

# Des Moines Radio Amateur Association

## Static Sheet

February 2007

### From the Publisher:

It is sad to start off this month with the announcement of 2 silent keys. A lot of the older operators (myself included) knew these fine people. Personally, I wish I had gotten the opportunity to know them better.

I was recently browsing through some old Static Sheets and there were names mentioned in these old publications that I have heard of and remember these people, but some of these fine folks have either gone on to become SK's or are no longer active in radio for one reason or another.

We need to try to recruit some of this "older talent" to share some of their past experiences with us younger hams and maybe give us ideas on how we could revitalize the club and the membership.

Something to think about before it is too late.

Tim

### E-mail Articles to:

N0LVA@mchsi.com  
Or  
tmulvin@msn.com

### DAVID HALL BONINE SR.

#### Des Moines

David Hall Bonine, Sr., 99, passed away January 22, at Iowa Methodist Medical Center. Services will be at 1 p.m. Friday January 26, at Westover Funeral Home, with burial at Resthaven Cemetery in West Des Moines. Visitation was held from prior to the service.

David was born July 1, 1907, in Balfour, North Dakota. His career in photography and photo finishing included years with General Pictures Production, Iowa State Health Department and culminated with a family owned business, Bonine Incorporated. After retirement he enjoyed traveling throughout North America with his wife of 75 years, playing golf and working with HAM radio.

He was preceded in death by his wife, Margaret, son, David and son-in-law, James Gannon. David is survived by his daughter Geneva Ann Gannon and daughter-in-law Twyla Bonine, seven grandchildren, 15 great-grandchildren and nine great-great grandchildren.

In lieu of flowers memorial contributions may be made to Hospice of Central Iowa or Alzheimer's Association.

### ARES Meetings:

March 13

June 12

September 11

Location:

North Warren FD  
SW 7 & Army  
Post Rd.

### KATHRYN SHIRLEY WHEELER-ABARR-FUNK

#### Ankeny

Shirley Funk, 82, died Wednesday, January 24, 2007, at Mercy Hospice in Johnston, Iowa. She was born June 21, 1924, to James and Lola Wheeler in Garden Prairie, Iowa.

Funeral services will be 10 a.m. Monday January 29, 2007, at Hamilton's near Highland Memory Gardens with burial to follow at Highland Memory Gardens Cemetery. Visitation will be from 5 to 7 p.m. Sunday at the funeral home.

She was a member of the Des Moines Organ Club, she loved to play the organ and was able to play a song after only hearing it once, also the State Controller for the X-Ray Club, and the DMRAA (Amateur Radio Club) her call was KC0IUR, and she wanted to tell all of the ham radio members she loved them!

Shirley is survived by her loving husband of 47 years, Ray Funk; son, Lowell (Linda) Abarr; daughter, Lola (Thomas) Harris; four grandchildren; 14 great-grandchildren; and two sisters, Betty Krasche and Janet Beebe.

She was preceded in death by her parents, two grandchildren, three brothers, and one sister.

Memorial contributions may be made to her church, Highland Park Christian Church, in loving memory of Shirley.

### Did you know?

You do not have to be a member of the DMRAA to come to the club meetings? And did you do not have to be a member of the DMRAA to join in on the nets? Or the ARES meetings? All you have to have is a license and the desire to have fun, maybe learn something and make some new friends.

## 2006 SKYWARN Recognition Day Results

The 2006 SKYWARN Recognition Day (SRD) (00-24UTC Dec. 2, 2006) was once again successful with a large contingent of hams attending Friday morning setup. Setup of the station was nearly completed before a lunch break at Ryan's. After lunch, setup was quickly completed with radios tuned up for use. As is always the case, official contacts with amateur radio operators around the country and other NWS offices commenced at 00UTC and wrapped up at 24UTC Saturday afternoon.

Total contacts were down considerably this year, due to extensive noise across all bands. K0DMX made 866 total contacts. Of those, 57 were other NWS offices while 48 states were contacted. 866 contacts puts K0DMX third out of around 100 offices participating. That's not too bad considering the noise levels at the station. As of Jan. 4, N0ZXJ has filled out about 60 QSL cards. Full statistics for the 2006 SRD can be found at: <http://www.crh.noaa.gov/hamradio/2006/2006History.php>

N0ZXJ and the rest of the staff at the NWS office in Johnston would like to extend our "Thanks" for the ham radio community's participation in SRD as well as for selflessly providing storm spotting reports and other emergency communications as needed.

### Scarborough Reef DXpedition

## 2007 Spotter Training Sessions

Severe weather season has already kicked off in the Southeast part of the country, with some unfortunate deaths and several injuries from tornadoes already this January. Before you know it, this active springtime weather will be moving north into the Central Plains and Midwest. Spotter training sessions are already being scheduled across the NWS Des Moines county warning area. We update the website with new spotter talks nearly every day. For an updated schedule and other training material, please consult the website at: <http://www.crh.noaa.gov/dmx/?n=spotterinfo>

### Announcing the 2007 DXpedition to Huang Yan Dao - better known as Scarborough Reef

After three years of effort to obtain permission to land and operate from the most needed entity in the world, that needed authorization has been received. A multi-national team led by W6RGG will operate from Scarborough Reef for ten days in late April 2007.

BA1HAM and BV4FH have been instrumental in bringing this operation to reality with ongoing support being provided by N4XP, N1DG, K5YY and N6MZ. A team is being assembled that will include members from Asia, Europe and the USA.

As with any DXpedition to a location such as this, transportation is very costly and will be the largest single expense. Success will depend on the contributions of the DX Community.

