Sidebands

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

W2EGB

Happy Holidays!

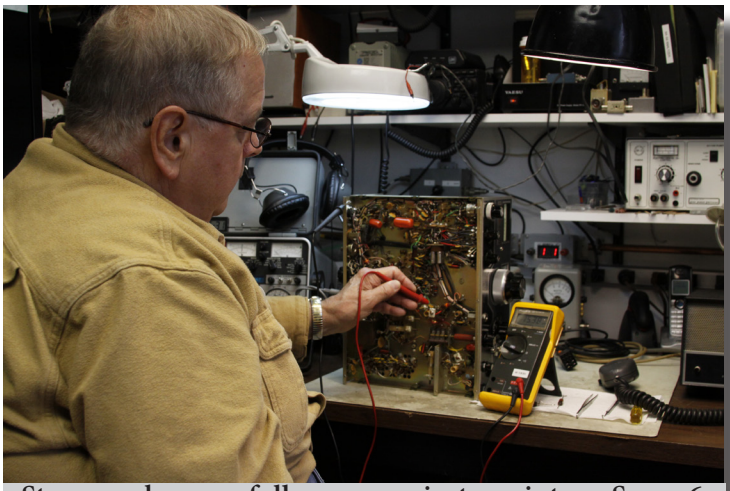
December 2016

President - Tom Scorsone, KC2FCP
Vice-President - Ridge Macdonald, KB2HWL
Secretary - Russ Greenman, WB2LXC
Treasurer & Newsletter Editor - Bryan Jackson, W2RBJ

Breathing New Life into a Piece of Classic Gear

By Steve VanSickle, WB2HPR

One of the last US producers of ham radios, Swan Electronics was headquartered in Oceanside, California. Swan's merger with Cubic Corporation occurred in the early '70s, and they eventually folded following the end of the great CB radio boom. The company history is well documented and can be found online at: ***https://en.wikipedia.org/wiki/Swan_Electronics***.



Steve works on a follow up project, a vintage Swan 6 meter rig. Finding and restoring classic gear has been his life-long hobby and passion.

One of their last ham radio transceivers was the Model 700CX, a table-top SSB and CW transceiver rated at 700 watts input power. Using vacuum tube technology, it offered complete coverage of all HF amateur bands from 80 through 10 meters.

The power supply was constructed in a separate cabinet, complementing the styling of the main transceiver chassis. The power supply employed solid state technology, as did the VFO of the main unit. Using a transistorized VFO allowed very good frequency stability. Overall, Swan made good, reliable ham equipment.

One of these nice old radios recently came across my work bench, and I brought it back to life. I began by performing a complete physical inspection and thorough cleaning. The tubes were tested – resulting in having to replace several (yes, you can still purchase most vacuum tubes!) Next, the separate power supply was likewise inspected, and I found that all of the electrolytic filter capacitors had leaked inside the chassis and had to be replaced. Luckily, a local electronic parts distributor (Trojan Electronics in Troy, NY) was able to supply many of the needed repair parts, as well as the various chemicals used to de-oxidize and restore integrity to the electrical contacts, variable resistors, and switches.

After all the repairs were finished, a complete re-alignment was performed, following the Swan procedure as documented in the equipment manual. I was fortunate to have the original manuals for the '700cx, but schematic information for this and many other old "boat anchor" and classic radios can be found on the web at: ***http://bama.edebris.com/manuals/***.

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In This Issue

Save the Date! Next EGARA Monthly Meeting & Holiday Party is December 14th!

The restored SWAN 700cx. An old classic comes back to life following a complete inspection, tear down and overhaul... plus some TLC.

Following alignment, the moment of truth arrived – power-up and testing.

The unit worked flawlessly, including the transistorized accessory VOX unit and the external auxiliary crystal oscillator.

To give the restoration its final touch, the outer cabinets were re-painted with a classic black wrinkle finish to complete the restoration.

With its matching Shure desk microphone connected, the result was the 700cx performing to the published specifications and many complimentary over-the-air signal reports.

My next goal is to find this restored rig a good home, as my own collection has left me little room for any new additions. And now on to the next project...

Steve in his shack at his home in Troy. First licensed as a Novice in 1963, he has built much of his own gear over the years.

About the Author - Steve VanSickle, WB2HPR

Steve first became a newly licensed novice in 1963. He built much of his own equipment and always enjoyed home brewing and CW. He still operates his novice station and likes "pounding brass." He is a member of the Quarter Century Wireless Association (QCWA).

