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- Kevin Sanders KØKDS
Vice-President
- Tre' Critelli KAØFRW
Secretary
- Bill Claypool NUØQ
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- Ron Hobbs NØXWI
- Dean Madsen NØXR
- George Noble KK7FM
- Dennis O'Brien KAØDOS
- Craig Rose KCØYHU

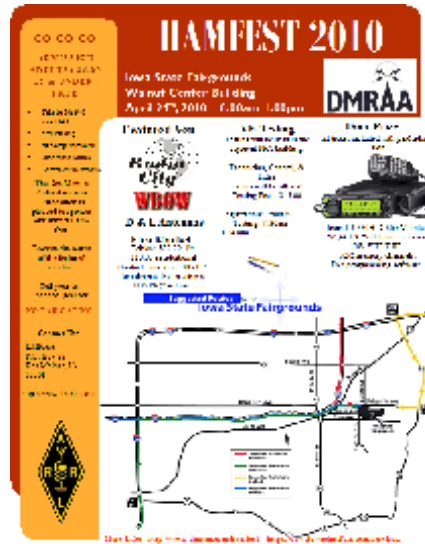
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HAMFEST IS Coming

The DMRAA is pleased to announce that we will again host the DMRAA Hamfest Saturday April 24th. The location is the Iowa State Fairgrounds in the Walnut Building.

We will also offer testing to those who wish to upgrade or better yet those who bring a soon to be ham to test. This year testing will be held at the FFA building just to the west of the Walnut building. The cost for the testing is \$15 and you need to bring a copy of your present license as we will not have a



You do not need to purchase an admission ticket to take the test.

Cost for admission is \$6 and tables can be reserved. The tables are the long tables again so be sure and bring all of your excess gear and treasures for others to purchase. More information is on the Hamfest flyer which can be found on page 12.

We will also offer a Hamfest forum after testing in the FFA building. Topics will include "Go Kits" and preparing for remote operations.

copy machine available and the examiners need to keep a copy of your present license.

We are Defined by OUR Service

Having attended several National Weather Service functions recently as well as a few meetings with Emergency Management folks, a few timely observations seem prudent. Without exception these professionals are preparing for what could be a very significant spring. With record snow fall amounts in the upper Des Moines and Raccoon River basins, we are primed for significant flooding. The variables will be the melting temperatures and timing of

spring rains. I bring this up with regards to the activation of ARES and the services of local Amateur operators. First, is your "go kit" a go? Have you checked and

cycled those batteries? Are your antennas functioning correctly? Secondly are you ready to serve if needed? Please take a moment to access your situation and prioritize your commitments. If able please let Dan Miller ACØOF know if and when you would be able to help. It is one thing to "brag" that we Hams are there when the need arises, it is quite another to do it! Please do your best to offer your commitment early and then follow through.





Come enjoy the fellowship

DMRAA meetings are the 4th

Tuesday of the month. Be sure and mark your calendars!



Upcoming Meetings

Homebrew

George, KK7FM

April 27th 7:00 PM

Plymouth Congregational Church
42nd & Ingersoll
Waveland Room

April: I think I am going to give the talk that I have been threatening for a year on Homebrewing (not beer). It is one of the things that interests me even though I don't do it much. It will probably include a partial summary of kits available. I am not very far along with this considering I have been talking about it for a year.

Future Meetings

George, KK7FM is looking for meeting ideas and presenters. Please feel free to make suggestions and offer to help with a presentation.

Did you Know?

Are you interested in helping the club? Our May meeting includes the election of officers and board meetings. If interested please contact an officer or board member so you can be considered for nomination.



Recent Meetings

Our January program was on Software Defined Radio presented by Dean Madsen, NØXR. Dean offered several suggestion regarding software and their usage. Thanks Dean

February saw our annual NWS Spotter Training The presentation included many new videos and graphics. Special thanks to Roger Vachalek KCØWFU and the National Weather Service for providing this valuable and timely presentation.

Thanks to Bill Claypool for an excellent presentation on DXing. We really enjoyed the definition of countries or was that entities. Either way it was inspiring.