Please QRX for more information as it becomes available and the web site is activated.

N4XP for the 2007 DXpedition to Huang Yan Dao. via Carl Smith, DX Magazine

## Des Moines Radio Amateur Association Membership Application

Questions?

Comments?

Suggestions?

E-mail them to

[n0lva@mchsi.com](mailto:n0lva@mchsi.com)

Or

[tmulvin@msn.com](mailto:tmulvin@msn.com)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_, Iowa Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Call Sign: \_\_\_\_\_ ARRL Member?: Y / N

E-mail Address: \_\_\_\_\_

Membership Fees: Full: \$20.00 \_\_\_\_\_ Family: \$25.00 \_\_\_\_\_

## HAM RADIO IN SPACE: ASTRO-HAM SHARES SPACE ADVENTURE

A ham Astronaut is enjoying the time she has on-orbit and is sharing the experience with kids on the ground. Jeramy Boot, G4NJH, reports:

International Space Station Expedition 14 flight engineer Suni Williams, KD5PLB, is proving a dab hand as a radio amateur. Although she has only been on the space station since late December, she has already chatted with pupils at five schools as part of the Amateur Radio on the International Space Station program.

In one of her most recent amateur radio contacts with schools, she told youngsters at Dilworth Elementary School in San Jose, California, that being able to see the whole of Earth from space is the most amazing thing she has ever experienced. She also told the school pupils about the effect zero gravity was having on her body.

Jeramy Boot, G4NJH.

## RADIO LAW: IARU TO MEET IN VIENNA FEB 24 - 25

The next International Amateur Radio Union Region 1 Interim Conference will be held in Vienna, Austria from February 24th to the 25th. Among items being discussed are a new 70cm and 23 cm bandplan for radio gateways and the need for minimum requirements for a valid digital QSO. WSJT developer Joe Taylor, K1JT, has compiled a document regarding this somewhat controversial proposal. More is on-line at [www.iaru.org](http://www.iaru.org)

## *DMRAA OFFICERS & BOARD 2006-07*

### OFFICERS

#### P R E S I D E N T

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#### V I C E P R E S I D E N T

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#### T R E A S U R E R

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### BOARD MEMERS

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Keith Eakins KB0IQU [kb0iqu@aol.com](mailto:kb0iqu@aol.com) (515) 276-0407

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Bob Jimmerson [jimmerrhka0omm@netzero.com](mailto:jimmerrhka0omm@netzero.com) (515) 282-8655

ENFORCEMENT:  
METROMERCHANT  
FINED \$14,000 FOR  
SELLING NON-  
CERTIFIED GEAR

Electronics distributor  
Metromerchant, of Laguna  
Nigel, California and the  
business owner Jason  
Kaltenbach have been  
fined \$14,000 by the  
FCC. This, by offering for  
sale non-certified VHF and  
UHF transceivers.

The FCC says that on November 9th of 2006 it issued a Notice of Apparent Liability for Forfeiture in the amount of \$14,000 to Kaltenbach. The FCC says that despite repeated contacts by the Los Angeles Office, that Kaltenbach has not filed a response to the NAL. Now the agency has given Kaltenbach and Metromerchant 30 days to pay the now affirmed fine. (FCC, CGC)

## RADIO RESEARCH: MORSE CODE AND PEOPLES SHORT TERM MEMORY

Morse code testing may soon be a thing of the past in Amateur Radio, but a researcher in Pennsylvania is conducting an experiment in Morse proficiency. This to help learn more about short term memory. And those conducting the experiment want ham radio operators as to be a part of it. Amateur Radio Newsline's Marc Abramowicz, NT3V, is here with the rest of the story:

Dr. Julie Fiez, a psychology professor from the University of Pittsburgh, got the idea to use Morse code from a family member who is a ham with good proficiency in CW. Fiez says she's not licensed herself but was drawn to the idea of using CW in an experiment to compare how people respond to and process verbal and audio tones. "Our interest in Morse actually arose out of our interest in what's called verbal working memory, which is the ability to kind of keep on-line for a short period of time information that you can then access later," Fiez explains. "And, in the verbal domain this could be information about words or letters or digits. And, a common, everyday example would be when you go to a phonebook to look up a phone number and then you find the phone number that you're interested in and then you close the phone book. "And, then that time between when you close the phonebook and when you actually dial the number you would need to maintain that verbal information in mind so that you can actually retrieve it when you go to dial the number."

Fiez says her research has focused on using neuro-imaging and behavioral studies to try to understand what brain areas contribute to a person's ability to perform a task. "Morse is relevant for us because there's a line of work that suggests that when people hear spoken language, they're able to recruit something that some people have called an 'echoic storage' like a little tape recorder in your brain, in a sense," Fiez says. "And, this echoic store plays an important role in keeping track of the verbal information that's entered into working memory." But Fiez says that raised another question, sparking the idea for her research project.

"So, for us the question was: 'What about Morse where subjects have potentially great skill with Morse Code, it's an auditory input, it actually maps into the language system?' Fiez recalls. "But the acoustic part of the signal is not speech. And, so what we're interested in trying to understand is whether or not in a highly-skilled ham radio operator who's very fluent in Morse. Is it possible that they are able to make use of this echoic store process in order to support their performance?"

Fiez says subjects who will take part in the testing at the university will be exposed to Morse Code at different rates - 16, 19, and 25 words per minute. Fiez says she relied on some of the same kind of resources most hams had been turning to learn the code. "So we have constructed our materials actually using some online software that you can enter and you can type in the items that you want and then it generates the acoustic output that we then are able to save and then present to subjects under experimental control," Fiez says. The researcher says she's consulted with local hams in the Pittsburgh area to discuss her parameters and has learned from them what she might expect from those who take part in the experiment.