Steve retired in April 2007 from GE Silicones (now Momentive Performance Materials) where he worked as an electronics technician, maintaining 2-way radios and other communication systems for over two decades.

He has been located at his Troy QTH since 1976, using various antennas and equipment to talk locally or chase DX on occasion. He also enjoys working HF from his car (even CW!). Steve says: "The greatest thing about our hobby is there is never a boring moment, always something new to learn, and a chance to help others. Hope to talk to you soon!"

Planning a Restoration Project? Here's Some Handy Tips!

Restoring a classic piece of ham gear -- or repairing a newer piece of gear in your shack that has gone south -- can be both educational and rewarding. But there's definitely some do's and don'ts to follow to ensure your best chance of success.

The most important first step is: ***DON'T TURN ANYTHING ON JUST TO SEE IF IT WORKS!*** Doing so is simply an invitation to disaster. Chances are there will be components that have gone bad and applying power may take out other parts that are still good. In severe cases, you may even do irreparable damage and kill your chances of restoration before you begin.

Instead, your first step should be to do a detailed visual inspection. This includes looking for leaking or bulging capacitors, burned resistors and loose connections. Check switches and dials to see if they move freely and assume any vacuum tubes you find will need to be replaced. At the very least, they will need to be tested.

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EGARA congratulates member Peggy Donnelly, KD2LMU, for passing her Amateur Extra Exam!

Handy Restoration Tips

(continued from page 2)

A visual inspection should be step 1 -- *before applying power!* You will often find bad components like leaking capacitors, burned resistors, and even loose connections. Assume any vacuum tubes will need to be replaced.

Next, before any disassembly, carefully document the unit you're working on. A digital camera can be a lifesaver when it comes time to put everything back together. It's better not to rely on your memory.

It's also important to get as much information as possible before getting to work. A schematic and any service bulletins are essential and will help you determine if any previous modifications have been made. It will also help you confirm the values of capacitors, resistors, tubes, transistors, coils, chokes and other components. If you don't have a schematic, a search of the Internet will often get you what you need. Same thing goes if you need a user's manual. Many times you can also find other helpful information about your restoration project, including tips and potential pitfalls.

If you find yourself in difficulty, consider checking with a club Elmer. Many of them have been involved in restoration projects of their own and they can often provide a wealth of information and guidance. Best of all, their in-depth knowledge is usually readily available and -- best of all -- free.

Finally, take your time. And check your work thoroughly ***before*** powering up. Patience is a virtue and a well thought out plan will help make your restoration both productive and fun.

A Restoration Checklist

Thinking of restoring a vintage piece of ham radio gear? Use this handy checklist to help you get it done:

Step 1 – Disassemble, inspect, and clean

- ***DO NOT APPLY POWER TO "SEE IF IT WORKS"***
- Make a careful visual inspection of all components and connections FIRST. Check for leaking capacitors, burned resistors, arcing and damaged components;
- Do your homework. Check the Internet to find hints, pitfalls, tips, etc;
- Get a manual and service bulletins (search the web);
- Carefully document disassembly so you can correctly reassemble. Use a digital camera to take pictures;
- Look for and repair physical defects, e.g. broken connections, corrosion, evidence of arcing, etc;
- Free-up switches and controls;
- Use safe cleaning techniques for electronics;

Step 3 – Plan, repair, and consider modifications

- List needed repairs, parts and prioritize work;
- Explore various sources for parts -- Antique Electronics Supply, Hosfelt, Mouser, Digikey, etc;
- Consider replacing all electrolytic capacitors - definitely replace any with leaks;
- Test all tubes and replace weak or failing ones;
- Make modifications (if any) -- search the web for ideas and consider "solid state" replacements to reduce heat and increase reliability;

Step 2 – Reassemble, test and align

- Insure everything goes back together in the right place and order;
- Check and recheck your work;
- Review and follow the operating instructions BEFORE applying power (especially transmitters);
- Bring up AC slowly… preferably using a Variac;
- Align all electronic sections (especially receivers);
- Test operate - use lowest power possible on transmitters until confident of operation!

