# Spurious Emissions

The Newsletter of the South Bay Amateur Radio Society

Volume 5 Number 4 Fall 2016


## New Members and Upgrades

There were no new members or license upgrades this quarter.

*Article VIII, Section 3A. MEMBERSHIP ADVANCEMENT ENCOURAGEMENT. Full Members who upgrade the class of their Amateur Radio License shall receive a free one-year membership in the Society. The Secretary shall note the upgrading in the Minutes and the Treasurer shall reference the Minutes as authority to waive payment. This free one year membership shall be on a one-time basis and shall be available only to those who have been a member for at least one year.*

## What's Inside

There is a lot of interesting information in this issue.

From Fred Curtis, KI6GRO, we have a couple of articles about emergency communications, specifically the recent ARES SET drill and the San Diego Blood Bank nets.

Included is a reprinted editorial from the ARRL website comparing radiosport and PokemonGO.

Also, in the EMCOMM realm is an article from John Wright, K6CPO, about building a Go-Kit in a tool box from Home Depot.

To top it off, a couple of columns from Dan Romanchik, KB6NU, fill out the issue.


**SOBARS held their first swap meeting on August 3, 2016.** *John Wright, K6CPO*

## From The President's Shack

By John Wright, K6CPO

The end of 2016 is approaching rapidly and there is a lot to be done before December. Elections are coming up this year, Ham of The Year nominations are due at the November meeting and we have to start planning for our annual holiday potluck dinner.

All three club officer positions (President, Vice-President and Secretary-Treasurer) are up for election this year. The election procedure as laid out in the SOBARS By-Laws is as follows:

*"**Article VIII, Section 7**. ELECTIONS. The President shall appoint a Nominating Committee of at least three (3) members at the September meeting. It shall be the duty of this Committee to nominate a panel of one or more willing candidates for each office. The Committee shall contact all SOBARS full members in search of prospective nominees and elicit their willingness to serve in the office for the term required.*

*The Nominating Committee shall be charged to present its panel of candidates at the November meeting.*

1957 2016

SOUTH BAY AMATEUR RADIO SOCIETY
(SOBARS)
K6QM

PO Box 121132
Chula Vista, CA 91910

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Website: www.sobars.org

SOBARS is an ARRL-affiliated ham radio club with members from San Diego, National City, La Mesa, Chula Vista, Bonita, Imperial Beach, and San Ysidro, California.

**OFFICERS**

**President**: John Wright, K6CPO
*president@sobars.org*
**Vice-President**: Nestor Puñales K6JTT
*vp@sobars.org*
**Secretary/Treasurer**:
Fred Curtis, KI6GRO
*secretary_treasurer@sobars.org*
**Call-Sign Trustee:**
Jim Beckman, N6RSL
**Emergency Coordinator:**
Ramon Dueñas, KJ6QQK
**Property Trustee:**
Louie Vignapiano, KI6SRR

SOBARS meetings are held at the Chula Vista RV Resort, 460 Sandpiper Way, Chula Vista, CA 91910
See the website for dates & times.

Club Repeater: 146.085 (+)
PL: 100.0
Yaesu System Fusion®

**CLUB NETS**

Club nets are held every Tuesday evening on the following bands:
1830: (PT) 449.980 (-) PL 88.5
223.840 (-) PL 107.2
1900: (PT) 146.085 (+) PL 100.0
1930: (PT) 28.480 USB
7.240 LSB

*The election will be held at the December meeting using a secret ballot for each office. If a quorum is not present, the election will be held at the next regularly scheduled meeting (normally the January meeting). The panel of officers in office shall continue to serve until the election takes place. If there is only one candidate for an office, a voice vote may be held for that office, instead of a secret ballot."*

John Lally, KK6GGX and Derrick Dudley, K7SVN, have agreed to act as the Nominating Committee for this year's elections. We need a third member to step up and assist them in polling the membership.

December is also when we announce the winner of the annual Dick Cupp, Memorial Ham Of The Year award. Nominations for this award are due at the November meeting. The selection committee this year will be headed up by Fred Curtis, KI6GRO, last year's winner. All members should have received a copy of the nomination guidelines and a nomination form in their e-mail. If you feel there is a SOBARS member deserving of the award, please make the nomination. Please note that nominations must be sent or delivered, in a sealed envelope, addressed to the nominating committee chairperson. Email nominations **will not** be accepted (see guidelines.)

There is a sign-up sheet for the December potluck meeting on the website. This will operate in the same way as in past years. Please indicate what dish you wish to bring and how many people will be attending.

Membership dues will be coming due on January 1st. Annual Dues are $20.00. The Treasurer requests that the dues be mailed directly to the club post office box. (On the website.)