"Based upon our conversations that we've had both with kind of local experts and with a number of people that this is likely to be something that there may be considerable individual variability and it may depend also in part on how a person tends to use Morse," Fiez says. "If mainly you receive and just copy as you receive, that may not develop the use of this echoic store in the same way that it may develop if you get into the habit of just sort of listening to Morse as it's being transmitted and not sort of immediately trying to copy it down."

"So, we're expecting that there's going to be differences between individuals both on the basis of how skilled or proficient they are with Morse and also possibly just in terms of how they've used Morse in that experience." Fiez says she's still looking for volunteers who'd be willing to travel to the Pittsburgh area to take part. Sorry, the travel costs are yours.

If you want to learn more, you can send an email to [morsestudy@hotmail.com](mailto:morsestudy@hotmail.com), that's [morsestudy@hotmail.com](mailto:morsestudy@hotmail.com). Mention you heard about it here on Amateur Radio Newsline.

For the Amateur Radio Newsline, I'm Mark Abramowicz, NT3V, in Philadelphia

**WANTED!****PREZ SEZ**

I hope all is well!!

In the event you get an opportunity to purchase a Kenwood D-700 in the Des Moines area, check the serial number (11100048).

Mine was stolen from my car last evening. If the thief is truly stupid and does everything right, it may beacon its location on APRS. Watch for W0GZR-7. And yes, I called the police to report it.

Thanks

Mark Campbell  
W0GZR

Another NEW YEAR!! Your board and officers are looking forward to this one. Don't forget the January DMRAA meeting, which will be at the Science Center of Iowa on the 23rd, at 7pm. The program will be on Emergency preparedness. Bryce Sitter of the American Red Cross will be giving the program. Hope to see you all there.

On January 9th Polk County ARES meeting at Northern Warren Co fire Station at 7pm;

On January 20<sup>th</sup> the St. Joseph, Mo. Ham fest will be held;

On the 21st of January, Ham testing at Northern Warren Fire Station. Registration will be at 1230, testing to follow.

We have another busy year with meetings and trainings going on. Work continues for the Ham Fest 2007 scheduled for April 29th at 0800-1300. The new location is 92.5 KJJY 7 Flags Event Center.

## **Ham operators no longer tested on Morse Code**

[Wednesday, January 24, 2007](#), 3:40 PM By [Matt Kelley](#)

From: Radio Iowa

Changes in federal law are expected to mean "ham" radio operators will no longer need to pass a test showing their proficiency at Morse code. There are at least 6,000 amateur radio operators in Iowa and some only communicate using the dots and dashes of Morse code. It was created in the 1830s for the then-new telegraph.

Dan Miller, of Des Moines, a member of the American Radio Relay League, says Morse code works when other means fail. Miller says "Right now, we've had some geomagnetic storms that interfere with some of the frequencies and Morse code still seems to get through."

Miller says Morse code is still a useful way to communicate over great distances. He says "You can hear that Morse code tone where you can't discern a voice or if the voice is breaking up real bad and you can't (understand) it, you can still copy that Morse code." While Morse code may soon not be required for ham licenses, Miller says it'll still be used on the airwaves -- for entertainment and for public service, especially during times when regular communication is wiped out by acts of nature or in a manmade attack.

Miller says "Some people consider it a hobby. I consider it a service. I'm more into the Amateur Radio Emergency Services. We work with (Iowa) Emergency Management at public service events." Those include marathons, large parades and other big events where it might be otherwise difficult to communicate quickly.

Miller says ham radio operators provide critical communications in emergencies world-wide. When tornadoes hit eastern Iowa last April, hams provided communications between the Johnson County Emergency Operations Center and Red Cross shelters until the following day when National Guard soldiers arrived. For information about ham radio, surf to "[www.EmergencyRadio.org](http://www.EmergencyRadio.org)" or call 1-800-32-NEW-HAM.

# DMRAA

Des Moines Radio Amateur Association

**Hamfest 2007 April 29, 2007**

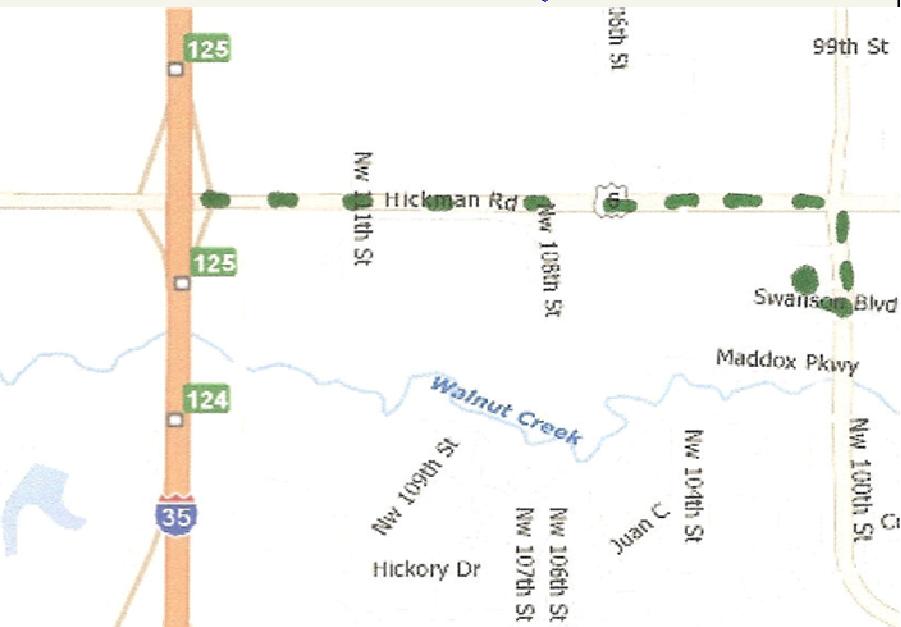
**92.5 KJJY 7 Flags Event Center**

**2100 NW 100 th st. Clive, Iowa**



We've Picked a New Place!