Giving back through community service

Dan Miller
ACØOF
Iowa Section ARES EC
Polk County ARES EC
515 491-0186(cell)
ac0of@arrl.net

Polk County ARES Meetings
Johnstone Supply Classroom
(2nd floor)
11000 Justin Drive
Urbandale, IA 50322



Polk County ARES



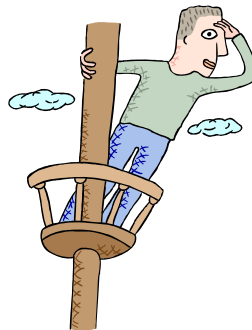
ARES Update

Another wet spring is fast approaching. I have been attending flood preparation meetings with Polk County Emergency Management and it appears that some amount of flooding will be imminent. We need to be prepared to be activated at any time. Make sure your batteries are charged and it good operating condition. Make sure your go kits are ready for operation and that you have all of the necessary adaptors and cables. Hopefully, the flooding will be minor and we will not have to have any of our citizens evacuated and our services will not be needed.

We have several public service events coming up in the following months. I will keep everyone updated as they get closer. Your participation in these events helps us keep ready for any disaster that should strike. Our continued practice and training is necessary to keep our operating skills sharp and lets us test

our equipment to be sure it is ready to go. The 801 Grand Power Climb was a big success for both us and the American Lung Association. The Lung Association has expressed their gratitude and continues to support us. Thanks to all of the operators that helped make it a safe event

Dan Miller ACØOF
Polk County EC
Iowa SEC



Heads up!

The annual Wing Ding Rally is coming to Des Moines., June 30rd thru July 3rd. This is an annual gathering of Gold Wing riders, with attendance around 10,000 plus friends.

This group has several hams and they have asked if they can use a local repeater for local info and help if needed. The DMRAA has offered the 146.940 for this purpose. We would ask that local hams use this opportunity to be helpful and ambassadors for our town.

ARES MEETING DATES

- April 12, 2010
- July 12, 2010
- October 11, 2010



2010 ARES Events

- 801 Grand Power Climb
February 28
- MS Walk May 8
- Jordan Creek Duathlon
May 16
- Dam to Dam June 5
- Copper Creek Triathlon
June 6
- Flatland Youth Festival July
10
- NDMS Drill TBA
- Big Creek Triathlon
August 8
- State Fair Parade

- August 121
MS150 TBA
- Boy Scout 100th birthday
Event September 17, 18 &
19
- Head of Des Moines
Rowing Regatta
September 25
- Asthma Walk TBA
- Des Moines Marathon
October 17
- Living History Farms
Cross Country Race
November 20

2008 —2009 DMRAA Calendar

DMRAA Calendar 2009

QSL's

Plymouth Congregational
Church
42nd & Ingersoll
Des Moines
7:00PM
Waveland Room

General Meetings and Events

23 March, 2010
24 April, 2010 Hamfest
25 May, 2010
22 June, 2010
27 July 2010
24 August 2010
28 September, 2010
26 October, 2010
23 November, 2010
Chili Feed / Auction

Board Meeting Dates

2 February, 2010
2 March, 2010
6 April, 2010
4 May, 2010
1 June, 2010
6 July 2010
3 August 2010
7 September 2010
5 October 2010
2 November, 2010
7 December, 2010



You now have the option
of paying for up to 3
years when renewing
your membership in the
DMRAA.
1 Year = \$20
2 Years = \$40
3 Years = \$60

See Bill Claypool NØUQ
for details.

*Making a
change is
easy.
Making a
difference,
now there is
a challenge!*

Presidents Soapbox:

Kicking it up a notch.

Many of you have seen chef Emeril Lagassi on the Food Network. After he prepares a tasty delight he gets a shaker of spice or sugar and "Bam!" he kicks it up a notch. We all appreciate that it is essentially the same food but that little extra really makes it special. Amateur Radio is much the same. By making a little extra effort we can promote our service to a local agency or we can excite a new person to look at Amateur Radio. In doing so we perpetu-

ate the need for our service and protection of our spectrum for the next generation.

I am always amazed at the significant number of folks in our community that have their tickets and yet we don't see many of them. This is where the spice or perhaps sugar comes in. How do we kick it up a notch.

The DMRAA is fortunate to have so many talented members. The is evident by the dedication and service provided by our group. The meetings are great gathering opportunities to

meet and learn new things.

Given all these great things I still have a challenge for the club, lets make a commitment to recruit a several new members to the club, Let indeed kick it up a notch. BAM!!!

