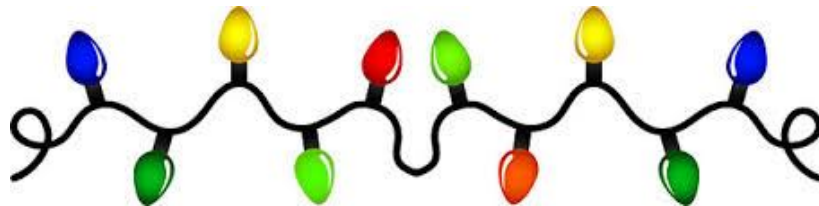
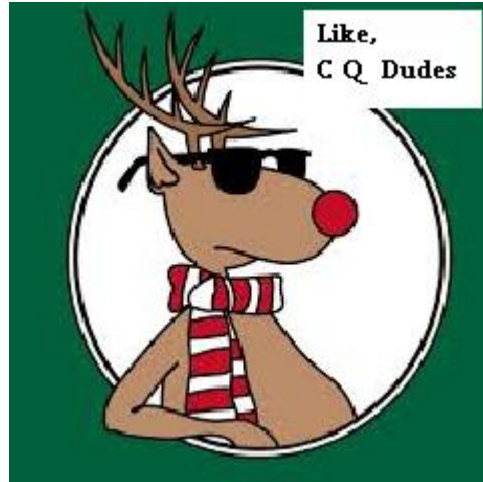
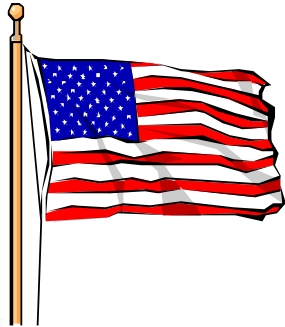


Sparks

W9OG



Monthly Newsletter of the Tri-State Amateur Radio Society
December 2014--Vol. LXI, No. 12

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



Presidents Corner

This year was pretty exciting. Our club did some really fun and meaningful things this year. I hope you were able to participate and have some fun. If you were not we would love to get you involved this next year. TARS is planning for 2015 and we really want to hear from you. Please pass along any ideas for events or activities that you would like to do as a club.

We start off with a BANG in January! Our January club meeting is our annual TARS auction, and this year we have lots of items and gadgets up for auction! The club has some nice older radios for sale, plus a large number of scanner radios. Of course members are welcome to bring items to the auction to sell. So don't miss that!

Then on January 24 at Wesselmans Park shelter we will set up some stations and participate in Winter Field Day! You don't want to miss it!

So January will be exciting and we hope you join us then and for the whole year! If you know a new Ham, or one that has not been coming to our meetings and events please encourage them to come, offer a ride or buy his/her dinner at "eating before the meeting"! I would love to see our club grow in 2015.

Speaking of growth, I want to thank Mark kc9tya and Steve k9src for their work to put on the Technician license class in November. It was a great success and we had 6 new hams by the end of the day. That is exciting. Thank you Mark and Steve.

The only way we can thrive as a club is together. Get involved, and we'll see you at the meeting!

73! De N9oL

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N9OL

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One Man's Opinion

I have read with interest an article I found on the internet written about the declining buying power of amateur radio operators. It appears that we are spending less on the hobby and making the best of a slow economy. I have to agree, in the last year we have seen Tokyo High Power declare bankruptcy and they have closed their plant.

In other instances we have seen one manufacturer of ham gear state side, no name mentioned, but they have chosen to drop their high end transceiver, drop their medium priced rig as well and offer only modestly price rigs to the amateur radio market.

The excuse offered was parts availability for certain models, well that was part of the problem, but the other was just lagging sales, or the products were not as popular as anticipated. Perhaps, technical problems plagued these models and the manufacturer could not recover the losses to repair the problems?

What ever the reason, we have one manufacturer that has cut production and is not likely to recover for some time with a high end radio once again. Have you noticed the big three have introduced some new models? Kenwood has its TS 990 on the market, but few can afford it, I for one would love to have one, but not at the price they are asking.