Participation in the club has fallen to the lowest point I have seen in my six years as a member. It began with Field Day in June when we had only two members operate. This was unfair to the Field Day Chairperson and others that put an effort in making the event happen. It has been decided that if we do not have commitments from a sufficient number of members to participate in the next Field Day by the May 2017 meeting, we will not hold the event.

At our last meeting, we were unable to muster a quorum of members so we didn't conduct any club business. Per the SOBARS Bylaws, a quorum consists of one-quarter of voting members. We currently have 66 members so we need 17 members present to conduct business. At the October meeting we had 13 members present (including myself, who cannot vote except in the event of a tie.)

There are items coming up in the future that will require action by the membership. The most important (outside of the pending elections) is the purchase of new batteries for the repeaters. This is something that needs to be done sooner than later and will need a vote to authorize the expenditure of club funds. We need to have a quorum at our meetings.

In an attempt to stimulate more participation in club activities, the leadership is looking at some options. The recent swap meet was a success and actually garnered $178 for the club treasury. This is something we plan on doing on a regular basis, at least once a year. There has also been discussion about holding a spring picnic, possibly at Bayside Park (behind the RV Resort.) This is a Port District park so we will have to investigate whether a permit is required or not. It would be conducted in much the same manner as the annual December potluck. More to come on this...

We are looking for more "hands-on"

topics for meeting presentations, so if there is anything the membership would like to see us cover, contact one of the board members. We are planning a "show off your go-kit" meeting for after the first of the year so if you have a go-kit or go-bag, get it ready!

I think I've gone on long enough here. Again, if anyone has any suggestions as to how we can stimulate more participation, don't hesitate to let one of the club officers know.

73...

## Editorial: Radiosport vs. Pokémon GO™

Bob Inderbitzen, NQ1R, ARRL Marketing Manager, Life Member, ARRL Member since 1984

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07/22/2016

Though it has only been 2 weeks since Pokémon GO™ was introduced, it is already a social phenomenon. The augmented-reality video game, developed by Niantic for your smartphone, has received praise for luring gamers outside of their homes and into the streets to play. Maybe you count yourself among the players. Or maybe you are feeling a little left out because you are not playing the game, or have vowed never to play the game, or (not admittedly) don't get it. Well, if you are an Amateur Radio operator (or "ham"), this Pokémon GO article is for you!

It should come as no surprise that ham radio operators are drawing comparisons between Pokémon GO and Amateur Radiosport. If you have not been following the Pokémon GO hype, though, you are going to need a small amount of background about the game. Playing requires downloading the free Pokémon GO app for your iOS or Android device. Players are called "Trainers," and walk around their neighborhoods using their smartphones to discover and capture small creatures, called Pokémon. The app's integration with Google Maps data makes real-life associations with your surrounding environment. Trainers (players) visit PokéStops, which are local landmarks, to stock up on virtual supplies needed to play the game. Achievements are earned by advancing levels, by earning badges, and through team challenges at virtual Pokémon Gyms. All of this happens while walking around with your head in your smartphone screen, which is a skill already mastered by most smartphone users. Okay, now you know enough about Pokémon GO to sound like an expert at the office water cooler.

Now let's compare the video game to ham radio. Hams operate their radio equipment from fixed and portable locations; from home and on-the-go. While ham radio itself is not a game, it is fun. In the findings of a study completed by Readex Research for ARRL in 2015, the most cited reason for becoming involved with Amateur Radio is "fun." Survey respondents could choose multiple reasons for becoming a ham, and the runners up included, "to expand interests in electronics, communications, or other technologies," and "to support communications during disasters and other emergencies." So, in a nutshell, people become ham radio operators to advance their interests in (1) technology, (2) public service, and (3) to have fun!

One particular interest area in ham radio is Amateur Radiosport — an overarching term for on-air ham radio contests and operating events that will earn you various achievements and awards. Take, for instance, ARRL's year-long National Parks on the Air (NPOTA) operating event, which celebrates the centennial of the US National Park Service. NPOTA encourages hams to operate their portable radios from official park locations. Hams who are park "Activators" are sought by park "Chasers," who are other hams trying to make radio contact with activated parks. Sounds vaguely familiar, huh? Pokémon GO has trainers chasing and capturing Pokémon; and NPOTA has chasers collecting national park activations.

Similar to collecting Pokémon creatures, the lure of radiosport is logging each radio contact for scores. Hams use computer logging programs, such as ARRL's online Logbook of The World, to track their radio contacts. Achievements are earned by the total number of contacts confirmed with other hams in qualifying categories.

There is a calendar full of weekend ham radio contests, annual operating events, and ongoing award programs including the premier challenge, ARRL DXCC, awarded for confirming radio contacts with a minimum of 100 countries ("entities"). And, pop-up special event stations entice hams to make contacts with stations set up at lighthouses, on islands, and atop mountain summits.

