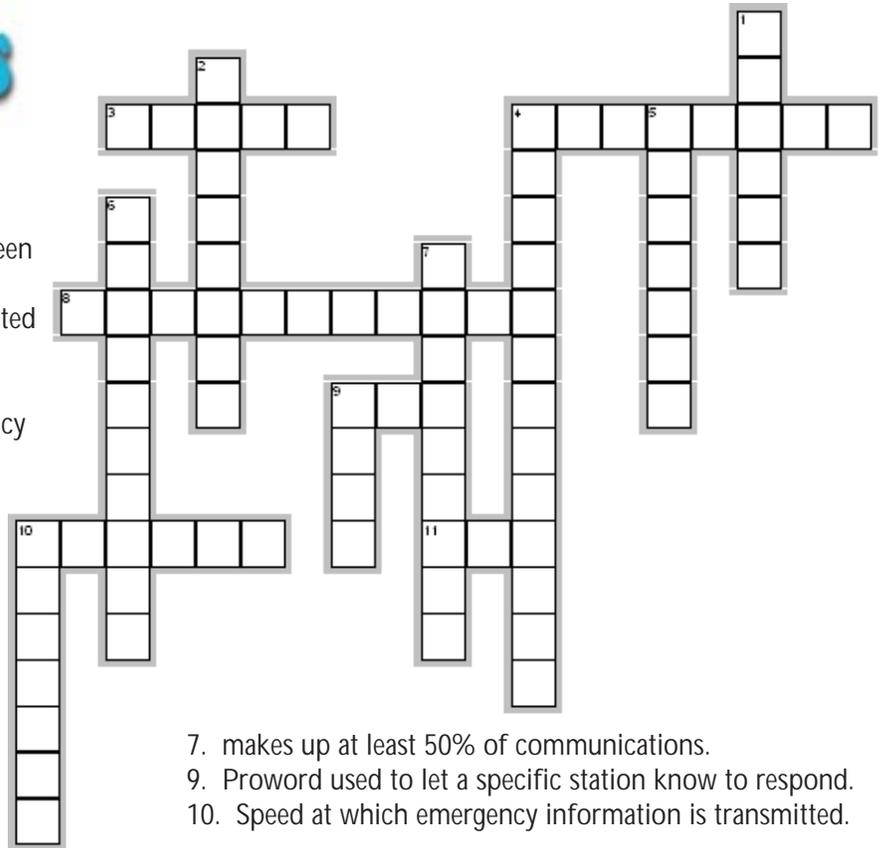
Basic Skills

Across

3. Phonetically indicated the letter "B"
4. Procedural terms with specific meanings.
8. Callsign used at the end of an exchange between two stations.
9. Used to indicate a specific station has completed communications.
10. Phonetically indicates the letter "Q"
11. Standard phonetic alphabet used in emergency communications.

Down

1. Technical slang and specialized terminology.
2. Callsign which allows you to contact another station without using the operator's FCC callsign.
4. Language used for emergency communications
5. Phonetically indicates the letter "W"
6. How emergency information is communicated.



April Crossword Key - Smart Grid

Across

1. HOMEAUTOMATION—Home automation is the use of computer and cellular technologies to remotely control basic home functions and features such as HVAC, lighting, and security systems.
9. KILOWATT—A unit of power equal to 1000 watts. 746 kW equals one horsepower. A kW is equal to one kilojoule per second.
11. AUTOMATEDMETERREADING—A state-of-the-art technology that enables utility companies to read electric meters remotely.
12. ENERGYSAVINGS—A reduction in the amount of electricity used by end users as a result of participation in energy efficiency programs and load management programs.
15. PEAKDEMAND—Electric load that corresponds to a maximum level of electric demand in a specified time period.
17. COOPERATIVE—A type of utility in which the customers are also the owners.
18. SMARTGRID—Type of grid that integrates new innovative tools and technologies from generation, transmission and distribution all the way to consumer appliances and equipment.
19. LOAD CONTROL—A program in which the utility company offers a lower rate in return for having permission to turn off the air conditioner or water heater for short

7. makes up at least 50% of communications.
9. Proword used to let a specific station know to respond.
10. Speed at which emergency information is transmitted.



periods of time by remote control. This control allows the utility to reduce peak demand.