Icom has introduced a limited edition model, quite expensive, yet nothing really knew some improved cosmetics and a different design. Yaesu has held fast with their FT 5K standard and deluxe model the MP and have had pretty good success.

The article I read was by a ham who attended the Dayton hamfest and found that some vendors were absent, others had a much smaller display and some were just blown out the water. Prices varied on gear by as much as 20% with the larger nationwide store winning the price wars hands down.

Back a few decades when I first entered ham radio it was not a working man's hobby, no there were a lot of teens on the air with modest, very modest rigs by today's standards. In fact my first transmitter was a Heathkit and cost \$49.95 I had a couple of Command Receivers I bought as Army surplus for \$5.00 each. Gee, I was really big time then, my antenna cost just a few dollars in wire and I was happy in the Novice band on 80 meters. Boy, things have changed in the last few years, prices have jumped up dramatically and gone are the days of building it your self. Oh, you can buy an Elecraft, but you may wind up spending more money on the kit then you do if you had purchase an assembled radio .

I for one would take the pre assembled route and not worry about building a rig any longer for economics.

I think we as radio amateurs should well heed the signs of the times, the more expensive ham radio items are, the more the consumer walks away and will not buy. My advice to you is shop around on various sites, no point in paying 20% more for an item if you can get it cheaper on an internet order. The only thing positive is maybe for that extra 20% you might be able to take home what you bought that day, that is if it is in stock. Could you wait a few days for say \$200.00 difference? I know I could, and the lowest price wins all the time.

Even with that little trick we will still spend a considerable amount of money on the hobby, spend it wisely and your rewards will be many. Not so wisely and you will spend more then you want to at any given time.



As always my friends, this is “One Man’s Opinion”
Bill, K4LRX

Have we got a deal for you.

The club has recently obtained over 60 scanners. Many are the older type that requires crystals, some are programmable. All look like they just came out of the box. They are very clean and well kept. Some were obviously the higher priced ones. Many are still in the box. Several hand held scanners are also in the collection.

We haven’t even inventoried them yet.
Stay tuned to see what we plan do to with them.

Election Results are in:

Your election results are in:

All acting officers retained their positions as no one came forward to volunteer for them. A special thanks to them and their dedication to the club.

President John VanVorst N9OL

Vice President Steve Wilzbacher K4SAW

Treasurer Leonard Schmitt N9QVQ

Secretary Ron Hanes KC9OUT

The board positions were filled by:

Herb Alvey kb9mzh

Steve Connaughton K9SRC

Stevan Wells KC9SOE

Congratulations and thanks for all your hard work.

We have a new position. The office of **Quartermaster** was filled by David Vogel.

This position is very important and necessary for the club to keep track of our assets and supplies. David brought it up in the meeting and we thought it was such a good idea we appointed him to the position. Not backing down from any challenge, he graciously accepted.

From the Desk of David Vogel

I came across an interesting email I would like to share with you. Our friends at West Mountain Radio always have interesting articles for ham radio enthusiasts and this issue is no exception. In particular they list several apps that are useful for hams. Give it a look over.

<http://www.westmountainradio.com/pdf/winter-2014-newsletter.pdf>

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The Soap Box



My personal outlook on contesting (you are welcome to share your viewpoint)

From the dawn of time mankind has always tried to outdo his fellow man. Be it in hunting, athletics, fighting or loving, he had to excel and be better than the next guy. It was often necessary for survival. Later it was necessary just for fun and being the top dog or just plain bragging rights.

Ham radio is no exception. At first it was necessary for the development and survival of the art. When the first trans-oceanic broadcast was made it threw down the gauntlet for others to match and even exceed that feat. For some it was profit motivated. For others it was the pure joy of a challenge.

When the first experimenter announced he could talk from New York to California on only 100 watts, others got busy and improved or invented transmitters, receivers or antenna technology. Shortly thereafter a ham announced he could talk the same distance on 10 watts. Not being outdone, another announced he could do it with only 1 watt. Now days they do it with milliwatts. So, competition was a good thing for advancement of our hobby and the field of electronics as a whole.