EGARA November Board Meeting Minutes

The monthly meeting of the EGARA was called to order on Wednesday, November 9th at 7:30 PM by President Tom Scorsone, KC2FCP. The minutes of the previous meeting were not read, since formal business was not conducted at the EGARA Oktoberfest. Dues will be collected beginning January 2017. They remain at $15 for an individual or $25 for a family membership. In addition, nominations are now being sought for the annual election of officers and the board of directors, which will be held at the April meeting.

Announcements by VP Ridge Macdonald, KB2HWL, included the Christmas party at Mosciatello's at 6 pm on December 14th. A sign-up sheet for the Christmas party was circulated. As the restaurant will need a head count prior to the party, reservations will be required of all members who plan to attend. The deadline to sign up is December 7th and reservations should be emailed to Ridge MacDonald at: **kb2hwl@gmail.com**. Members will be responsible for their own dinners and beverages. Tickets for the annual holiday radio raffle are also available. The lucky ticket will be drawn at the Christmas party.

EGARA's January meeting will feature an antenna building party. The February meeting will feature guest speaker Gerry Murray, who will present a program detailing the history of ham radio licensing, from past and present.

Ridge stressed the importance of participation in ARES/RACES emergency communications as a way to help prevent amateur radio frequencies from being reassigned to other users. He recommended club members consider taking the Emergency Communications EC001 course, which is planned for spring of 2017. Details will be made when available. Also, it has been determined that the volunteers' time has been valued at $23.56 per hour. The club agreed to promote listings of various public service events so members can participate.

Recent HOA antenna legislation was briefly discussed, with credit to ARRL representative Mike Lisenco for his efforts to ensure bill passage.

EGARA's newest member, Peggy Donnelly, KD2LMU, was recognized for recently passing the Extra Class exam. Several members also attended an ARRL luncheon to honor Lee Hatfield as "Ham of the Year" in the Hudson Valley Division.

The monthly raffle included many tools, as well as a Butterball turkey (won by Bryan Jackson). Bill Leue demonstrated a take-down ground plane antenna which he designed and machined for portable use at the various RACES and public service events. In addition. the recently restored classic SWAN 700 transceiver (featured in this newsletter) was on display with all of its accessories.

A soldering seminar was led by Steve VanSickle, demonstrating various tools and techniques. Members were encouraged to try their hand at soldering wires and capacitors.

Refreshments were on hand for all in attendance. The meeting was closed at 9:30 PM.

--de Steve VanSickle, WB2HPR

Don't Miss the EGARA Holiday Party!

Join your fellow EGARA members for an evening of holiday fun at Moscatiello's Restaurant, Route 4 in Troy on December 14th at 6 pm! Dual band HT radio raffle and more! Email your RSVP to Ridge Macdonald by 12/7 at: **kb2hwl@gmail.com.**

Quick Fact

25 **The total number of FCC enforcement actions taken against amateur radio operators since 2011.**

Violations included interference, use of unauthorized frequencies and transmitting music over the air. (Source: FCC)

A Ham's Guide to Successful Soldering

Sooner or later, every ham finds a need to do some soldering. Maybe it's because a piece of equipment needs repair or perhaps there's an electronic project you've decided to build to enhance your shack. Regardless of the reason, you'll want to make sure you do it right. At the November meeting of EGARA, a workshop on soldering was held and we're passing along some tips and information in case you missed it -- or want a quick refresher on what it covered.

Unfortunately, many of us think we know how to solder correctly, but don't realize there's more to it than just heating things up and applying a bunch of solder. As a result, we can do a great deal of damage that's leaves us with an expensive mess -- and maybe even ruined gear.

Safety First

As you prepare for soldering, there are several safety considerations that you should be aware of. When you finish soldering, unplug the iron so it will be cool when you want to clean up and put it away. Leaving a soldering iron plugged in once you are done using it invites forgetfulness. A hot iron can start fires and can burn curious fingers.

Most solder contains a high percentage of lead. Dispose of used solder and desoldering braid. Keep all solder substances out of the reach of children and pets. It is also a good idea to get in the habit of washing your hands after handling solder.

Secure the item to be worked on. For example, put circuit boards on a stable work surface or in a vise – don't try soldering on your lap!

Soldering irons come in many styles and heat ranges. A 25 to 40 watt iron does most jobs.