Radiosport is a tradition as old as ham radio. In the early days of pioneering the airwaves, hams recognized their peers for making the first radio contact across town, and then across country, and eventually across the world. Today, that same innovative spirit is found among hams whose signals travel by wavelengths considered by some to be unusable, or at extremely low power levels that require sophisticated software to extract the weak signal. High-tech fun!

While radiosport is chock full of fun and achievement, the side effect is that hams who participate in radiosport improve their own technical and operating skill, and advance their station readiness. The competitive nature of radiosport encourages hams to assemble better radio stations, build more effective antennas, and to operate skillfully on the air.

I tried Pokémon Go. But I thought, "I'm being drawn into the touchscreen on my smartphone for fun that's being calculated by some clever computing." By contrast, hams participating in radiosport have a higher amount of control of the game. The search-and-pounce is shaped by the station you've set up, your operating skill, signal propagation, and who else might be listening. Already, for instance, the leading "Chaser" for National Parks on the Air has made confirmed radio contacts with 435 national park activations. Impressive, and it didn't require any data charges!

Check out Pokémon GO so you can tell your children or the neighbor's kids that you, too, were part of the fad. But if you're a ham radio operator, and specifically a ham turned on to radiosport, you know that the lure of the next radio contact won't fade away as easily.

## ARES Conducts SET Drill

By Fred Curtis, KI6GRO

On August 27, 2016, the Amateur Radio Emergency Service (ARES) conducted its annual Simulated Emergency Test (SET) drill. This drill is conducted every year and this national emergency exercise is aimed at testing the skills and preparedness of the Amateur Radio Emergency Service (ARES) and other organizations that are called into action in actual emergency situations. SETs can be scheduled at the local and Section levels and conducted throughout the fall to help maximize participation. The local Section determines the goals and objectives of the SET drill in their area.

This year the goal of the San Diego Section was to get amateur radio operators to check in with the Emergency Coordinator (EC's) in their local area via a local repeater. The San Diego Section is divided up into geographic areas with EC's and repeaters and follows the ARES communication plan. Another objective of the SET drill was to have amateur radio operators check in with their local EC's using simplex frequencies, again following the ARES communication plan.

Operating out of the Chula Vista Emergency Communications Trailer, I acted as Net Control for the South Bay area and received check-ins from those who could reach the SOBARS repeater. After check-ins were taken using the SOBARS repeater, I began taking check-ins using the simplex frequency of 146.445 MHZ. During the drill I maintained a list of check-ins and reported the totals to the SET Drill Exercise Net Control. Using the WinLink email system, I submitted a more detailed report of the check-ins received to Exercise Control. There was also a WinLink "net control" that took check-ins via email from the various locations and EC's. Finally, I checked in on 40 meters with Pat, WA6MHZ on 7.244 MHZ.

As the Southern District Emergency Coordinator (DEC), I monitored the Coronado EC and received voice reports on their check-ins. All in all, the drill met the objectives. There were over 150 check-ins sections wide while the South Bay area recorded 15 on the repeater and 9 on simplex. While the numbers were small, the exercise was good practice. The drill also took place on a Saturday, which also accounted for a smaller turn out. I encourage everyone to participate in this drill next year; if for no other reason to make sure your equipment is working and to know who you can contact in an emergency.

# San Diego Blood Bank Net

By Fred Curtis, KI6GRO

If you have lived in the San Diego area for any length of time, you have probably heard of the San Diego Blood Bank and their slogan, "Give the gift of life". The San Diego Blood Bank provides the Southern California region's hospitals with a wide range of blood banking services such as whole blood, plasm and palettes to name a few. The San Diego Blood Bank is also the California Emergency Medical Services Authority (EMSA) designated Southern California Regional Operations Center for the distribution of blood to Southern California in the event of a major disaster or act of terrorism in the State of California.

And this relates to ham radio how, you ask? The San Diego Blood Bank participates in a monthly HF net on 40 meters and is one of 13 California blood banks that check in to this net. Participating locations include Oakland, Monterey, Eureka, Bakersfield and Fresno to name a few. The San Diego Blood Bank also acts as a relay station following the initial check-in for those that are missed. I had the opportunity to act as net control during the September net and was thrown into hot seat by Roy, KR6RG and was assisted by Rob, K6RJF. It was a great experience and I learned that being a Net Control Operator on HF has its challenges and is not as easy as doing the SOBARS 2 meter net. I was able to get through it and must say it was satisfying to say the least. I have been a SDBB donor since 1985 and was unaware until 4 months ago, that they had a net or even ham radio equipment.

