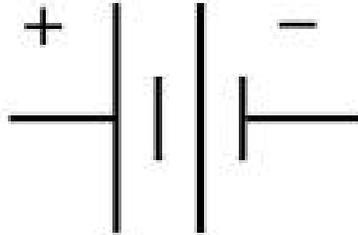


# Sparks

## W9OG



You will get a charge out of this issue of Sparks.  
It has a whole battery of information for you  
It doesn't require Deep thinking to Cycle through the pages

Monthly Newsletter of the Tri-State Amateur Radio Society

March 2014--Vol. LVII, No. 3

TARS Website: <http://www.w9og.net> Club repeaters: 146.79 and 147.15

Say "Hello" at the weekly Tri-State Emergency Net, 8:00pm Wednesdays on 146.79

Please feel to submit articles or suggestions to

Editor: [ftg2pointer@gmail.com](mailto:ftg2pointer@gmail.com)



### Presidents Corner

John C VanVorst Manager of Systems  
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812-491-4100 office  
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73s. DE N9oL.



N9OL

### Important items:

**MAY 3<sup>rd</sup> TARS PICNIC and Indiana QSO Party**

This year's event will be held at the beautiful ranch of Norm and JoAnn on the West Side. The club will provide the meat and drinks. Members are encouraged to bring a covered dish. We will

provide driving directions on how to get there and put up some road signs to help you along the way. As usual we will also have talk in on the 146.790 repeater.

In addition to the picnic fun, we will also set up and operate for the Indiana QSO party. The club will set up a field station and you are also invited to bring any field day equipment you want to test or operate with. More info as date draws closer.

## One Man's Opinion

Bill, K4LRX

Being an avid dx hound I use the various cluster networks, namely Dxscape and Radio Arcala that provide valuable information in my quest to add new band countries. I am one that contributes regularly with posts on these sites of stations I have worked and the frequency plus the time. It is hoped that others will benefit with the sharing of this information and are able to work the DX station as well.

Normally, I state the listening frequency, or the signal strength at my location, make it simple and to the point. However, there seems to be some people who delight in posting worthless items or a bogus station and I really wonder what the purpose is of this posting? I am referring to the posting of QZ6TZR then O snap, I was puzzled by this at first then realized you have those with nothing else to do and post worthless information.

As most of you know there is no QZ6TZR and of course this being the more modern age those older bogus stations have long vanished. Such goodies as 5U4GB and 6L6GT, plus the old reliable RG8U, were often rumored to be on the air, old timers will chuckle at this and new comers will scratch their heads.

I also question the usefulness of one station in the North east posting that a DX was heard in many states, or locations that he is not sitting in at the time of reporting. I much prefer the reports of stations that are actually hearing the dx station and an approximate location of the station reporting.

DX clusters if used properly save you a lot of tuning and listening time, you see something posted you need, dial up the frequency and attempt to work the DX station. Posting worthless information takes up space provides nothing and wastes the time of the one using the site for real information.

I have heard some comments on the fact that DX clusters are worthless I must debate that statement, I use the listings every day to check on what is going on with the various bands. I could tune every band, wait patiently, pounce on the dx, but the cluster saves me from a lot of wasted hunting time.

Besides a DX cluster we have county hunting clusters, this also is very helpful if used properly and is a great operating aid. In my quest to work all counties this has certainly saved me a lot of time sitting on one frequency waiting for something to happen.

I also question the wisdom of such comments as "Finally" or profane statements made towards an operation just because they are not working a certain area. Maybe the operation is not split, or maybe they have good copy on Europe, but not North America.

I also question the wisdom of a reporting station stating the number of countries this new is for him or her. No one cares, the only one that does is you about the actual count of countries you have worked.

A simple report such as good signal in Ky is often my report for DX stations heard or worked, this tells other of my location, if others are close by copy should be about the same signal strength.

If you have never used a DX cluster before, give it a try and I am sure if you are a serious minded DX hound you will find this service to be to your advantage. Of course if you post some information be sure it is of use to everyone and not a bogus call.