Choose the right tools

A fine-tipped, 25 to 40 watt soldering iron and rosin core solder will usually do the trick for most jobs. You don't need to get anything too fancy to get good results, but if you are going to use a soldering iron more than a couple of times it is worthwhile getting something half decent. There are lots of so called cheap 'temperature controlled' soldering irons on the market these days. Most of these are not really temperature controlled at all, but just have a knob you turn which reduces the heat of the iron. A real temp controlled iron will set you back a couple hundred bucks for a decent one, but do you really need an 'adjustable' iron?

Flux is your friend

Electronic solder is made as a tube, with rosin flux in the center. Most is 60% tin, 40% lead. There are other recipes but this is probably the most common, You can get it in different diameters and use what you prefer. The 0.56mm thin size is good for most work. There is also thicker solder for larger jobs, but the thinner stuff can work for everything if you just want to buy just one size. You may also want to wrap a length of solder around the iron's cord for easy access for those quick jobs.

Things that get hot tend to oxidize. Metal will oxidize quickly when heated to the 700-degree F temperature required to melt solder and solder will not adhere to oxidized metal. Solder will also rapidly oxidize while molten. Once solder has oxidized, it does not melt and flow, but resembles a paste instead. This is where flux comes in. There are many different types of flux available separately to accomplish specific jobs. Brass model-building, jewelry work or plumbing tasks all utilize a different type of flux that can be damaging to delicate electronics and circuit board work. Make sure to get the flux that is designed for electronics only.

When applied to a hot solder connection, flux first flows over the work and tip, then begins to burn, normally without flame. As the flux burns, or oxidizes, it removes oxygen from the metal, as well as the air in contact with the connection. This allows the solder to lock into the molecules of the metal, rather than resting on the oxide coating.

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Join the Nightly Ragchew

EGARA members are invited to join the club's 80 meter ragchew every weeknight at 6 pm on 8430 khz.

It's a great way to catch up on club news and events, as well as keeping in touch with other club members. Tune in!

Five Steps to Successful Soldering

1. Plug in the iron and rest it in its holder. If it does not have a holder, make one from something that will not burn, but preferably not metal, which will lower the iron's temperature. Ceramic tile can work well.
2. When the iron is hot, wipe the tip on a steel or brass cleaning pad (a wet sponge will lower the temperatre of the tip), then "tin" the tip with a small amount of solder. A metal tray is handy to catch any excess solder you may need to fling off.
3. Heat the work, not the solder. As the iron touches the work, dab a bit of solder on the tip – this is a a two-handed operation! This helps to heat the part quickly so that the solder will flow nicely. Then shift the solder to the part and flow it in. Solder flows toward the heat source.


Ridge Macdonald tries his hand soldering components together during the workshop

4. Let things cool for a few seconds being careful not to move the connection while it cools. Then examine your work. The solder should be smooth and shiny, not dull and gray. It should look more like a smear, not a puddle. Where a wire enters solder, the solder should taper up to the wire. There should not be a doughnut hole full of flux.
5. Clean up the board with flux remover and a cotton swabs with wooden sticks rather than plastic as the flux remover may melt some plastic materials. Flux that remains (a brownish color) can allow mold to grow and damage circuit boards.

Using Heat Sinks on Delicate Components

Most components are designed to withstand the sustained heat of wave soldering circuit boards. However, if you are unsure, or if the parts are really, really expensive, you might want to use a heat sink on the part while soldering. A pair of hemostats, or even a stray alligator clip will work well. Of course, you can also use your trusty needle-nose pliers. Just keep whatever you use close to the component, or you won't be able to get the connection hot enough to melt the solder.

Desoldering

Oops! Ok, so you used the wrong part, soldered in the wrong place, or need to replace a broken part. This requires desoldering. Here, practice makes perfect. Keep old projects and circuit boards for practice pieces and as a source for practice parts.

Usually heating the leads and pulling them out of the board one at a time is good enough. A touch of solder on the iron often helps, but parts with multiple leads or legs can be tricky. This is where desoldering braid can come in handy. Desoldering braid is a copper braid with flux worked into it (sometimes known as solder wick). Usually the braid is placed on the connection with the iron then applied to it. Often a touch of solder will help get things going. Once enough solder is removed, you can often use a gentle pressure with small pliers to loosen the lead. A touch of liquid flux before heat is applied can also help.

Desoldering braid is also useful for removing solder from the holes in a circuit board so that parts may be inserted. This is common when replacing broken parts. Just be careful not to damage the copper traces when working on circuit boards.