Members Profile: Roxie Miller

I got into amateur radio September 2001 with my Technician license. My husband Dan, AC0OF spent so much time away from home doing public service events that I decided to get a license and go with him. We work as a team most of the time, as this gives us something to do together. The only trouble is I'm not a morning person and every event is early morning, but I'm getting used to it. As Dan

takes on more jobs and responsibilities, I seem to be assisting more. I have been appointed as an Official Emergency Station as the Management Assistant to the SEC. We share information and I help organize some of the events. In May 2007, I obtained my General upgrade. I wanted to be able to be a member of the OMISS group. I'm also the co-manager of the OMISS QSL Bureau. I have just been appointed to the

Midwest Division Assistant Director Team for Cliff Ahrens K0CA with ARRL. I'm excited about this position and look forward to having my opinions heard. I am a member of the ARRL, Iowa and Polk County ARES, Iowa RACES, and have been a member of the DMRAA for seven years.



**Roxie Miller
KCØLLB**



Have you checked into a net lately? →

ARES Nets serve several purposes

- Operator training
- Training of Net control operators
- Passing formal traffic

Please check in!

Area Nets

AMES

| | | | |
|-----------|------------------|--------|----------------------------|
| Sunday | 147.240+ | 7:00pm | Story County ARES Net |
| Wednesday | 147.375+ t 114.8 | 9:00pm | Cyclone Amateur Radio Club |

BOONE

| | | | |
|--------|----------|--------|-----------------------|
| Sunday | 146.850- | 9:00pm | Boone County ARES Net |
|--------|----------|--------|-----------------------|

DES MOINES

| | | | |
|----------|------------------|------------------|----------------------------|
| Sunday | 146.940- t 114.8 | 8:00pm | Central Iowa ARES Net |
| Sunday | 146.940- t 114.8 | follows ARES net | Central Iowa technical Net |
| Sunday | 146.820- t 114.8 | 9:00pm | ARTS Net |
| Thursday | 146.940- t 114.8 | 7:00pm | Polk County ARES Net |

(note) The Des Moines Sunday night nets are available thru the Shehdahl 147.075+ t 114.8 repeater

MARSHALLTOWN

| | | | |
|--------|------------------|--------|------------|
| Sunday | 147.135+ t 141.3 | 6:00pm | CIRAS Net, |
|--------|------------------|--------|------------|

WEBSTER CITY

| | | | |
|--------|----------|--------|--------------------------------|
| Monday | 147.015+ | 7:00pm | Hamilton County Radio Club Net |
|--------|----------|--------|--------------------------------|

STATEWIDE NETS

| | | | |
|-----------------|---------|----------------------------------|--------------------------------|
| Monday—Saturday | 3,970 | 12:30pm & 5:30pm (6:00pm summer) | Iowa 75 Meter Traffic Net |
| Sunday | 3,970 | 5:30pm (6:00pm summer) | Iowa Traffic and Emergency Net |
| Monday | 3,990.5 | 5:30pm (1st Monday of the month) | Iowa RACES Net |

Amateur Radio Testing Sessions

Des Moines 1:00pm
 March 21
 May 16
 July 18
 September 19
 November 21
 Registration starts at 12:30 PM (no admittance after 1pm)
 Location: Johnstone Supply Classroom (2nd floor)
 11000 Justin Drive
 Urbandale, IA 50322
 Contact: Rick Allen NØCFL
 (515) 795-2162
 n0cfl@arrl.net

Ames 7:00pm
 Wednesday, April 6th
 7:00 PM
 Location:
 1304 Howe Hall, Iowa State campus
 Contact:
 George Oster, NP2N
 515-233-3535

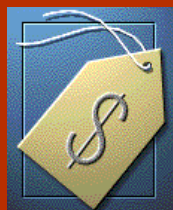
Boone 9:00am
 April 10, June 12
 August 14, October 9
 December 11
 Location:
 Kruck P&H Warehouse Office,
 807 6th St., Boone, Iowa
 Talk-In: 146.850
 Contact:
 Steve NØNEU
 (515) 432-4006

Ankeny 2:00pm
 1st Saturday of the month,
 Location:
 Ankeny Public Library
 1210 NW Prairie Ridge Dr.
 Ankeny, Iowa
 Contact:
 Joe Leto WØIW
 515-250-2108

Need to find a new home for your extra gear?

This Buy, Sell & Trade page may be your answer. This service is offered to DMRAA members.

Contact
Tom, NØVPR
n0vpr@arrl.net



Cheap or Frugal?

A recent article in QST discussed this very question. Are we cheap or just thrifty with our resources? Lets all go to the DMRAA Hamfest April 24th and see if when can answer this timely query!