Of course be on the look out for QZ6TZR and of course RG8U!





Condolences go out to Chris Lantaff on the passing of his father. Remember him in our prayers.

. **May 3:** Indiana QSO party. We will have our spring cook out and picnic that day also.

Something different for Field Day this year. We will still have it at USI, however we will not be able to set up Friday evening like we have done in the past. There is a baseball game that evening and parking will be impossible. We will begin setting up early Saturday morning instead. There is no construction this year, making it easier to get to the log cabin.

We will have our usual three regular stations (SSB, Digital or CW), a VHF / 6 meter station and the satellite station. The GOTA station will operate again this year.

Field Day supplies from ARRL

Dave Vogel WA9C is looking into purchasing Field Day shirts, caps, etc. on one order to save shipping. Contact Dave to make your order and save shipping charges. Final day for order taking will be May 5<sup>th</sup>. See what is available at the ARRL web site at <http://www.arrl.org/shop/Field-Day-Supplies/> Payment is expected at the time the order is made.

## Upcoming Events -- Plan Ahead

Things to look forward to:

May 3 TARS picnic and Indiana QSO party

June 28-29 Field Day 2014

July Let's make a Dipole at the meeting

Aug. International Space Station presentation

Sept Weather spotting

## Indiana QSO party – May 3, 2014

The purpose of the **Indiana QSO Party (INQP)** is to encourage contact with Indiana amateur radio stations by other Indiana hams and hams worldwide. Stations outside of Indiana work Indiana stations only. Indiana stations work everybody, including other Indiana stations For further information, rules and specifics see the web page at:

<http://www.hdxcc.org/inqp/>

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Moving Day at the EMA

April 10 will be moving day at the Emergency Management Office. We will be moving to our new location at the Vanderburgh County Jail Complex. The move will be handled by a professional mover but we could use a hand with the small stuff. Contact Chad at 812 435-6020 for more information or to volunteer.

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### Tri-State Emergency Net

Please take a few minutes at **8:00 p.m. Wednesday** evenings on 146.79 and get updated on the latest information.

On the Tri-State Emergency net you can hear the latest club information, calendar of upcoming events, topics of general interest and good old-fashioned rag chewing.

As we move into the thunderstorm/tornado season, remember to monitor the weather net on 146.79. Anytime there is a severe weather watch issued from the Paducah NWS for Vanderburgh or surrounding counties. Once a warning or severe weather is reported we will go into a SKYWARN net and relay weather reports to the NWS in Paducah.

**If you have had SKYWARN spotter training, an ELITE spotter class is available April 15<sup>th</sup> 6:00 pm at the Red Cross. More info can be found at <http://www.crh.noaa.gov/pah/?n=spottertraining>**

On the Tri-State Emergency net you can hear the latest club information, calendar of upcoming events, topics of general interest and good old-fashioned rag chewing.

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## Net Operator schedule

Apr	2	WB9KQF
	9	KC9YIL
	16	KE9YK
	23	KC9TYA
May	30	WB9KQF
	7	KC9YIL
	14	KE9YK
	21	KC9TYA
June	28	N9QVQ
	4	WB9KQF
	11	KC9YIL
	18	KC9TYA
	25	KE9YK

Many, many thanks to our net control operators.

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## Presentations and demonstrations

Be thinking about topics for our meeting presentations. Let us know what you want to see or do as a club.

Presentations and demonstrations are a fun part of our meetings. Join us!



**We have several openings for demonstrations or lectures if you care to give one. It doesn't have to be technical or long winded, just something of general interest**

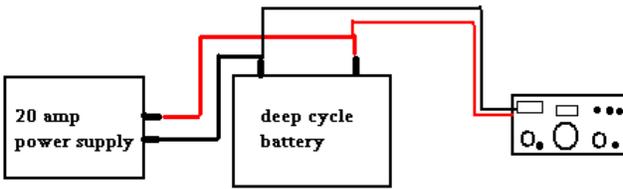
## Trivia Time.