The Solder Sucker

Another useful desoldering device is the "solder sucker." Basically, a solder sucker is a syringe, with a spring and a trigger. The plunger is depressed to the lock position. A little fresh solder will provide flux to keep things molten. The Teflon tip is then held in proximity to the heated solder connection. When the trigger is pressed, the spring pulls the plunger outward, causing a vacuum, which inhales the molten solder. The solder sucker requires a bit of practice to nail down your technique. Positioning of the tip and compensating for the recoil of the spring are both important, as is deciding when the solder is just hot enough to flow well. Occasionally, the unit should be disassembled and cleaned. The seals should be greased with silicone grease and the tip will occasionally require replacement.

Another useful tool when soldering and desoldering is a little bottle of liquid solder flux. Liquid solder flux lets you cheat on one important aspect of soldering. For example, tinning a wire requires holding the wire, the iron and the solder. A brush of flux on the wire will allow you to tin it with a bit of solder hanging from the iron, thus freeing up that third hand. The results can be impressive.

On the Beam
News & Notes

Rule Making Petition to FCC Calls for Vanity Call Sign Rule Changes

The FCC is inviting comments on a Petition for Rule Making (RM-11775) from a Nevada radio amateur that seeks changes to the rules governing the Amateur Radio Vanity Call Sign Program.

Christopher LaRue, W4ADL, of North Las Vegas, is proposing that any licensee obtaining a vanity call sign be required to keep it for the full license term. LaRue contends in his petition that excessive and frequent vanity call sign filings are hampering the ability of other qualified licensees to obtain vanity call signs in one of the more desirable 1 × 2 or 2 × 1 formats.

LaRue said that since the FCC dropped the fee to file for a vanity call sign, some applicants are taking advantage by regularly obtaining new call signs, thereby keeping them out of circulation.

"Some are changing call signs almost monthly, just to keep the newer code-free Extra class operators from obtaining a shorter call sign," he said in his petition. "I even saw an older operator that said he does it all the time and has not even owned a radio in over 6 years. When I looked him up, he has had 16 different [call signs] in 18 months."

LaRue said his proposed minor rule change would require any licensee applying for and obtaining an Amateur Radio vanity call sign "be required to keep it for the duration of the license, which is currently 10 years."

He said this would "alleviate a lot of the stress on the ULS system and manpower requirements" at the FCC. "It will also keep inactive amateurs from changing call signs regularly, thereby tying up call signs for 2 years after dismissal of said call."

Interested parties may comment using the FCC Electronic Comment Filing System (ECFS). Comments are due within 30 days of the October 26th posting date.

Broadcasters, Jammers Wreak Havoc on Amateur Radio Frequencies

The battle continues between Radio Eritrea (Voice of the Broad Masses) and Radio Ethiopia, which is reported to be jamming the Eritrean broadcaster with broadband white noise. The problem for radio amateurs is that the battle is taking place in the 40-meter phone band -- 7.145 and 7.175 MHz -- with the jamming signal reported by the IARU Region 1 Monitoring System (IARUMS) to be 20 kHz wide on each channel.

Radio Eritrea (VOBM) on 7175 kHz is jammed by white noise from Radio Ethiopia -- both operating in A3E (AM) mode. Both carriers, the Radio Eritrea signal modulation, and the white noise of Radio Ethiopia are visible on both sidebands.

The on-air conflict has been going on for years. Ethiopia constructed new transmitting sites in 2008 and is said to use two or three of them for jamming purposes. The interfering signals can be heard in North America after dark. According to IARUMS Region 1 Coordinator Wolf Hadel, DK2OM, Radio Eritrea is airing separate programs on each frequency. He said in the IARUMS September newsletter that telecommunications regulators in Germany, Austria, and Switzerland have been informed, so they could file official complaints.

Other AM broadcast intruders on 40 meters include Radio Hargeisa in Somaliland on 7.120 MHz, which, Hadel said, is even audible in Australia and Japan. He further reports that the Voice of Iran's signal on 7.205 MHz is splattering up to 5 kHz on either side of its channel, while Radio France International, which operates on the same frequency, is splattering down to 7.185 MHz.