The Des Moines Register printed an article about Amateur Radio Spotters Tuesday March 2nd. You can find it online at <http://www.desmoinesregister.com/article/20100302/NEWS/3020371/Volunteer-spotters-vital-during-severe-weather>



Radio Police

Who are the Radio Police and will they be providing security at the DMRAA's Hamfest April 24th?

Jim Snapp, NAØR Honored

Jim Snapp was recently honored at a luncheon presented by the National Weather Service, Johnston. Jim has been a driving force for Amateur Radio at the Des Moines Weather Service for nearly two decades. He was presented with a plaque and a winter jacket with the NWS logo. Jim was previously recognized for his many years of service to RACES by the State of Iowa. A medal was presented to him by Timothy Orr, Adjutant General of the Iowa National Guard.

The DMRAA would like to add kudos or as Jim would say kadoos for his dedication to Amateur Radio and service to others



Time to Eat?

Hungry and looking to meet local hams? Friday's at the City Buffet on University (next to Toys R Us) a group of hams meet for lunch. This is an informal meeting while providing

an excellent opportunity to pass information while enjoying a nice selection of Chinese cuisine. The group usually arrives around



11:45 and breaks up at about 1:00. All are welcome, including family members.

Caution! Considerable amount of amateur radio topics will be discussed.

Editors note:

The following is provided to the DMRAA members as a courtesy to Mid-Iowa Skywarn Assn. Check them out on the web; <http://www.midiowaskywarn.com/>

The DMRAA and the Mid-Iowa Skywarn Association (MISA) held their annual Skywarn training presentation on February 23. If you missed it... don't worry, there are more training sessions held throughout central Iowa through mid-April. Upcoming presentation information can be found on the web at <http://www.crh.noaa.gov/dmx/?n=spotterinfo>.

After you attend your first Skywarn training course, please obtain your spotter number by registering your name, mailing address, physical address (if different), and your phone numbers with the National Weather Service via e-mail at dmx.spotter@noaa.gov to ensure they maintain a complete database. You do not need to re-register unless your information has changed.

MISA held its annual business meeting prior to the presentation. Jim Snapp, NAOR, the founder of MISA and a long-time leader in the amateur radio service, stepped down from his position as MISA president. Jim will continue to work with MISA and the National Weather Service as needed. We thank Jim for his tireless hours spent behind the scenes and for running net control during countless weather events!

During the annual election, Kevin Sanders KOKDS was elected as president, and Jeff Johnson KCOOGL, Warning Coordinator Meteorologist with the NWS, was elected to another term as vice president. Tom Reis N0VPR was elected as secretary and treasurer.

MISA has launched an entirely new website, located at <http://www.midiowaskywarn.com> and is chock-full of news, information, and resources for storm spotters, prospective storm spotters, and the general public. Before the severe weather season gets into full swing, brush up on the procedures for reporting weather via amateur radio to ensure that we continue to get the most out of our spotters and run efficient nets during severe weather events. The materials can be found under

the "resources" tab on the website.

Already, we are looking at an active season, starting out with a higher-than-usual threat of spring flooding. The National Weather Service would appreciate any reports of flooding and ice jams to determine if any flood watches or warnings are warranted. In addition to contacting the KODMX NWS station on the linked repeater system, reports can be submitted via eSpotter (<http://espotter.weather.gov>) or through 1-800-SKYWARN (1-800-759-9276).

If you have any questions about Skywarn, feel free to visit the MISA website or e-mail info@midiowaskywarn.com. Thanks for your interest in the Mid-Iowa Skywarn Association!

With the Iowa legislature in session for only a couple weeks, new bills creating restrictions on cell phone use while driving are in the transportation committee in both the House and the Senate.

Two bills, House File 2020, and Senate File 190, both aim to restrict the use of cell phones unless they are used in conjunction with hands-free devices.

Gov. Chet Culver, speaking on a taping of Iowa Public Television's Iowa Press, said he believes legislators will be able to compromise and get a bill on his desk restricting use of cell phones. Culver also said he would sign the bill into law, but doesn't support a full-on ban on cell phones use while driving.

Only one of the bills, SF 190 authored by Sen. Joe Bolkcom, D-Iowa City, explicitly excludes FCC-licensed amateur radio operators:

14 c. This subsection does not apply to the use of an amateur radio by a federally licensed amateur radio operator.