Then came contesting. "I can contact more stations in a given time than you can" is the driving force. Sure, for others it is the self satisfaction of honing your skills or winning achievement awards but you don't have to work all states in a day.

For those who enjoy contesting, have at it. However I have observed on contest events (almost daily) it seems to bring out the worst in people. The bands fill up as quickly as they open. 5 second contacts are the rule. A 5-9 signal report (no one tells the truth) and possibly another identifier is all

the contact is worth. Pileups are the norm. Throw the rules and etiquette out the window. Tune up on top of the calling frequency, talk over other hams, crank up the amplifier and audio gain, turn on the compressor to max, and all the other audio toys to "enhance" your signal then call CQ contest only 1 Khz away from another working station.

When I retreat to the WARC bands (remember, no contesting on these bands) I am greeted by special event stations W1AW I sent an email to the contest director and ask about it and he said those were not contest stations, they were event stations. They still fill up an otherwise quiet band with signal reports and 5 second conversations. Let's see, how many of these "event stations" can I put in my log book"? Sounds like some kind of contest to me. Then I started thinking. Conversational contacts (rag chew) where hams actually talk to each other in two sided conversations are rare anymore. Is conversation a lost art? Or, is it because we find very little band width in which to hold a conversation without contest stations only a few kc away from us?

I have an idea. Why not level the field? What if everyone was limited to 100 watts into a dipole and see how many contacts they could make? This would give the average ham a chance against the big guns with multiple operators and high power stations. Can any of us really compete with stations like K3LR or K1LZ?

Perhaps this would again force us to improve our equipment and operating skills instead relying on more power, more money and bigger antennas.

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Upcoming Events -- Plan Ahead

Things to look forward to:

December: QSL card show and tell, A talk on QSL information and etiquette, how-to and more. Also bring any projects you want to share or stories of interesting QSO or ham events. Open topics so all are welcome.

January meeting: Once again the Wise and Powerful Wizard of Auctions: K9HVI (Little Ed) will again host the annual TARS auction. Be sure to attend and bring items to donate or sell.

February meeting will be our annual TARS banquet. Got any suggestions as to where to hold it?

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Birthdays for December

KB9MZH Herb Alvey	12th
KC9SYL Gene Flick	25th
KF9RR Ron Goebel	10th
WB9EFH John Marley	20th
KC9HWQ Chris Politano	20th
WB9VSQ Elvin Reed	17th
NJ9X Scott Straeffler	16th
N9OL John VanVorst	9th
W9AJR Dave Wood	26th

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HF Ladder Contest

The HF Ladder for 2014 got underway on Oct 9th after the Club Meeting. The contest will be running through Jan 31 2015. The contest is open to ALL TARS Members.

Contest runs on a monthly basis; score sheet(s) for the previous month are to be turned in at the Monthly Club Meeting. Please total out your score sheets before you hand them in. IF you Contact a Country/IOTA etc without points just leave it blank and I will figure out the points need for that Contact and add them to your score.

If you know you won't be at the Meeting, scan it with a scanner and attach it to an E-Mail send it to me at n9jca@wowway.com

I will send Bob Pointer a list of the scores and ask him to post them via Mass Mailer (like getting SPARKS)

Rules are simple and on Honor system

Each Country has its own Points

Modes are: Digital=4points, CW=3points, Rag

Chew=2points and SSB=1point

Power points are: 1-10W=3points; 10W-

100W=2points, 100W+=1point

Antenna: Beam=1point

Dipole/Wire/Vertical=2points

Which ever Mode you start with for a particular Month, please stay with that Mode (NO starting in one Mode and adding another)

If you are still working (as to being Part Time and/or Retired) I will Double your Points at the end of the Month

Each Month will have a Bonus Country/Continent depending on Propagation

Here is an Example:

Antarctica=88Points X 3points for CW X

100W=2points X Dipole=2points

Total points = 3168

HF-Ladder Scores for October 2014

KJ4DVR Jimmy 23216 SSB

N9JCA Chris 14160 Digital

KC9FSQ Tom 13440 SSB

N9OL Jon 12596 CW

WB9ZFN Tom 8860 SSB

Please Remember to have NOV Scores sent to me by Dec 6th

73

Chris N9JCA

Presentations and demonstrations

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

Built something new?
Have a neat item to share? Working on a project? Bring it to the meeting; we would love to see it.