As many organizations have discovered, the SDBB found the need for alternate communication resources following a disaster. According to Gloria Lyons, Manager of Hospital Services, this became very apparent after the power outage in 2011. In addition to the HF, VHF, and UHF radios, the SDBB has a WinLink station and is part of the High Data Rate Emergency Network of San Diego (HDRENS).

The San Diego Blood Bank responds to the usual emergencies that we are familiar with but also ones that you may not think of. For instance, the San Diego Blood Bank provided blood products to area hospitals in Orlando, Florida following the shooting at the Pulse nightclub on June 12, 2016. This is in addition to supplying blood products throughout California when the need arises. If you are interested in donating blood or would like more information, go to http://www.sandiegobloodbank.org. Contact me, if you are interested in being a net control operator for the Blood Bank Net.

**Ham station test and check at the San Diego Blood Bank.**
*Courtesy R.B. Smith, WW6RB*


**Antenna array including HDRENS node on the roof of the San Diego Blood Bank, with Roy Gallagher, KR6RG.**
*Courtesy R.B. Smith, WW6RB*

# Building a Go-Kit, Part 1

Article and Photos By John Wright, K6CPO

## Introduction

As a member of ARES (Amateur Radio Emergency Service) I'm always looking at different concepts in emergency communications. A recent San Diego ARES meeting was dedicated to Go-Kits. Members were encouraged to bring their Go-Kits to the meeting where everyone could see them and get ideas for construction their own kits.

Most included HF radios, some type of VHF/UHF radio and a power source. The HF radios were usually equipped with some means of passing digital or Win-Link traffic. One ham had even included a small keyer and a set of paddles for CW operation. There were as many different configurations as there were hams present at the meeting.

On the way home from the meeting I had occasion to stop into a Home Depot store. (For what, I don't remember...) While there is noticed a display of Ridgid tool boxes. These particular boxes stacked and locked together to create a three tiered tool center on wheels. While I have no need for another tool box, my first thought was how they would work as the basis for a go-kit. My initial visualization was a battery and charger in the bottom box, the radios in the center box and the top box for cables and accessories. I bought it. (FIGURE 1)

## What To Put In It

Now that I had the box, I had to decide what I was going to put in it. My initial plan was to include a 2 meter/440 dual-band VHF/UHF radio, but I had to acquire one. Conveniently, it was right about this time one of our cars decided to seize its engine. (It was sold to a recycler.) Now I had my Go-Kit radio, a Yaesu FT-7900R, and everything that went with it. I decided that I wanted the box to look as professional as possible, so I started investigating various meters and other ways to connect things together. One of the best sources for items like this is Powerwerx.® (http://www.powerwerx.com) I settled on several items from them. More on these later as I describe the construction of the kit.

## Assembling the power box

I knew I wanted to put a battery and some way to charge it in the bottom box. I selected the NOCO Genius G3500 battery charger/maintainer from Powerwerx as the charger and bought a 92AH flooded deep-cycle marine battery at Walmart.

The Genius G3500 charger/maintainer has smart technology that will charge either 6 or 12V batteries of all types and will bring back a badly discharged or sulfated battery. It can remain connected to the battery indefinitely.

To install the charger and battery in the bottom (power) box, I first took a piece of discarded wood shelving, notched it to fit the contours of the box, rounded the edges and installed a pair of handles on it. (FIGURE 2)

Once that was done I attached the charger and battery box to the board. There was the potential for the cords on either end of the charger to rub up against the sides of the box, so I positioned the charger closer to the tool slots in the back of the box. Since I planned on using the slots in the box to store the charging cords anyway, I cut a hole into one of the slots and fed the cord through it. (FIGURES 3 & 4)

One of the things I wanted to include was an external cut-off switch for the main power. I also wanted this switch to lock. I purchased a switch designed for shop tools that has a removable piece to lock it in the OFF position.

This switch and a dual Powerpole socket were installed in holes cut in the front of the tool box. (FIGURES 5 & 6)

Now that all the parts were installed, it was time to wire it up.

The wiring was pretty straightforward. The first thing was to connect the charger leads to the battery. The battery came with threaded posts so it was a simple matter to slip the charger terminals over the posts. I then connected ring terminals to a pair of short red and black wires cut from a radio power harness. I did this to include fuses between the battery and the power outlet. Spade lugs were attached to the other ends of the wires and the wires connected to the battery.

Since the Powerpole outlet has two sets of contacts, I found some dual tab spade lugs in my junk box and attached appropriate red and black wires to them. These wires then had 30A Powerpole contacts crimped on the other ends. The Powerpole contacts were inserted into the back of the PP outlet and the spade lug ends attached to the switch.