HF 2020, co-authored by Reps. Ako Abdul-Samad, D-Des Moines, and Curt Hanson, D-Fairfield, does not explicitly mention amateur

radio, but instead mentions "cellular telephones," "wireless handset" and "text messaging" instead of a broader restriction on all two-way half- and full-duplex radio devices.

Last fall, the National Safety Council declared that there are no "significant crash risks" while operating mobile radios.

"We also have no evidence that using two-way radios while driving poses significant crash risks. Until such time as compelling, peer-reviewed scientific research is presented that denotes significant risks associated with the use of Amateur Radios, two-way radios or other communication devices, the NSC does not support legislative bans or prohibition on their use," NSC President Janet Froetscher said in a letter to the American Radio Relay League.



If he'd ever doubted the theory before, Ralph now had proof that nicads *do* have memories...long memories

Software Defined Radio



NWS Weather Spotter Training





Ham Radio in the 21st Century

Board Meeting Minutes

FEBRUARY 2, 2009

The meeting began at 7:04 p.m. with all elected officers and board members in attendance with the exception of Tre Critelli, KA0FRW, and Craig Rose, KC0YHU. There were no guests in attendance.

The January minutes were reviewed, Dennis motioned to approve and Bruce seconded. Minutes were approved.

Old business

Field Day 2010: Tom commended the Field Day committee's effort to explore different sites, but we will be back at Jolly Boat this year. Other Field Day items discussed involved the possibilities of using PowerFilm solar equipment, the Polk ARES trailer being at Field Day, and producing special fliers promoting Field Day to be distributed in the campgrounds around Big Creek. Food arrangements were also discussed.

Hamfest: WB0W has DMRAA Hamfest on the calendar, but no date. DMRAA will make an effort to reach out to PowerFilm to have a free table at the Hamfest in exchange for loaning us some of their equipment for Field Day again this year. Admission to the Hamfest will include on raffle ticket, and one advance raffle ticket will be given to each DMRAA member who are current on their dues and in atten-

dance at the March meeting. The door prize was also discussed, with a Yaesu VX8R, Icom IC-80 and Icom ID-880H all being considered. George motioned to have the 880H as a door prize, Bruce seconded and the board approved.

New business

Dennis announced that the IPBN fundraiser is once again coming up, beginning around March 6 to March 21. Area ham radio operators assisted and garnered recognition. Dennis will again solicit volunteers again this year.

Treasurer's report: \$6,676.82 in the bank. \$720 has been earned thus far for 2010 dues.

Subcommittee reports

Program: Skywarn training will be the general meeting for February and Bill will be giving a DX presentation in March, covering various topics such as logging and QSL'ing and other aspects.

Nomination: Elections are coming up. A list of officers whose terms are up will be compiled.

Education: Bill Schemmel's general class is in session and has about 4 students.

Repeater: The W0DAY repeater site will now be categorized as "agricultural" instead of "industrial" by the Polk County Assessor's office, greatly reducing taxes that

would have been assessed for the equipment at the tower site. DMRAA was assisted in this effort by the National Weather Service and the Iowa Department of Homeland Security. The Truro repeater is now being repaired after it was damaged by a lightning strike and will also include some remote bases. The repeater will be kept in that area.

Bob Evans Award: Tom will find the criteria for nominating a radio operator for the award, which is presented annually at the DMRAA Hamfest. A call for nominations will be sent out via e-mail and on the website.

Other items: Jim Snapp, NA0R, tendered his resignation as amateur radio operator at the National Weather Service and at the State EOC at the STARC Armory to be closer with family. Jim was presented with a medal for his service by Timothy Orr, the Adjutant General for the Iowa National Guard. Tom will assume Jim's position. A potluck will be held at noon on February 17 at the National Weather Service in Johnston to honor Jim's service.

The meeting adjourned at 8:51 p.m.

The Des Moines Radio Amateurs Association board meets monthly in the community room at Dahl's 33rd & Hubbell

Which Double A Alkaline Battery should I buy?

Do you have a Digital Camera or an HT that can use Alkaline Batteries and need to know which of the many brands give you the most for your money? We would not be HAM'S if we were not cheap!

I have many different manufactures of AA batteries from \$.20 to over \$1.00 each and was wondering what the difference was.