Taking our batteries for granted?

Many of us rely on battery power supplies for emergency communications. Many of us think we only have to keep them charged and they will always be ready. Let's examine how we can get the best from our batteries and how much we take for granted.

1. A battery is an electrical storage device. T / F?
2. the most common battery we often depend on for back up power is the
  - a. Lead-acid
  - b. Potassium oxide
  - c. Lithium sulfide
  - d. Carbon-zinc
3. A car battery should last a long time for back up power in the event of a power failure. T / F
4. Maintenance free batteries
  - a. Still require some care
  - b. May need water added
  - c. May have caps glued on that can not be removed
  - d. Have different requirements
5. Gel-cell batteries do not contain harmful acids. T / F
6. Batteries specifically designed for repeated slow discharge and recharge cycles are
  - a. Constant current cycle batteries
  - b. Deep cycle batteries
  - c. Solar batteries
  - d. Recycled batteries
7. Which can be more dangerous: a fully charged battery or an almost discharged battery?
8. Number 16 gauge wire is sufficient to connect your HF radio to your battery at field day T / F
9. At Field Day, my radio starts out fine. Battery voltage is 13.2 volts. After a few hours it reads 12.3 volts. The radio still seems to work fine. Can I continue to operate?
10. After several hours of operating I noticed Cliff's radio still going strong. His battery voltage was down to 12.4 volts, but amazingly 13.6 volts were getting to his radio. What trick was he using?
  - a. Several batteries in parallel
  - b. Using a 12 volt and 6 volt battery in series with an appropriate dropping resistor to keep the voltage constant.
  - c. A boost regulator device
  - d. A voltage doubler circuit with a current limiter in series.
11. A standard 80 ampere hour battery should deliver 20 amps of current for 4 hours. Will it be totally discharged by then? Y / N

12. Bubba has his station set up with a simple battery back up system.



The power supply keeps the battery fully charged and ready for use if the power fails. Is this a good idea?

13. It is a good idea to totally discharge a battery occasionally before recharging it?
14. Chad has two deep cycle marine batteries outside his home in a small utility building built just for that purpose with a trickle charger attached. He has built an automatic cut off device where the batteries will take over immediately in the event of a power failure. Other than an appropriate fuse, what else must he consider if his radio shack is about 45 feet from his radio shack. Other than proper fusing, what else must he consider when building this setup?
- Carbon monoxide
  - Squirrels
  - Proper wire size
  - Total current requirements
  - Electrical code requirements
  - Hysteresis losses
15. The new Lithium Ion batteries are great. What must we remember when using them?
16. Setting a car battery or deep cycle battery directly on concrete will cause it to loose its charge T / F ?
17. Sooner or later you may experience a battery explosion. One of the most important things to have on hand would be:
- Toilet paper
  - An extra fuse
  - Lots of water
  - Baking soda
  - A copy of QST
18. which condition will prolong rechargeable battery life?
- Total discharge and recharging periodically
  - Discharge to about 50% each cycle
  - Discharge to about 80% each cycle

19. NiCad batteries can develop a memory and eventually fail to perform T / F
20. The best location for a fuse connecting your radio to a battery is:
- On the positive lead
  - On the negative lead
  - Close to the battery
  - Close to the radio
  - In the middle somewhere to protect current flowing both ways
  - A fuse is only needed when using an AC battery.

I hope you had a positive experience learning about batteries and no negative comments. ☺

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## Vanderburgh Co. ARES/RACES

The next Vanderburgh county ARES/RACES meeting is **March 20<sup>th</sup>, 7:00 pm** at the Vanderburgh County EMA EOC, 708 Stanley Ave. Our last meeting was preempted by the storms moving through the area, but it was a good time for everyone to see just what goes on at the EOC during severe weather.

Anyone interested in emergency communications in Vanderburgh Co. is invited.