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.

While we are on the subject of things inside our radios we take for granted, here is another innovation that had a major impact on electronic construction and development.

What do we know and remember about when printed circuit boards came into the picture?

1. The original (and correct) name for the printed circuit board (hereafter known as the PCB) was what?
 - a. Solid state wiring board
 - b. Printed wiring board
 - c. Etched wiring board
 - d. Copper tracing board
2. Prior to the introduction of the PCB, electronic construction was accomplished by
 - a. Wire wrap construction
 - b. Hit and miss construction
 - c. Point to point wiring
 - d. Cut and paste
 - e. Welding
3. Early development of the modern circuit board took place in
 - a. 1899 by a French inventor
 - b. 1903 by the German inventor
 - c. 1933 by an American scientist
 - d. 1944 by the Army
 - e. In 1995 by Bill Hilyerd
4. Early electrical components were attached to the PCB using what method?
 - a. Radial port technology
 - b. Through the hole technology
 - c. Axial port technology
 - d. Nails and duct tape
5. Many companies employed PCB construction in their line of fine kits. (Heathkit, Eico, Knight Kits, to name a few) What was the most expensive part of making the boards?
 - a. Cutting them to exact size
 - b. Silk screening the component side
 - c. Drilling the holes
 - d. Etching the foil paths.
6. Average PC boards are a kind of non conductive material that may not be suited for applications in high stress areas.(military equipment, space equipment, rugged electronic equipment etc.) A common way to make very strong PCB is by
 - a. Making the copper side thicker
 - b. Laminating layers of fiberglass or Kevlar under heat and pressure
 - c. Coating with super tough resin
 - d. Applying a layer of epoxy
7. You can make your own PC boards but it requires a lot of patience and expensive supplies T / F
8. A relatively new advancement in PCB construction was the introduction of what technology?
 - a. Point to point wiring
 - b. Integrated circuit sockets
 - c. Use of non-lead based solder
 - d. Surface mount technology
 - e. Through the hole technology
9. In low power or signal circuits another technology helped reduce cost of manufacturing by:
 - a. Eliminating the need for capacitors
 - b. Painting a resistive compound on the board instead of using a resistor
 - c. Using electronic relays instead of magnetic ones
 - d. Using slave labor
 - e. Developing components that require lower operating voltages.
10. A disadvantage of using modern PCBs in our radios is:
 - a. Many of the components are proprietary and not easily obtained
 - b. Replacing individual parts is difficult of not almost impossible
 - c. You need a magnifying glass just to see the components
 - d. You need special low heat tools to work with them
 - e. Often it is cheaper to replace the entire board than a single component
 - f. All the above
11. If a PCB is to be used in a high moisture or hostile area how is it protected?
 - a. Put it in a plastic bag
 - b. Take out an insurance policy on it
 - c. Give it an epoxy coating
 - d. Coat it with wax
 - e. Seal it in tar