The battery was placed in the battery box in the bottom of the tool box and the charger leads connected to the charger. The Genius G3500 charger comes with a very

nice locking plug to connect the leads to the charger. (There is also a set of large alligator clips that connect into the same plug in place of the battery leads. Both are fused.) The other leads from the battery were connected to the power switch.

It was now time to test everything. The charger was plugged into a wall outlet and turned on. The battery immediately started charging. Voltage checks were made at various point along the path and battery voltage was present at all points. (FIGURES 7 & 8)

As is always the case, as soon as something is completed, one realizes it could have been done better. I realized that it would have been prudent to have some way to easily disconnect the battery from the switch and also have the Powerpole outlet on the back of the box rather than the front. By moving the outlet to the back of the box, it would free up the hole for a voltmeter to monitor the battery's state of charge.

After a quick trip to HRO for the voltmeter and some work with my Powerpole crimping tool I had the changes made. The battery was now connected to the switch via Powerpoles (Figure 9) and the switch connected to the outlet in the same fashion. The connection to the meter came off the same connection as the outlet. The charger was not an issue because it already had a very nice locking plug in the cable. (FIGURES 9–14)

To be continued…


**FIGURE 1: The tool box set as purchased from Home Depot.**

**FIGURE 2: The component mounting board cut to fit and located in the bottom of the tool box.**

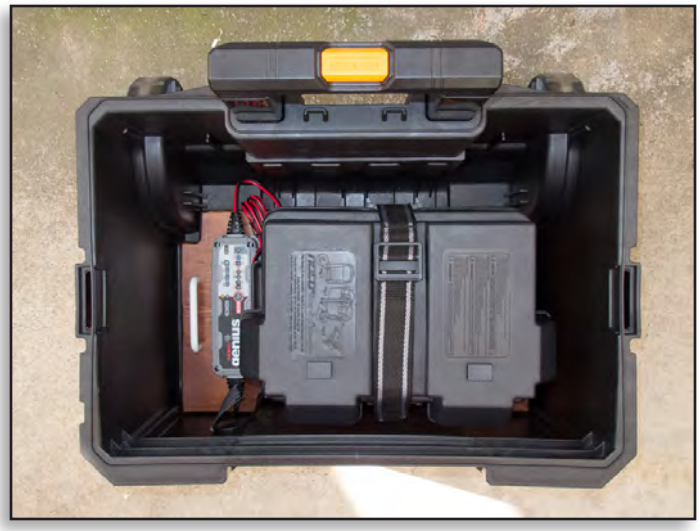

**FIGURE 3: The charger (left) and the battery box mounted to the board.**


FIGURE 4: The battery charger in position and the charging cord routed through a hole in the slots in the back of the box.

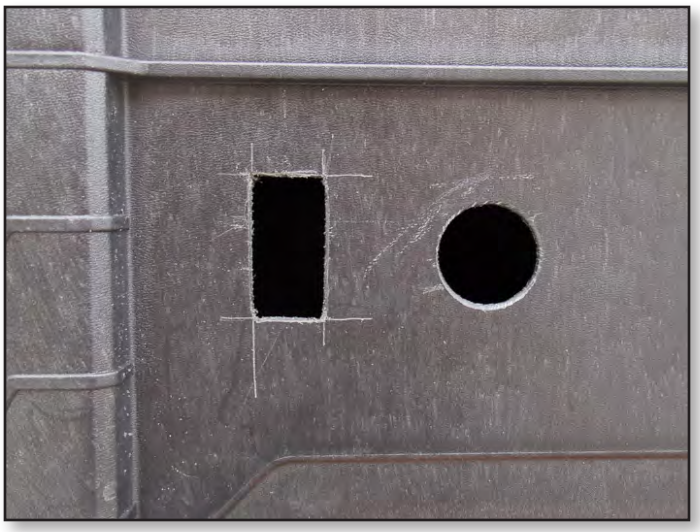

FIGURE 5: Holes for the power switch and (initially) the Powerpole® sockets on the front of the box.

FIGURE 6: The main power switch and the Powerpole® socket installed on the front of the box.

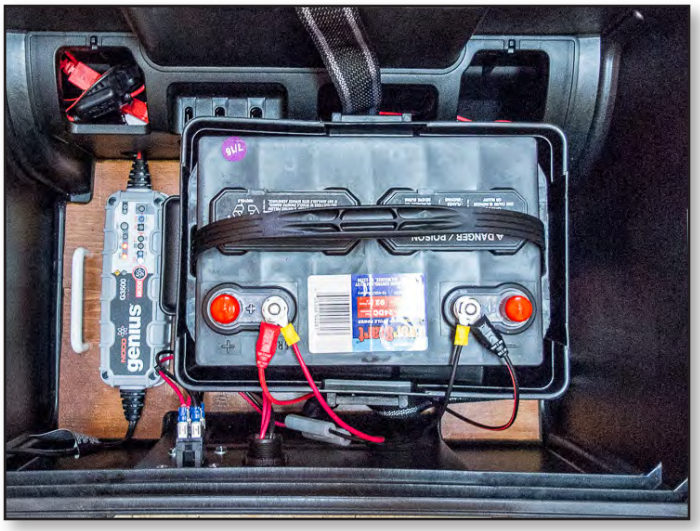

FIGURE 7: The battery and charger all wired up. The cords for the charger are routed through the section on the back of the box. (Note: This is not the final configuration.)