Chris Lantaff KE9YK  
 Vanderburgh Co RACES Officer  
 (ke9yk@arrl.net) 626-0069



## Annual Weather Spotter Classes

### ELITE SPOTTER TRAINING

For those who have had the basic spotter training.

The following is a message from the National Weather Service Office in Paducah, KY.

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There are several spotter classes available to you in the coming weeks. The complete listing is at <http://www.crh.noaa.gov/pah/?n=spottertraining>

Note also that we have, or will be scheduling, our most advanced spotter training known as our "Elite Spotter Workshops" at the following locations: Sikeston, Mo, Marion, IL, Paducah, KY, Evansville, IN and Owensboro, KY. These workshops are 3 1/2 hours in length and build upon the Spotter Concepts classes plus include considerable radar training and other topics as well. The Evansville class is this Wednesday 4/9/14 at the Red Cross.

### **Interested in helping our community?**

All ARES/RACES members and any Amateur interested in emergency communications are encouraged to participate

For ARES/RACES announcements you can join the Emergency Comms yahoo group at

[http://groups.yahoo.com/group/emergency\\_comms/join](http://groups.yahoo.com/group/emergency_comms/join)

Contact Chris KE9YK or John WB9EFH for more information on how you can help out.

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### **Eat'n Before the Meet'n**

April Eating Before the Meeting will be at CiCi's Pizza before the regular TARS club meeting April 10th. Drop by for food, socializing, "story tell'n" and whatever else comes to mind. Join the group at 5:30, check in on 146.79 if you need directions or just bored on your drive in. Everyone is welcome to join us.

CiCi's Pizza is located at 101 North Green River Road, just North of the Lloyd Expressway next to Burlington Coat Factory.

If you have any suggestions on where you would like for us to meet, contact Chris (KE9YK@arrl.net).

### **Trivia Answers: for this month's battery of questions. (pun intended)**

1. False. For many years we called them storage batteries. A battery is a device that generates electricity by chemical means. It does not store electricity. A capacitor stores electricity, not a battery.
2. The lead-acid battery has been the work horse for many years.
3. False. Although it does provide the proper voltage, car batteries are designed for delivering high amperage in short bursts for starting vehicles. Long slow discharge cycles can actually harm them and shorten their life expectancy. These type batteries are commonly called "starter batteries"
4. all of the above may be true. So called maintenance free batteries are not all created equal. Some do require periodic inspection of the fluid level and adding distilled water may be necessary. Others are sealed and trying to pry off the caps can result in damage or acid spills, while others are sealed at the factory and can not be inspected or fluids added. Each battery has its own maintenance instructions and this is what you must follow.
5. False. These batteries still have acid in them however it is in the form of a chemical gel solution (like jelly).
6. b. The deep cycle battery is designed for situations where long discharge lower current power is required
7. This is not a trick question. Both can be very dangerous for different reasons. The fully charged battery can provide hundreds of amperes of current, enough to start a fire, melt wires and burn out circuits. A shorted battery can also explode, throwing shrapnel and acid everywhere. A partially discharged lead acid battery also produces hydrogen gas. Any spark (like jumping a friend's car) can ignite the hydrogen gas, causing an explosion. For that reason, batteries stored inside your home should be properly vented to prevent build up of hydrogen gas in closed non-ventilated spaces.