**Hamfest starts at 8:00 AM.  
Ham testing 9:30 am**



**All tables \$10.00 each      Admission \$5.00  
Food and Drinks      Kids under 12 FREE**

**Grand Prize Dual band Radio and other Prizes**

**Featuring WBØW, Radio City, and D&L**

Contact person    Lowell Abarr KB6SDI  
cell 515 554-3922 Email [Lowellf@aol.com](mailto:Lowellf@aol.com)

**515 287-2922**

**[www.qsl.net/dmraa](http://www.qsl.net/dmraa)**

**no tailgating**

**Heat, Air-conditioning  
and (bathrooms) Ha!**

**Talk -in 146.34 - 94  
Tone 114.8**

Des Moines Radio Amateur Association  
 Board Meeting  
 February 20067

The meeting was called to order at 1906 hrs by President Roger Pokorny, N0NUC  
 Discussion centered around the upcoming Hamfest on April 29<sup>th</sup>. We need volunteers to help in the following areas:

Setup	Tear Down	Ticket Sales
Security	Help in unloading vendors	Consignment Table
Talk In (must be familiar with the area) Clean up and several others.		

To volunteer for any of these jobs all you need to do is talk to a board member or officer and we will get you signed up.

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CQ CQ CQ CALLING ALL HAMS!

June 17 is the date for the Hy Vee Triathlon to be held at Gray's Lake in Des Moines. The event coordinators have put in their request for our assistance and they are requesting over 100 hams to assist in the event. This will most likely be an all day event and more details will be made available on the various nets, websites, and through this publication. Stock up on batteries and sun block and call Dan Miller, KC0FRL at 515-285-7981 in the evenings, or 515-491-0186 during the day or by e-mail at [kc0frl@msn.com](mailto:kc0frl@msn.com). Your help in this event will be greatly appreciated.

ATTENTION GENERAL AND ADVANCED LICENSE HOLDERS ONLY!!!  
 Free food!

Now that I have your attention, Roger Pokorny is investigating interest in starting up a study group to get together once a week and study the book for the extra class. Anyone wanting to join in the fun call Roger at 515-674-3128 or e-mail at [n0nuc@msn.com](mailto:n0nuc@msn.com). (Tricked you, the free food was a fib.)

The meeting was adjourned at 2000hrs.

Respectfully Submitted  
 Tim Mulvin, WN0IFF Secretary, DMRAA

## COMMITTEE CHAIRPERSONS

Lowell Abarr (kb6sdi)	Education Committee
Dave Johnson (n0lva)	Hamfest Committee
Dave Johnson &	Program Committee
Tim Mulvin	Field Day Committee
Lathrop Preston (n0nst)	Static Sheet
Kirk Nelson (wl7cli)	Webmaster
	Assistant Webmaster

***Anyone else want to help out?????***

## ***PREZ SAYS***

As I am setting at the keyboard I was reminded of things coming up.

1st February 27th DMRAA Meeting will be at the Science Center of Iowa 1900 or 7pm.  
Ron Weston from Mid American Energy will be presenting the program on Noise/  
Grounding and Safety

2nd February 25th 801 Grand Power Climb

3rd DMRAA BOARD meeting 6th of March at DAHL's E Euclid

4th March 27th 7 pm at Callanan Middle School This will be Sky Warn Training by the  
National Weather Service of Des Moines

5th ARES POLK COUNTY MEETING March 13th 7 pm

I am looking to see if any one is interested in joining a study group to get Extra Class License.  
Call me at 515-674-3128 or email me at [N0NUC@msn.com](mailto:N0NUC@msn.com) if interested looks like a Monday night  
type thing so far.

Hope all is well.

We will be needing lots of help very soon the 2007 HAM FEST is coming. We are already getting  
reservations for tables and have 3 major venders coming with more possible. We need door  
prizes. If you have contact with someone or business who would like to donate it will be greatly  
appreciated.

It just seems like we just finished with Christmas and now we are almost thru February. Time  
flies! There is so much I could cover. I want to urge you if you have the internet to go to ARRL  
home page, and check the news out about license changes. <http://www.arrl.org/> Also check out  
this web site <http://www.emergency-radio.org/>

Well better go for now. See you at the meetings. 73's

Your Pres Roger Pokorny  
[N0NUC@msn.com](mailto:N0NUC@msn.com)  
515-674-3128

The Creston club meeting is held the second Wednesday of every month, 7:00pm, at 208 West Taylor, in Creston, Iowa