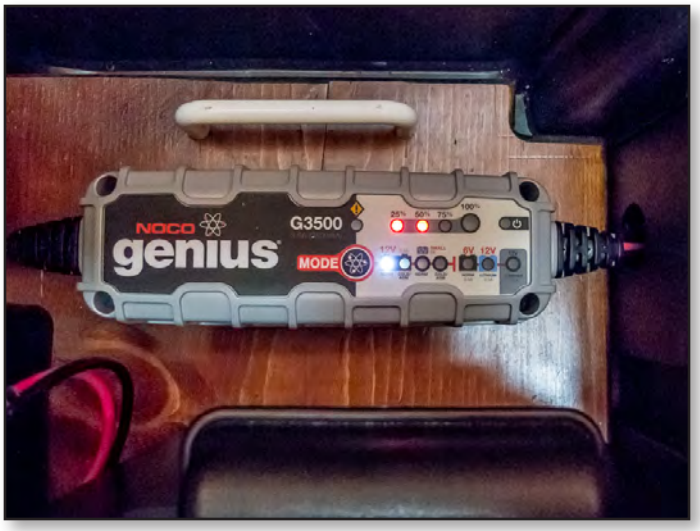


FIGURE 8: The charger plugged in and charging the battery.

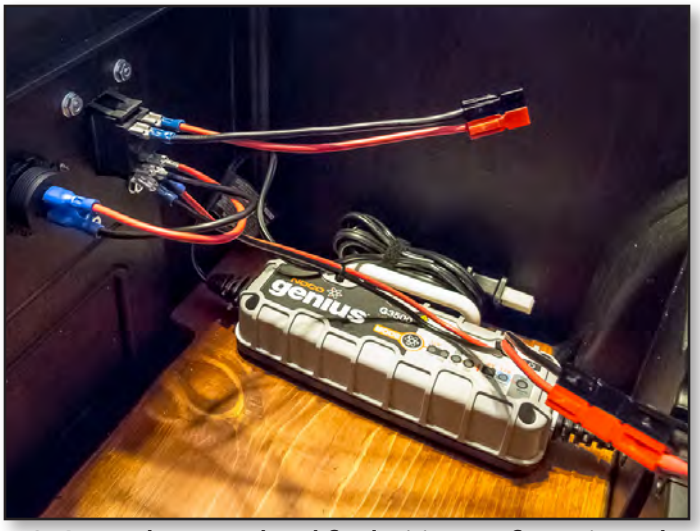

FIGURE 9: The second and final wiring configuration. The leads at the top connect to the battery and the leads coming off the bottom go to the Powerpole socket.

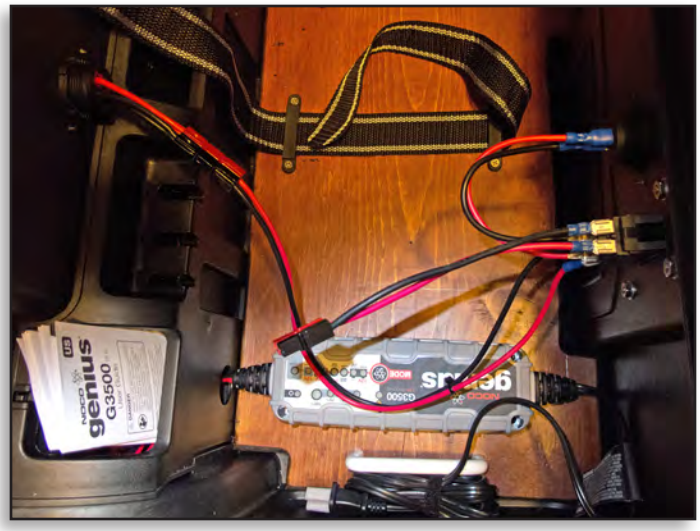


Figure 1Ø: Top view of the second wiring configuration.