8. This is kind of a trick question. #16 gage wire can probably handle 5 amps in a short run. If your radio draws less than that on transmit, it might be ok. The average HF transceiver normally may require up to 20 amps. For that #12 gage wire is recommended.
9. Your radio may be receiving just fine at this level, however many radios have a definite voltage range they can operate with. As Joel Hollas W1ZR once reported in QST, "One HF transceiver I used on my battery back up seemed to work down to 11 volts – until another ham broke in to say I had spurious signals across the whole band". Operating your radio outside the proper ratings can cause many problems other than low output.
10. A boost regulator is a special kind of switching power supply that accepts an input voltage anywhere from 13.8 volts down to 10.5 volts and delivers a regulated 13.8 volt output. There are several commercial ones available or you can build your own. This is a trade off. Your batteries will not last as long but you do not get the gradual voltage drop as the battery discharges.
11. No. At that point the battery voltage will be down to about 10.5 volts, well below the safe operating voltage required by our radios. It may continue to operate devices like lights and fans however, at reduced output. The danger here is if you totally discharge the battery its internal components could become damaged and render the battery useless. Many ham radios today have APO (automatic power off) circuits that will turn off your radio after a set time of no operation to prevent total discharge of the battery. Some will even power off your radio when voltage reaches too low a level.
12. For short term possibly. The power supply is capable of delivering 20 amps continuous. Over time it will damage the battery leaving it like this. (some may argue differently but I have seen this exact set up boil several heavy duty deep cycle batteries dry over several months).
13. False. Yes it does help to discharge a battery almost completely but making a battery totally discharge may damage it internally and may even cause cell reversal in multi-cell batteries. Modern batteries have come a long way in preventing "memory".
14. B,C,D, and E. What? You forgot about the Squirrels? Many of us have learned the hard way that squirrels, for some reason, like to gnaw on electrical insulation. Remember the wire size is important. You actually have twice the distance since there is a + and a – wire involved, so in this case figure about 100 ft of copper wire and the maximum current requirements of your shack when figuring wire size. Also, in winter, a simple 60 watt light bulb in the enclosure can provide enough heat to keep batteries from freezing. (a real light bulb, not a silly cork screw one).
15. I didn't give you the answers right away to make you think awhile. Lithium batteries are great for long life and power output, but may explode or catch fire if shorted or overcharged. See [http://www.electrochemsolutions.com/pdf/safety\\_and\\_handling\\_guide.pdf](http://www.electrochemsolutions.com/pdf/safety_and_handling_guide.pdf)
16. False A very popular myth. Any battery will loose part of its charge over time, but sitting one on concrete will not speed up the process. This myth does have a historical basis, however. Many years ago a car battery was made by putting one or more glass jars tightly together inside a wood case. The glass jar held the acid and other battery parts. Sitting a battery on the floor or on the ground where moisture was present would cause this moisture to be absorbed by the wood case. When the wood swelled it often cracked the glass jar inside causing some of the acid to leak and the battery to loose its charge. With the advent of hard rubber casings this no longer was a problem.
17. c and d Batteries contain acid. This acid will cause burns. Immediate flushing with lots of water will help lessen the damage. . Baking soda will help neutralize the acid. If you get any in your eyes flush with water for several minutes and follow up with medical attention right away As for (a) toilet paper?? If you have ever been close when a battery explodes you will understand the

need for toilet paper. They make very loud explosions and may make you fill your pants.

18. d discharging to about 50% will make a battery's life a little longer than repeated deeper discharges. Taking a battery all the way down to zero volts may damage the internal plates.
19. Well, kind of True. With modern batteries this is not an issue. The problem is when the battery is discharged repeatedly to less than 25% of capacity before being recharged. An example might be a security guard that takes his radio out of the charger at start of shift and puts it back in the charger 8 hours later day after day with minimal use. With repeated cycles of varying discharges the problem does not exist. Often we blame other types of battery failures on this "memory effect".
20. a. and c close to the battery on the positive post, that way a short anywhere on the wire will blow the fuse.

For more information see:

[http://en.wikipedia.org/wiki/Rechargeable\\_battery](http://en.wikipedia.org/wiki/Rechargeable_battery)

[http://batteryuniversity.com/learn/article/whats\\_the\\_best\\_battery](http://batteryuniversity.com/learn/article/whats_the_best_battery)

<http://www.insideline.net/1996/puckett-1112-96.html>

A neat video on proper car of deep cycle batteries  
<https://www.youtube.com/watch?v=OJrSr54OyfY>

The care and feeding of gel cell batteries from WB3GCK

<http://www.qsl.net/wb3gck/gel-cell.htm>

[http://en.wikipedia.org/wiki/Memory\\_effect](http://en.wikipedia.org/wiki/Memory_effect)

Have fun.