The net is every Sunday night at 8:30 pm on 146.790- with a tone of 114.8

# **2007 Testing Dates Des Moines at the North Warren Fire Dept. Contact: Dan Miller (KC0FRL) 515-285-7981**

May 20 July 15

September 16      November 18

# NO ADMITTANCE AFTER 1PM

# 2007

## Amateur Radio Testing Sessions

### Boone Amateur Radio Klub

**Test Dates:** 2/10/07 4/14/07 6/9/07 8/11/07  
10/13/07 12/8/07

**Doors Open: 9:00am**

### Location:

**Kruck P&H Warehouse Office  
807 6<sup>th</sup> St  
Boone, Iowa**

## Directions:

**Come into Boone on Story Street  
Turn West on 6<sup>th</sup> Street for  $\frac{3}{4}$  of a block  
Building on the North side of the street**

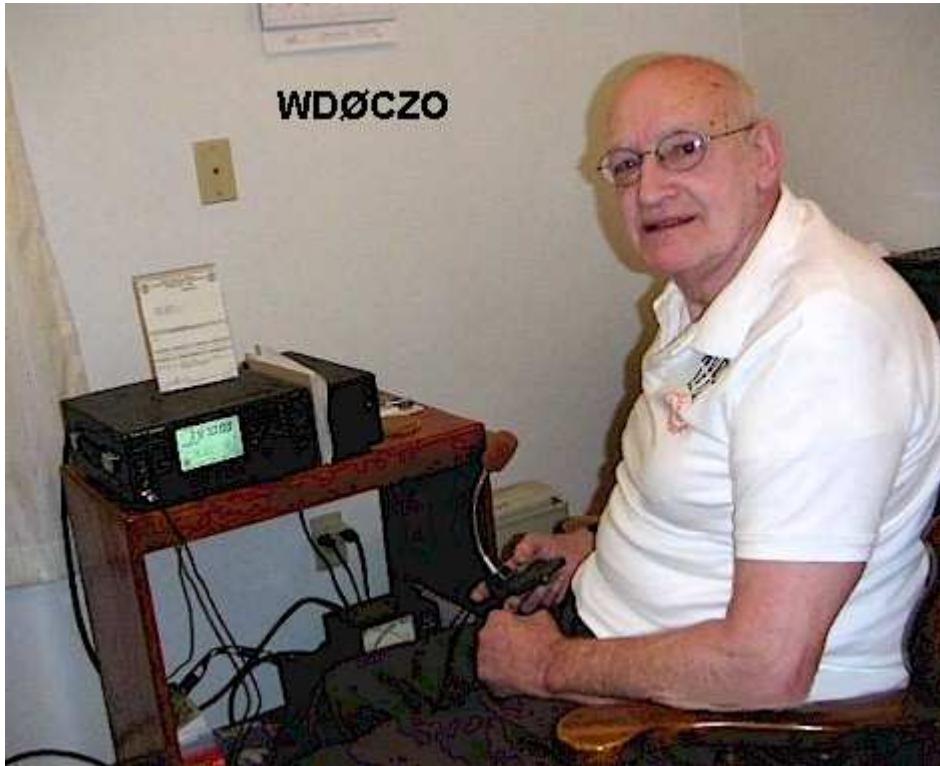
**Talk In:** 146.85/25

**Contact:** Steve N0NEU 515-432-4006  
**E-mail:** [n0neu@opencominc.com](mailto:n0neu@opencominc.com)

# 3900 CLUB HAM-OF-THE-MONTH

February 2007 -- #8

LeRoy Koder - WDØCZO - Des Moines IA  
**3900 Club Member #606**



LeRoy says:

"I was initially exposed to ham radio by my father, who was licensed well before World War II. I was first licensed in 1947 at age 14; my call sign was WØATL. In 1951, after basic training, Uncle Sam sent me to Germany, where I was licensed as DL4SAL. After I left the Army, I let my license lapse.

In August 1960, I married my life-long partner, Maxine. We will celebrate 47 years together this year. We have lived in the same house in Des Moines for the past 45 years. We have no children, but enjoyed having my mother with us until she passed away last year. In 1962, I started my television sales and repair business. Somewhere along the line, I dropped the sales to concentrate on the repairs.

I missed ham radio, so in 1970, I got re-licensed with my current call sign. Though retired from business for a few years, I am still on the Board of the Des Moines Ham Radio Club, but I don't climb towers anymore since falling off mine in 2005. That's by orders of the XYL!

I'm looking forward to a couple more years to go -- with a better year coming -- and having in our lives good people we have gotten to be friends with in the past."

*Congratulations Leroy from the DMRAA and the Static Sheet Staff!*

We have been asking for a Packet article for some time. No one has stepped forward and I am by no means the expert. So what I have decided to do with the help of a Ham that I would consider an expert is to use material from the website of Larry Kenney (wb9loz). Each month for the next few we will include a "chapter" from his website. I hope you enjoy it and get something from it.

Some say Packet Radio is dead due to the Internet etc. We diehard Packeteers would think differently. Also the folks out there that are the Emergency Managers for various groups have been asking for Packet to be part of our communications plan with them. This is where you come in. The three major hospitals in town have stations set up thanks to the generosity of Mike Mona, KD0ZW These stations have laid dormant for far too long now. In fact the powers that be in the Emergency and Disaster community have basically said produce or forget it. So a small handful of us are working to find the proper program to use and get them operational. The next step will be to recruit a core of Hams to learn to operate them in drills and ultimately the real thing. PLEASE think about this and volunteer. Better yet consider putting together a packet station and using it.

If any of you would like to talk about Packet please contact myself, Mark (kq0i), or Kirk (wl7cli) any time.