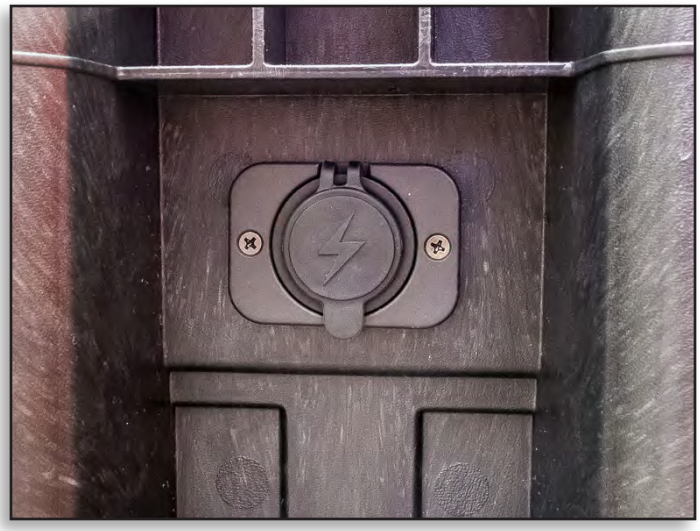

Figure 11: The Powerpole socket relocated to the back of the box.


Figure 12: Main power switch and voltmeter that replaced the Powerpole socket on the front of the box.

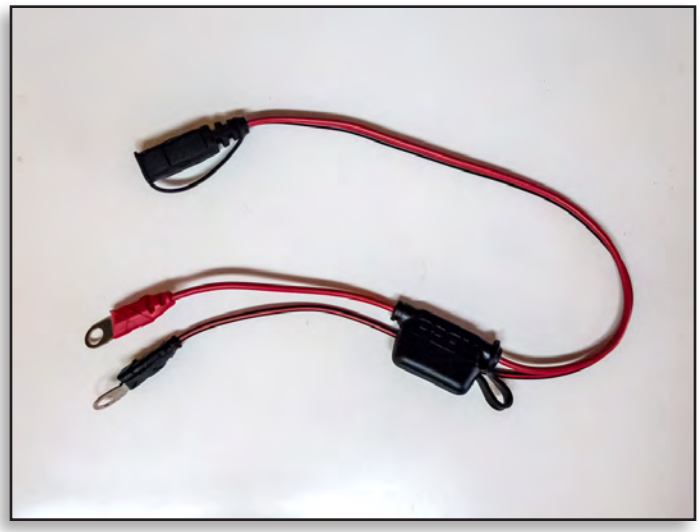

FIGURE 13: The fused cable for the battery charger. This is as it came from the manufacturer. There is also another interchangeable cord with alligator clips.

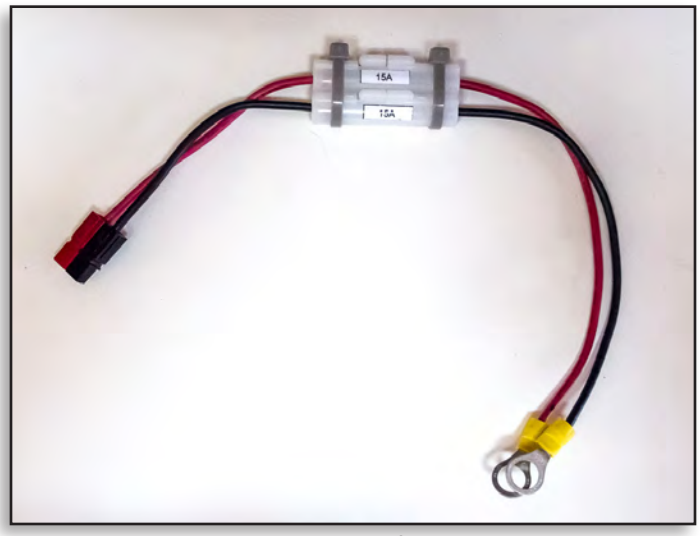


FIGURE 14: The main power cord from the battery. This was made from an OEM cable from a Yaesu mobile radio.

## Should U.S. ham tests be given abroad?

By Dan Romanchik, KB6NU

A couple of weeks ago, I received an e-mail from a reader who wanted my opinion about a thread on the HamRadioHelpGroup mailing list. The e-mail that started the discussion was a message from an American living in Italy who wanted to take the Technician Class exam. In her e-mail, she told of her troubles finding a test session, and then when she did find one, what she perceived as "irregularities" in the testing process. Reading the thread was a little disconcerting, and I blogged about this issue (http://www.kb6nu.com/u-s-amateur-radio-license-exams-given-outside-u-s/).

I understand why foreign national go to the trouble of taking the U.S. license exam. Some of them even buy my study guides. About a year ago, for example, I swapped some e-mail with a guy from Malaysia about why he purchased my study guide and why he wanted a U.S. license. He said that it was because a neighboring country offered reciprocal operating privileges to U.S. licensees, but not Malaysian licensees! He mentioned that he tested for the license in Thailand.