Bp

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## The old flashlight

Everyone has one or two common flashlights or lanterns, sitting around in various places. Mostly we take them for granted. We assume that when we need them they will work. But what happens when they don't work. What about the many other devices we have around the home powered by batteries? Will they always work when needed?

Batteries have a shelf life. Even though not used for long periods they lose their power. Newer types of batteries are being offered that have extended shelf life of many years. They cost a little more, but what price can you put on peace of mind or saving your life?

Often overlooked are our weather radio battery. Many modern weather radios have some kind of battery that will power the unit in the event of a power failure but we often forget to check this battery and find out only too late that it is dead. You should also have a portable battery operated radio (AM.FM) that will keep you up to date on news and developments during periods of blackouts. There are even some models that need no batteries, just crank it awhile to charge its internal battery.

Periodic inspection and / or replacement of our batteries, radios and lighting devices is the sure way to have them ready to work when most needed. Why not make it a semi annual event? Check everything in January and June ahead of the summer and winter storm seasons to be on the safe side.

Consider the newer LED lighting devices. These draw less current and last much longer than standard flashlight bulbs.

Many of us are also guilty of not being organized. So, the power goes out and you can't remember where you last left the flashlight. Do you wander around in the dark looking for it? The best idea is to keep emergency supplies in one particular place in the home that is easy to get to, even in the dark. There are a number of fairly inexpensive plug in lights that will come on when the power fails. Keep one near your emergency supplies to make it easier to find them.

Keep several of the small LED flashlights in every room that can be easily located in the dark and make sure everyone knows the location and

leaves them there. Your bed side table is a great place to keep one.

Putting a band of yellow or colored tape on these lights lets everyone know these are for emergencies and to leave them alone. Keep several regular flashlights for every day use. Kids are fascinated with flashlights. Make sure they understand the emergency lights are not toys. Consider getting them their own LED flashlights that you can keep cheap batteries in for them to play with.



### How about another fun event?

At the board meeting we were kicking around the idea of a Simplex Contest. It is an informal event. Rules are simple. Make as many contacts on Simplex as you can in a short period of time (say 3 or 4 hours). We haven't made the rules up yet but it would be something like:

- one point for each contact
- twp points for each zip code area

Exchange might be name, zip code and signal report. A good time might be sometime in June when the evenings are still warm but not hot. What do you think?

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### Dues reminder

See the attached dues reminder pdf file to see if your name is on the PAID dues list. It is easy to forget and this will remind you if yours are due.

### TARS Birthdays

April Birthdays - Wish them well

KJ4TKJ Zach Crawford	20th
KA9NOO Tom Dickerson	12th
W9AU Norm King	21st
WA2USA Dennis Martin	28th

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### Construction project bonus.

The antenna construction meeting was a huge success. Everyone enjoyed it and came away with a useful project. We would like very much to do that again. If you have suggestions for a simple project, antenna or kit we can build at a meeting please let us know. All ideas are appreciated.



No Achmed, explosives can not be used as part of your project !!

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### Net operators WANTED

TARS is in need of volunteers for net control operators. While we could use a couple more for the regular Wed night nets we desperately need volunteers for Skywarn/Weather nets. We have not recently had consistent weather nets I am working to change that. Weather nets are not only good for local hams to find out what coming their way but the National Weather Service depends on Hams via Skywarn to be their eyes and ears to confirm what the radar data is telling them and find out what they may be missing.

If you are interested in being a control operator contact Chris [KE9YK@arrl.net](mailto:KE9YK@arrl.net) 626-0069. Next time there is a weather event check in on the TARS 146.79 repeater and see what is going on.

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### Many thanks to our award winning Net Control operators.



You provide a valuable service to the club and the community. We often fail to thank you enough for your service. Keep up the good work.