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## WHAT IS PACKET RADIO?by Larry Kenney, WB9LOZ

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### A Short History - How it all began

It was in March, 1980, that the Federal Communications Commission approved the transmission of ASCII for Amateur Radio in the United States. That was a year and a half after Canadian hams had been authorized to transmit digital "packet radio", and the Canadians had already been working on a protocol for it. Doug Lockhart, VE7APU, of Vancouver, British Columbia, had developed a device that he called a terminal node controller (TNC). It worked with a modem to convert ASCII to modulated tones and convert the demodulated tones back to ASCII. Doug had also formed the Vancouver Amateur Digital Communications Group (VADCG) and named his TNC the "VADCG board".

Hams here in the U.S. started experimenting with the VADCG board, but in December, 1980, a ham from the San Francisco Bay Area, Hank Magnuski, KA6M, put a digital repeater on 2 meters using a TNC that he had developed. A group of hams interested in Hank's TNC started working together on further developments in packet radio and formed the Pacific Packet Radio Society (PPRS). AMRAD, the Amateur Radio Research and Development Corporation, in Washington, DC became the center for packet work on the east coast, and in 1981 a group of hams in Tucson, Arizona, founded the Tucson Amateur Packet Radio Corporation (TAPR).

Working together these groups developed a modified version of the commercial X.25 protocol called Amateur X.25 (AX.25) and in November, 1983, TAPR released the first TNC in kit form, the TAPR TNC1. In 1984, a great deal of packet experimentation was done, software for packet bulletin board systems was developed, and packet radio started becoming more and more popular all across the U.S. and Canada.

Packet Radio was one of the major developments to hit the world of Amateur Radio and thousands of hams soon caught the "packet bug". If you're wondering what it's all about and why so many people got so excited about it, continue reading. You're about to find out.

### Packet Radio - What It's All About

Packet seems to offer something different from other facets of Amateur Radio, yet it can be used for everything from a local QSO to a DX contact thousands of miles away, for electronic mail, message transmission, emergency communications, or just plain tinkering in the world of digital communications. It presents a new challenge for those tired of the QRM on the low bands, a new mode for those already on FM, and a better, faster means of message handling for those on RTTY. Packet is for the rag chewer, the traffic handler, the experimenter, and the casual operator.

A ham can get involved very easily with relatively small out-of-pocket expenses. All you need is a transceiver, a computer, and a TNC or special packet modem and software. A two-meter rig is preferred, since that's where most of the packet activity is located. You probably already have the rig and the computer, so all you need to buy is the TNC, which costs just over \$100, or the special modem and software, which sell together for about \$50.

## Packet—Continued from Page 11

The TNC, the Terminal Node Controller, is a "little black box" that's wired between the computer and the radio. It contains software for controlling the outgoing and incoming transmissions for your station and a modem that converts the data from the computer into AFSK tones for transmission and changes the tones that are received by the radio into data for the computer. The TNC modem works much like a modem that's used to connect your computer to the telephone lines. It's a simple matter of wiring up a plug and a couple of jacks to become fully operational on packet. If you prefer to use the small modem instead of a TNC, you'll need special software for your computer to replace the software in the TNC. Either method works equally well.

Packet is communications between people either direct or indirect. You can work "keyboard to keyboard" or use electronic mailboxes or bulletin board systems to leave messages. Due to the error checking by the TNC, all of it is error free, too. (That is, as error free as the person at the keyboard types it!) As the data is received it's continuously checked for errors, and it isn't accepted unless it's correct. You don't miss the information if it has errors, however, because the information is resent until it is correctly received.

The data that is to be transmitted is collected in the TNC and sent as bursts, or packets, of information, hence the name. Each packet has the callsign or address of who it's going to, who it's coming from and the route between the two stations included, along with the data and error checking. Since up to 256 characters can be included in each packet, more than three lines of text can be sent in a matter of a couple of seconds. There is also plenty of time between packets for several stations to be using the same frequency at the same time.

If all of this sounds confusing, don't let it bother you, because the TNC or special packet software does everything for you automatically. Packet radio might seem very confusing at first, but in a day or two you'll be in there with the best of them. In this series I'll be telling you all about packet radio - how you get on the air and how to use it. We'll talk about the little black box, the TNC, and tell you about all its inner-most secrets. We'll discuss mailboxes, bulletin board systems, and the packet networks that allow you to work stations hundreds, even thousands, of miles away using just a low powered rig on 2 meters, 220 or 450. The world of packet radio awaits you!

## The Amateur Radio Crossword Puzzler

By H. Ward Silver, N0AX

October 30, 2006

Banding Together

One of ham radio's oldest institutions is the radio club and nearly all hams belong to at least one--sometimes many more! This puzzle recognizes the many hours of work on our behalf by club officers and volunteers. Don't forget to thank them and consider throwing your own hat in the ring when it's time for the annual election of officers!