Basically, my Malaysian friend was using the U.S. licensing process to circumvent the Malaysian licensing process. Australians seem to do this, too. Apparently, according to one of the VKs who commented on the thread, getting a U.S. Tech license is easier than testing for an Australian Foundation license. So, some Australians get a U.S. Tech license first, then get the Australian government to issue them a VK Foundation license based on the reciprocal operating agreement between the U.S. and Australia.

Another reason that some outside the U.S. obtain U.S. amateur radio licenses is the challenge. That's the reason Martin Butler, MOMRB/W9ICQ, of ICQPodcast fame, gave when I spoke to him about this recently.

Are these reasons "good enough" to continue this program of licensing non-U.S. citizens? My first reaction was that no, it's not good enough, and I questioned whether or not the ARRL VEC should sanction non-U.S. VEs and whether or not the FCC should even allow testing outside of the United States.

I didn't see the need for conducting these test sessions or the desirability (to the U.S.) of licensing foreign nationals. I reasoned that not only was there a greater possibility of test fraud, this program could lead to foreign authorities claiming that the U.S. was meddling in their affairs.

This post garnered a lot of comments. Several of them took me to task for voicing this opinion and were in favor keeping the current licensing program in place. There were a variety of reasons.

One of the reasons in favor of using the U.S. licensing process is that in many countries, amateur radio license exam sessions are not very frequent. Another is that they often are quite expensive. This creates an artificial barrier to getting an amateur radio license. Using the U.S. licensing system breaks through this barrier and allows many more to enjoy amateur radio.

Of course, for everything to be on the up and up, the foreign authorities would have to condone the use of U.S. license tests. Apparently, this is the case in Thailand and Australia. I don't know about Italy, but I'm guessing that the authorities there don't really care about Italians obtaining U.S. licenses.

Perhaps the best comment came from Thida, HS1ASC/KH6ASC. He noted that the tests in Thailand were administered very strictly, and says, "The U.S. may lose some callsigns, but what the U.S. and U.S. hams get from us is goodwill, very positive feeling. Everyone who gets U.S. license is so proud, and others look at them respectfully." Since Part 97.1(e) lists as one of the purposes of amateur radio, "Continuation and extension of the amateur's unique ability to enhance international goodwill," I'm now all in favor of offering U.S. ham tests abroad.

# 5…4…3…2…1: Readability Reports

By Dan Romanchik, KB6NU

I'm big on Twitter. It connects me to a lot of interesting amateur radio operators, and I find a lot of food for thought there. Yesterday, I saw the following Tweet:

Charlie, MOPZT, @MOPZT Blog updated: RST and Speed Matters http://www.mØpzt.com/blog/rst-and-speed-matters/ #hamradio

Being a CW geek, of course I was interested. Charlie's point is that if you get a bad report, you probably should send more slowly. I certainly have no argument with that. What I do take a little bit of an issue with is that Charlie says, "A Readability 4 report should really make it known that information needs to be brief, but repeated – Certainly no ANT/RIG/WX waffle!"

According to most sources, Readability 4 means, "Readable with practically no difficulty." When I receive an R4 report, I might slow down a little, but it doesn't mean to me that I have to cut the contact short or repeat information over and over. I replied on Twitter that if the operator at the receiving station is having so much trouble copying, then the report should probably be 319 or even 219.

Of course, RST reports are open to interpretation. With that in mind, I thought I'd explain a little more fully how I decide what Readability report to give:

R5: Perfectly readable. To me, this means that copying a signal is no work at all, and that it sounds like it's coming out of a code practice oscillator. I can put my feet up on the desk or putter around the shack while I'm ragchewing with the other operator.

R4: Readable with practically no difficulty. "Practically no difficulty" is the key phrase here. There may be some QRN or QSB on this signal, and I have to pay some attention while copying. An R4 is still solid copy, though, and ragchewing is definitely possible.

R3: Readable with considerable difficulty. A signal that rates an R3 needs my full attention. I have to work at copying the signal, and even then, might miss characters here and there. Even though I don't copy every single character, I'm able to fill in the gaps. An R3 signal might not be good enough for a ragchew, and repeating information is probably a good idea.

R2: Barely readable, occasional words distinguishable. A signal that rates an R2 is usually so weak that it's below the noise level or drops below the noise level occasionally. At this level, the contact will definitely be brief and any important information, such as the callsign needs to be repeated.

R1: Unreadable. Generally, I would never give out this report, as I would never attempt making contact if a signal was truly unreadable.

Although my explanations above reflect the fact that I'm primarily a CW operator, I think they also apply to phone or even digital contacts. For example, an R5 for a phone contact would mean that the signal sounds like it could be coming from just down the street or coming through the local repeater.

What do you think? How do you decide what Readability report to give?