Down

2. ONPEAK—Those hours or periods of higher electrical demand.
3. INVESTOROWNED—A privately owned utility.
4. TELEMETRY—The wireless transmission of monitoring data to indicate or record measurements at a distance from the measuring instrument.
5. OFFPEAK—Those hours or other periods of lower electrical demand.
6. DEMANDINTERVAL—The time period during which flow of electricity is measured (usually in 15-, 30-, or 60-minute increments.)
7. DEMAND—The level that electricity is delivered to users at a given point in time, measured in kilowatts.
8. DIRECTCONTROL—type of control that reduces the demand of residential customers by interrupting power supply to individual appliances or equipment on customer premises.
10. LOADMANAGEMENT—Steps taken to reduce power demand at peak load times or to shift some of it to off-peak times.
13. LOAD—An end-use device or customer that receives power from the electric system.

Annual Armed Forces Day Crossband Contacts

May 9th 2009

The Army, Air Force, Navy, Marine Corps, and Coast Guard are co-sponsoring the annual military/amateur radio communications tests in celebration of the 59th anniversary of Armed Forces Day (AFD). Although the actual Armed Forces Day is celebrated on Saturday, May 16, 2009, the AFD military/amateur crossband communications test will be conducted 09 May 2009 to prevent conflict with the Dayton Hamvention (15-17 May 2009), which is the same weekend as the actual Armed Forces Day.

The annual celebration features traditional military to amateur cross band communications SSB voice tests and copying the Secretary of Defense message via digital modes. These tests give amateur radio operators and short wave listeners (swl) an opportunity to demonstrate their individual technical skills, and to receive recognition from the Secretary of Defense and/or the appropriate military radio station for their proven expertise. QSL cards will be provided to those stations making contact with the military stations. Special commemorative certificates will be awarded to anyone who receives and copies the digital Armed Forces Day message from the Secretary of Defense.

Military-to-amateur cross band SSB & CW test contacts. Military-to-amateur cross band operations will take place on the dates/times in Zulu (UTC), and frequencies listed below for each station. Voice contacts will include operations in single sideband voice (SSB). Some stations may not operate the entire period, depending on propagation and manning. Participating military stations will transmit on selected military MARS frequencies and listen for amateur radio stations in the amateur bands indicated below. The military station operator will announce the specific amateur band frequency being monitored. Duration of each voice contact should be limited to 1-2 minutes. The following stations will be transmitting on MARS frequencies listed below which are provided as 'window/dial frequency' in Khz. Some stations will use CW to provide the opportunity to check in by Morse code.

STATION: NAV4
(09 MAY 1200Z - 10 MAY 0400Z)

Freq	Mode	Band
4011.5 KHZ	LSB/MT63	80M
7376.5 KHZ	LSB	40M
14467.0 KHZ	USB	20M
21758.5 KHZ	USB	15M

ADDRESS: NAVMARCORMARS RADIO
STATION NAV4
615 PREBLE AVE
CAMP BARRY, BLDG. 153
GREAT LAKES, IL 60088-2850

Full schedule on www.scottARES.org website.

BREAK - OVER

SECRETARY of DEFENSE MESSAGE TEST VIA DIGITAL MODES

The Secretary of Defense message will be transmitted via digital modes including RTTY, PACTOR, AMTOR, PSK-31, MFSK and MT63 from the stations listed below, including frequencies, mode, and date/time in Zulu (UTC). All frequencies are listed for center of intelligence. Offset as appropriate for your TNC. Sound cards modes will use standard factory settings (note: not all stations may necessarily operate on all the frequencies listed, depending on propagation and available equipment.)