### Across

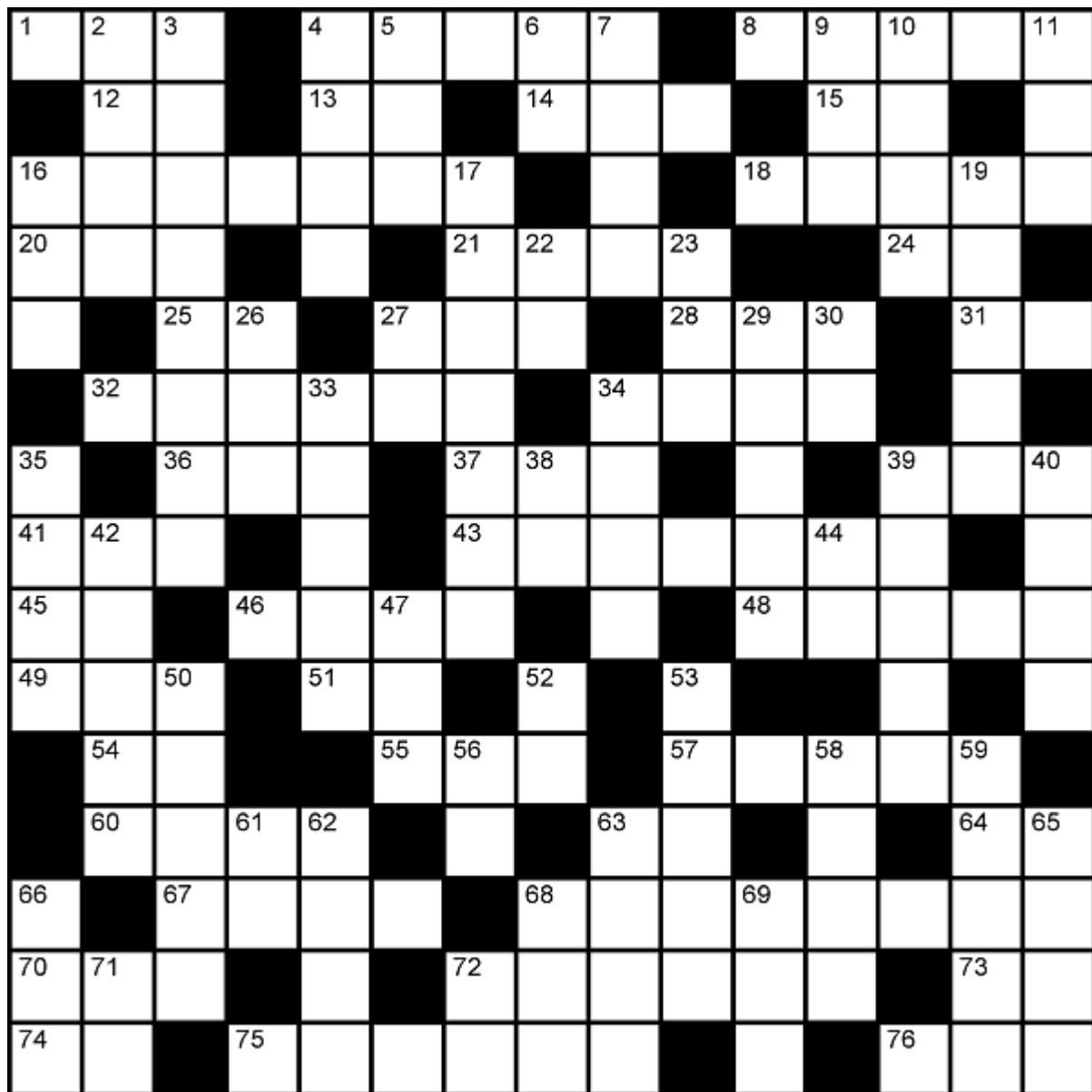
- 1. Unlicensed service that shares some ham bands (abbr)
- 8. Modulation type that includes FM and PM
- 13. Husband (CW abbr)
- 15. Designer of electronics (abbr)
- 18. Formal recognition or prize
- 21. Length of service
- 25. Micromicro farad (abbr)
- 28. ARRL founder's initials
- 32. Wrote the rules of order
- 36. Small (slang)
- 39. Business from previous session
- 43. Club leader
- 46. Type of gas in an NE-2 lamp
- 49. Company that makes the SmartTuner(r)
- 54. Most populous of the 9th district states (postal code)
- 57. Exchange knowledge
- 63. The 40th lubricant
- 67. Message with DX station's frequency
- 70. Type of plastic pipe
- 73. Leads ARES teams (abbr)
- 75. Formal proposition to the club
- 4. Place where a club meets
- 12. Knock out (abbr)
- 14. Abbreviation for ground
- 16. Record of a meeting
- 20. VFO that uses variable inductor (abbr)
- 24. Smallest New England state (postal code)
- 27. Head covering
- 31. Officer just a heartbeat away
- 34. Power consumer
- 37. Prosign for ?
- 41. Type of beverage or radio connection protocol
- 45. Opposite of multi-op (abbr)
- 48. Conceals
- 51. Frequencies above audio (abbr)
- 55. Signal used for timing (abbr)
- 60. Club's on the air identity
- 64. Makes a tank circuit
- 68. Entertainment for meetings
- 72. Used to run large generators
- 74. Baghdad call sign
- 76. Prefix meaning "before"

**Down**

2. Funny act  
 5. Moonbounce (abbr)  
 9. Business never discussed before  
 16. Measure of speed (abbr)  
 22. Phoned home  
 26. Federal agency that investigates criminal activity using the airwaves  
 29. Cloth insignia  
 34. Member in perpetuity  
 39. Meeting discipline  
 44. Multiply to get power  
 52. End of contact (prosign)  
 58. Maintains club affiliation program  
 62. Graphic symbol of the club  
 66. Signal of disapproval  
 69. Type of synchronous orbit

3. Ground plane antenna  
 6. Military prefix of coaxial adaptors  
 10. General term for equipment  
 17. Operating position or facility  
 23. Unit of conductivity  
 27. Our hobby (abbr)  
 30. Doctor or 3rd district state (abbr)  
 35. Success of a proposition  
 40. Type of microwave antenna  
 47. Position of leadership (abbr)  
 53. Ran on the original IBM PC  
 59. Radio mentor or trainer  
 63. Small bird  
 65. Certificate awarded on passing an exam  
 68. Official in charge of public information  
 71. Prefix meaning "twice"  
 72. Prefix meaning "two"  
 4. Signify acceptance or rejection  
 7. Electrical, civil, mechanical, etc. (abbr)  
 11. Conclude  
 19. Competing club  
 33. Older member of the club  
 38. Below HF (abbr)  
 42. Digital circuitry  
 50. Training program or seminar  
 56. Another term for random wire (abbr)  
 61. Before CD