12. If a foil path becomes broken can it be repaired by
 - a. A solder bridge between the two ends
 - b. A wire jumper soldered to each side of the break
 - c. Etching a new foil path on the board
 - d. Sending it back to the factory
 - e. Arc welding the ends together
13. Miniaturization of components has allowed us to place even more of them per square inch on a PCB but often more foil paths are needed than there is room for. What can be done?
 - a. Squeeze them together tighter with a bench press
 - b. Make even narrower foil paths
 - c. Use both sides of the board with pass through solder holes.
 - d. Layer multiple boards with pass through solder holes
 - e. Complain to human resources
14. In the ARRL handbook for Amateurs they provide something that helps us make our own PC boards for the various projects in the book.
 - a. A free roll of solder
 - b. A pattern of the foil paths in black ink that can be used with light sensitive boards for etching
 - c. A photograph of the etched side of the board that you can trace using carbon paper.
 - d. Instructions on where to send off for the bare PC board.
 - e. A magnifying glass to help put the small parts on the board.
15. When soldering a part on the foil side of a PCB, the soldering pencil tip should contact:
 - a. The component lead first then the foil path
 - b. The foil path first then the component lead.
 - c. Both at the point where the component lead goes through the foil path.
 - d. The component lead only and let the hot solder flow down and heat the foil path
16. The most important first step in soldering parts to your PCB is:
 - a. Take a good shot of Jack Daniels first
 - b. Make sure the soldering iron is hot enough to melt the solder
 - c. Make sure the copper foil paths and component leads are clean and shiny
 - d. Using a good grade of acid flux solder such as Kuester or Alpha.
17. A very common cause of your project not working after you have completed it is
 - a. Solder bridges between foil paths
 - b. Cold solder joint
 - c. Too much heat when soldering
 - d. Not allowing the solder to flow completely around the joint
 - e. Putting polarity sensitive components in backwards
 - f. Getting in too much of a hurry
 - g. The cat making off with one of the components he thinks is a toy
18. Aluminum wire may offer benefits in your construction on PCBs such as:
 - a. It is easier to bend than copper
 - b. It takes less heat to solder it to the PCB
 - c. It does not require as much solder flux making clean up easier
 - d. It takes less heat to solder it to the PCB which means less damage to components from overheating.
19. How would one remove a faulty component from a PCB?
 - a. Heat the lead and pull it out
 - b. Use a "solder sucker" to first remove as much solder as possible
 - c. Use solder wick to first remove as much solder as possible
 - d. Heat the component lead from the top of the board and it will gently melt the solder
 - e. Use a special solder tip to heat several of the leads of an IC component at the same time.

20. Modern trouble shooting of and repair of our radios that use PCB technology is made more difficult because.

- a. They don't provide detailed schematics when you purchase the unit
- b. Individual parts are almost impossible to get to and replace
- c. Most parts are proprietary and only available from the manufacturer by special order
- d. Less expensive (imported) units may not even offer replacement parts or service
- e. In some cases it may actually cost more to have the radio serviced than purchasing a new unit.
- f. Unfortunately, all the above

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

Chris KE9YK

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Trivia Answers: for this month

1. b or c is correct. The original terms etched circuit board or printed wiring board fell by the wayside for the more popular name of printed circuit board.
2. a. and c. although wire wrap construction is only a method of point to point wiring that did not require soldering individual components.
3. b. In 1903, a German inventor, Albert Hanson, described flat foil conductors laminated to an insulating board, in multiple layers.
4. b. Component leads were pushed through holes drilled in the PCB and soldered on the other side.
5. c. Drilling the holes requires high precision and the drill bits dull frequently and are expensive to replace.
6. b. very strong PCBs are made this way where shock, heat, cold or other factors are important.
7. False. Due to increasing popularity of making your own boards, prices for supplies have come down and techniques range from simple to complex.
8. d. Surface mount technology no longer needed to drill so many holes in the circuit boards.
9. b. a special "paint" is applied to the board with a specific resistance value instead of mounting an actual resistor component to the board.
10. f. all the above Progress has its drawbacks
11. c. a clear epoxy coating will protect it from harsh elements but make it very difficult to service. Wax can be used in low temperature environments.
12. a, or b. A solder bridge is ok if there is no possibility the joint will move and break again. You can reinforce the joint with a small piece of fine wire across the break before applying solder.

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Vanderburgh Co. ARES/RACES

There is NO ARES/RACES meeting for December. Have a Merry Christmas and see you next year!

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



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

**Don't forget to check out our web page
www.w9og.net**

***2013 Club Officers and Board
members***

2014 Club Officers and Board members

Board of Directors

[Bob Pointer N9XAW](#) 425-2118 (2014-2015)

[Mark Thienes KC9TYA](#) 812-963-6455 (2014-2015)

[Terry McCrary WB9KQF](#) 812-760-8007 (2014-2015)

[Stevan Wells KC9SOE](#) 812-473-5918 (2013-14)

[Dave Vogel WA9C](#) 812-430-5727 (2014)

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