To my surprise two of the least expensive were manufactured in the USA and did well in the test. How to test a battery to be similar to actual conditions was a problem. My HT can use six each Double A batteries and on high power requires 1.3 amperes on 2 Meters and 1.5 amperes for 440 MHZ. In an HT the load is intermittent so should last longer than my testing. What is the voltage of a Double A when it is discharged? Many HT's, or devices, will shut down when the voltage goes low. I could not find this value in my HT instructions. I guessed about 1.1 volts as being the low value.

Right now I must make it clear that all of the Alkaline Batteries I tested will not take the hard discharge that a re-chargeable battery will take and are to be used as a back up or emergency only.

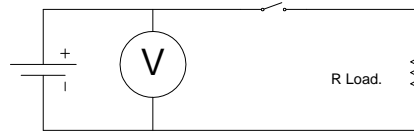
The following is a photo of some of the batteries I tested.



To keep from reading all of my test just skip to the end, if you wish, to see which I found was the most for your money.

The following circuit was the one I used with the Voltmeter being a Digital Voltmeter CEN-TECH Model P35761. This was checked later with a more expensive Voltmeter and found to be accurate reading the voltage. The RL or resistor load was verified with two different Digital Ohmmeters and at the battery holder before the battery was in-

stalled. All resistors were Wire Wound except for the 1.5 ohm that was parallel carbon resistors.



The wiring was doubled to keep the resistance more accurate. The timing was with an actual stop watch.

- a. Test one was using 15 ohms as a load and was not enough of a load.
- b. Test two was using 10 ohms as a load and was still not enough of a load.
- c. Test three was using 5 ohms as a load and was slightly better but still would be just .3 amperes with a voltage of 1.5V. This is still not enough of a load but was a start. The reading below the ohms was taken within 5 seconds after adding the load resistor. See table 1 page 11.
- d. Test four was using 3.9 ohms as a load would be about .384 amperes with a voltage of 1.5V. Of course as the voltage decreased the current would also decrease. Note a NIMH rechargeable has been added and tested for 30 minutes!! See table 2 page 11.
- e. The next test uses 2.9 ohms as a load that will draw .517 amperes at 1.5 volts. I used just three batteries with one of them being a MEMBERS MARK(SAMS) that was used in the prior test but allowed to set for 24 hours. See table 3 page 12.
- f. The final test was with a 1.5 ohm load but still maybe needed to be cycled similar to what you would do with an HT. With 1.5 ohms and 1.5 Volts that would be 1 ampere. Most tests were stopped after 25 minutes but the rechargeable test was for 30 minutes.

((THIS IS PROBABLY WHERE THE RECHARGABLE WOULD SHINE AS THEY MAINTAIN THEIR VOLTAGE LONGER AT THE HIGHER LOAD CURRENT)).

See table 4 page 12.

SO WHICH IS BETTER?

For the money it would seem that –

- MEMBERS MARK(SAMS) USA**
- KIRKLAND(COSTCO)USA**
- ENERGIZER Made in China**

Those three are about the same but keep in mind that the ENERGIZER is about 2 to 3 times higher in price as both MEMBERS MARK and KIRKLAND sell for \$10.00 for 48 batteries.

The Energizer (NIMH) rechargeable would of course outlast all of those but is about \$19. For 8 of them but of course can be recharged many times. The last I saw of those they were rated at about 2400 MAH or 2.4 ampere hours. Mine were earlier versions with a lesser capacity.

It seems that RAY O VAC and NORTHERN INDUSTRIAL are at the bottom. NORTH TECH and AC DELCO are not much better. I was sure that AC DELCO would be much lower as I thought I had used them in equipment that consumed those batteries at an alarming rate.

GO FIGURE.

ANYONE FOR A BETTER WAY OF TESTING?? MAYBE A 2 AMPERE DISCHARGE RATE AND LONGER TIME?

KA0FTO Larry

HAMFEST 2010



Iowa State Fairgrounds
Walnut Center Building
April 24th, 2010 8:00am-1:00pm

CQ CQ CQ

ADMISSION
ADULTS: \$6.00
12 & UNDER:
FREE

- Talk-in: 146.940 tone 114.8
- Free Parking
- Handicap Accessible
- Snacks and Drinks
- Convenient Restrooms

The Des Moines Radio Amateurs Association is pleased to sponsor our annual Hamfest.

Browse the wares of the featured vendors.

Sell your unneeded gear for

NO TAILGATING

Contact Us:

DMRAA
P.O. Box 88
Des Moines, IA
50301

<http://www.dmraa.com>



Featured Ven-



D & L Antennas

Flea Market

Tables: \$20.00, 1st
\$10.00 ea additional
Contact Tom Reis, NOVPR
for advanced reservations
NOVPR@arrl.net

VE Testing

Testing will be held in the adjacent FFA building.