The solution to this will appear next month..... Tim



## Area Nets

### Ames

Sunday	147.240+	1900hrs (7pm) Story County ARES Net
Wednesday 147.375+	114.8	2100hrs (9pm) Cyclone Amateur Radio Club Net

### Boone

Sunday	146.850-	2100hrs (9pm) Boone County ARES Net
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### Des Moines

Sunday	146.940-	114.8 2000hrs (8pm) Central Iowa ARES Net
Sunday	146.940-	114.8 Following 8pm Net Central Iowa Packet Net
Sunday	146.820-	114.8 2100hrs (9pm) ARCS Net
Thursday	146.940-	114.8 1900hrs (7pm) Polk County ARES Net

### Webster City

Monday	147.015+	1900hrs (7pm) Hamilton County Radio Club Net
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### Sheldahl

147.075+	114.8	Linked to numerous repeaters in central Iowa.
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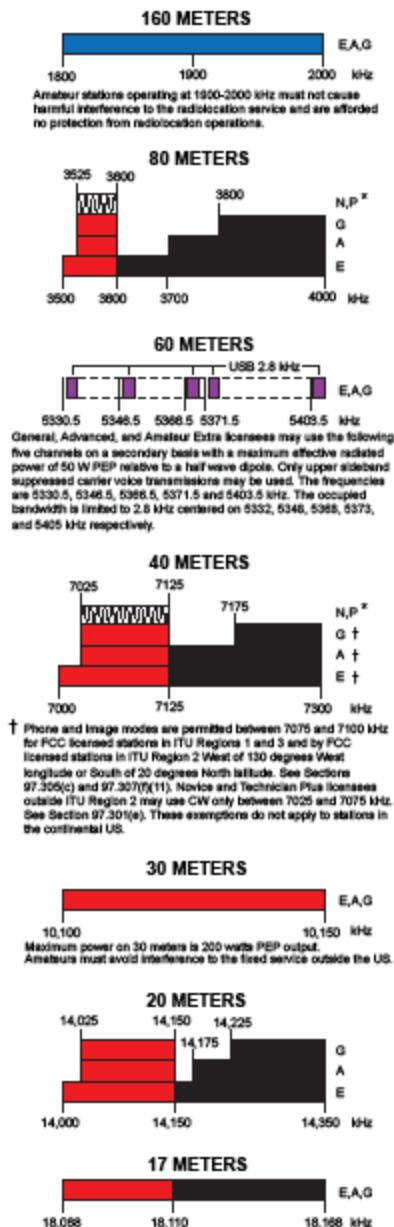
### Statewide Nets

3.970	Iowa 75 Meter Traffic Net	Monday – Saturday 1230 and 1730hrs (1800hrs in the Summer)
3.970	Iowa Traffic & Emergency Net	Sunday at 1730hrs (1800hrs in the Summer)
3.990.5	Iowa RACES Net	1 <sup>st</sup> Monday of each month at 1730hrs

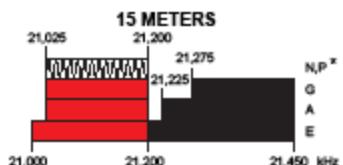
*Listen and check in to show the State people that we support their efforts and appreciate the fine station they have provided.*

# US Amateur Bands

**ARRL** The national association for  
AMATEUR RADIO



**Effective Date December 15, 2006**



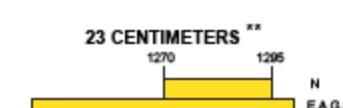
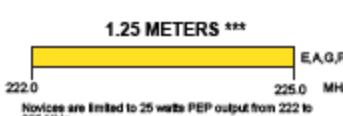
**US AMATEUR POWER LIMITS**

At all times, transmitter power should be kept down to that necessary to carry out the desired communications.

Power is rated in watts PEP output. Unless otherwise stated, the maximum power output is 1500 W.

Power for all license classes is limited to 200 W in the 10,100-10,150 kHz band. Novices and Technicians are restricted to 200 W below 28.5 MHz.

In addition, Novices are restricted to 25 W in the 222-225 MHz band and 5 W in the 1270-1295 MHz subband.



**KEY**

- = CW, RTTY and data
- = CW, RTTY, data, MCW, test, phone and image
- = CW, phone and image
- = CW and SSB phone
- = CW, RTTY, data, phone, and image
- = CW only
- = USB Phone only

E = AMATEUR EXTRA

A = ADVANCED

G = GENERAL

P = TECHNICIAN PLUS

T = TECHNICIAN

N = NOVICE

\*Technicians who have passed the 5 wpm Morse code exam are indicated as "P".

\*\*Geographical and power restrictions apply to all bands with frequencies above 420 MHz. See The ARRL FCC Rule Book for more information about your area.

\*\*\*219-220 MHz allocated to amateurs on a secondary basis for fixed digital message forwarding systems only and can be operated by all licensees except Novices.

All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz

2390-2450 MHz

3300-3500 MHz

5650-5925 MHz

10.0-10.5 GHz

24.0-24.25 GHz

47.0-47.2 GHz

76.0-81.0 GHz

122.25-123.0 GHz

134-141 GHz

241-250 GHz

All above 275 GHz



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