Transcripts of the RTTY, PACTOR, AMTOR, PSK-31, MFSK and MT63 receiving test should be submitted "as received". No attempt should be made to correct possible transmission errors. Provide time, frequency and call sign of the military station copied, including name, call sign, and address (including zip code) of individual submitting the entry. Ensure this information is placed on the paper containing the test message. Each year a large number of acceptable entries are received with insufficient information, or necessary information was not attached to the transcripts and was separated, thereby precluding issuance of a certificate. Entries must be sent to the appropriate military address as follows:

AAZ/WAR/AAV
ARMED FORCES DAY CELEBRATION
COMMANDER NETCOM/9TH ASC
ARMED FORCES DAY CELEBRATION
ATTN: NETC-OPE-MA (MARS) (31)
FORT HUACHUCA, AZ 85613-5000

NAV, NAV-3, NAV-4, NBL, NPL OR NUW
ARMED FORCES DAY CELEBRATION
CHIEF, NAVY-MARINE CORPS MARS
CHEATHAM ANNEX BLDG 117
108 SANDA AVE
WILLIAMSBURG, VA 23185-5830

AIR-2
ARMED FORCES DAY CELEBRATION
AFCA / CHIEF, AF MARS
203W LOSEY ST
SCOTT AFB, IL 62225

Full schedule on www.scottARES.org website.

BREAK - OVER

**Fishing Opener
May 9th**



Multiband Radios New to Em Comm?

This year is likely to be the year of multiband product releases and deployments. Thales Communications, Harris and Motorola, three companies that announced multiband radios last year, are scheduled to begin deliveries later this year.



The Department of Homeland Security (DHS) Science & Technology Directorate (S&T) Office for Interoperability and Compatibility (OIC) accepted delivery of ten prototype multiband radio transceivers from Thales Communications in January, and laboratory testing and evaluation is under way. In addition to the lab tests, OIC is conducting limited demonstrations with emergency responders across all disciplines at several locations. OIC expects to release a report of the test results in late 2009 or early 2010.

Pilot tests with several agencies around the country, initially scheduled for last year, have been delayed until sometime in 2009 at the earliest.

Thales, which was awarded a \$6.3 million contract with DHS last year to pilot test a multiband radio, has been collecting public-safety user input on the radio for several months. The company will conduct a demonstration program this spring for public-safety officials who want to try one of the Liberty radios. The radio covers the VHF low and high bands, UHF, and 700 and 800 MHz.

Harris also plans to ship its Unity XG-100 multiband radio this year. "From an architectural standpoint, we are starting to break new ground," said Kevin Kane, director of sales and business development for Harris RF Communications. "We are incorporating embedded GPS for situational awareness and embedded Bluetooth. We are trying to incorporate a lot of ground-breaking features."

Motorola's APX 7000 P25 radio offers multiband use at VHF, 700 and 800 MHz. The company plans to start deliveries in June after four agencies complete beta testing. The APX also has enhanced noise-suppression technology.

(Ed's Note: I realize amateurs have had the option of submersible, multiband, multimode, APRS enabled, general coverage receive, handheld radios for at least the last five years. We should all be happy the Emergency Community is catching up to the Amateurs. Amateur gear looks better too! So don't give me a hard time guys.)

A New Search Engine

The biggest internet revolution for a generation will be unveiled this month with the launch of software that will understand questions and give specific, tailored answers in a way that the web has never managed before.

The new system, Wolfram Alpha, showcased at Harvard University in the US in early May, takes the first step towards what many consider to be the internet's Holy Grail – a global store of information that understands and responds to ordinary language in the same way a person does.

Although the system is still new, it has already produced massive interest and excitement among technology pundits and internet watchers.

Computer experts believe the new search engine will be an evolutionary leap in the development of the internet. Nova Spivack, an internet and computer expert, said that Wolfram Alpha could prove just as important as Google. "It is really impressive and significant," he wrote. "In fact it may be as important for the web (and the world) as Google, but for a different purpose."

BREAK - OVER

Memorial Day

Day May 25, 2009



ARES Breakfast
Saturday May 9th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule May 2009

4 May	KB0FH Bob
11 May	KC0YHH Tony
18 May	NOPI Dan
25 May	WONFE Bob
1 Jun	KB0FH Bob
8Jun	KC0YHH Tony