Technician, General, & Extra exams will be offered
Testing Fee is \$15.00

Registration: 9:00am
Testing: 9:30am-11:45am

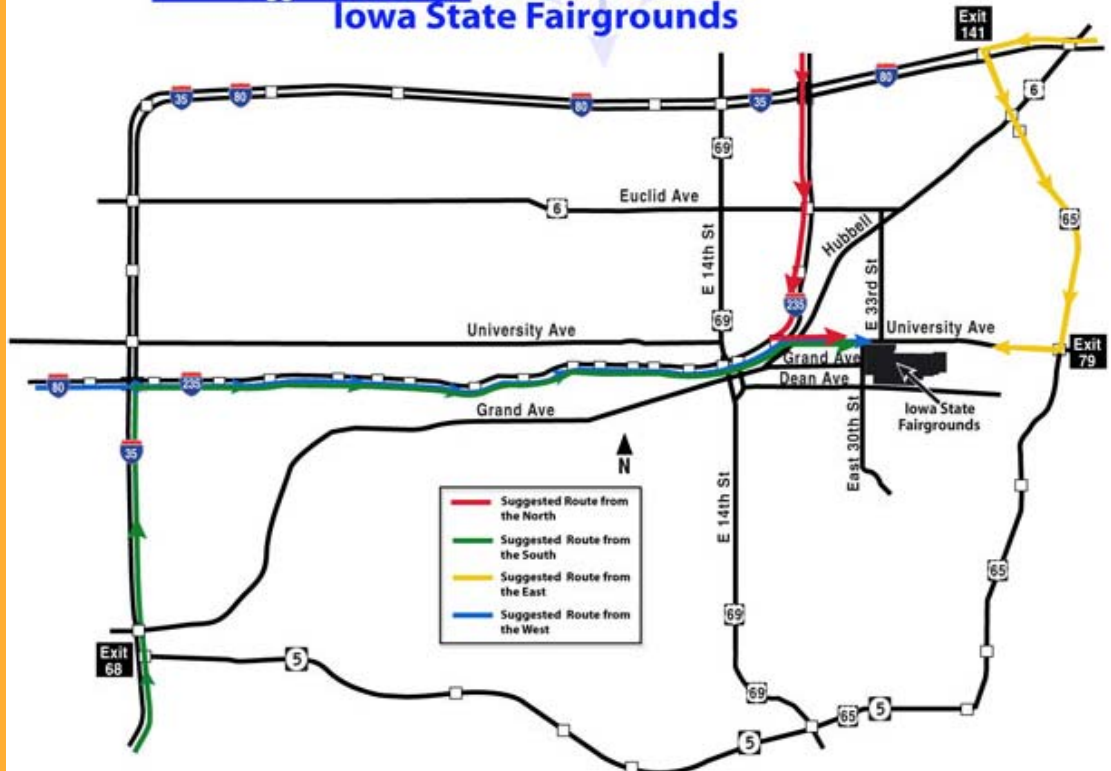
Door Prize

1st ticket included with paid admission



Icom ID-880H D-Star Mobile 2M,440 & Wideband Receiver
50W VHF/UHF
1052 memory channels,
Free programming software

Suggested Routes to the Iowa State Fairgrounds



More Info: <http://www.dmraa.com/hamfest> <http://www.iowastatefair.com/services/>



Des Moines Radio Amateurs Assn.
P.O. Box 88
Des Moines, IA 50301
DMRAA.org or DMRAA.com

E-mail: info@dmraa.com

The Static sheet is bi-monthly (six per year) publication of the Des Moines Radio Amateurs Association. It is provided via email to the membership of the DMRAA. Please feel free to forward to prospective club members and interested Amateur Radio Operators.

The DMRAA is affiliated with the ARRL, The national association for Amateur Radio.



Can you hear me now?

DMRAA Membership Application

Des Moines Radio Amateurs Association

Name: _____

Address: _____

City: _____, State: _____ Zip: _____

Phone Number: (____) _____ Email: _____

Call Sign: _____ Class: (E) (A) (G) (T)

ARRL Member: ? Y / N

Dues \$20 Single
\$60 3 Years

Mail Application and payment to
DMRAA
P.O. Box 88
Des Moines, IA 50301