Celebrating Your Club's Elmers Might Encourage Others

By Dan Romanchik, KB6NU

Sam, W5KF, recently sent me a link to the Elmers' page on the Norman, OK South Canadian Amateur Radio Society (SCARS) website. Not only is it a listing of the club members who have stepped forward to Elmer new members, but also provides ways to honor current and past Elmers. This is from the SCARS newsletter:

"Elmer List on the W5NOR.org website

"This week we talk about a brand new feature on the W5NOR web site. In the amateur radio community, an experienced amateur radio operator who mentors a new or prospective ham is commonly called an "Elmer". In our hobby, that seems to be a great way for knowledge to be transferred.

"Yes, we all have taken an FCC test to receive our license, however that's only the starting point. Remember that person that helped you set up your first radio, or gave you the courage to press the PTT button, or answered endless questions about a radio, or an antenna? That's the kind of thing we're talking about.

"Thanks to a great suggestion from Gary Skaggs WB5ULK [not sure it was my idea. – Editor], we've created the SCARS Elmer Page, located at http://w5nor.org/elmers, for us to celebrate Elmers; past, present, and future. We provide a place for Elmers to list their specialty, and contact information, which allows new hams to find someone they can ask questions of.

"Since this is a new section of the web site, this list is rather short. If you're willing to help others on a given topic, send a message to n5hzr@arrl.net and you will be added to the list. Right now we need lots of different categories, like antennas, radio setup, HT programming, contesting, satellite operation, high power operation, test gear, building your own gear, repairing radios, APRS, D-Star, DMR, CW, logging, etc. oh well, you get the idea.

"You don't need a PhD to be listed here. You just need a willingness to help others in a given area. It's OK to be a new ham, and be listed here. You may have just struggled through your first space contact, but you'll have infinitely more knowledge than the person who's been a ham for 40 years, and has never tried that portion of the hobby.

"Also, there is a link to the "ARRL Elmer Award" page of the American Radio Relay League's web site. Here, you can enter your favorite Elmer's name and callsign. The ARRL will print a nice certificate, and mail it to the address you enter. Yes, for FREE! This certificate can either be mailed to your favorite Elmer, or you can mail it to yourself so you can present it to them personally. Feel free to order an Elmer certificate, and present it to your Elmer at an upcoming SCARS meeting. Talk with one of the officers before the meeting to get your place on the agenda. What a great way to recognize these people for their extra efforts.

"Finally, we've got a place to list YOUR favorite Elmer in our SCARS Elmer Hall-of-Fame. This is the place to memorialize your Elmer, whether they are SCARS members, Silent Keys, or not. I've already listed a few Elmers on the list from my own travels through the hobby. We'd love to list the people that help us all succeed.

"So, please help make this page useful, visit the SCARS Elmer page at: http://w5nor.org/elmers and be listed as an Elmer, and list your favorite Elmers."

I think this is a wonderful idea, and I hope that you will consider doing something similar in your club. A little recognition could go a long way, and we need all the Elmers we can muster. And, if you're already doing this, please send me a link. I'll add that link to my website, KB6NU.Com. Contact me by e-mailing cwgeek@kb6nu.com.

Don't Forget!* The EGARA Holiday Party is December 14th! *RSVP Now!

A Ham's Night Before Christmas

'Twas the night before Christmas,
And all through two-meters,
Not a signal was keying up
Any East Greenbush repeaters.

The antennas reached up
From the tower, quite high,
To catch the weak signals
That bounced from the sky.

The children, the Techies,
Took their HT's to bed,
And dreamed of the day
They'd be Extras instead.

Mom put on her headphones,
I plugged in the key,
And we tuned 40 meters
For that rare ZK3.

When the meter was pegged
by a signal with power!
It smoked a small diode,
and, I swear, shook the tower!

Mom yanked off her phones,
But all she could say
Is that this newly found signal
Could not be far away,

So I ran to the window
And peered up at the sky,
To see what could generate
RF that was so high.

It was still in the distance,
But the moon made it gleam -
A flying sleigh, with an
Eight element beam.

And a little old driver
Who looked like baloney.
And I thought for a moment,
That it might be Scoresone!

But no, it was Santa,
The Santa of Hams.
On a mission, this Christmas,
To clean up the bands.

He circled my tower,
Then stopped in his track,
And he slid down the coax
Right into my shack.

A poem by
Gary Pearce, KN4AQ
as adapted by Bryan Jackson, W2RBJ

While Mom and I hid
I thought I should send QTU,
But this Santa of hamming
Knew just what to do.

He ran copper braid,
Took a steel rod and pounded
And once in the Earth,
my station was grounded.

He tightened loose fittings,
Resoldered a connection,
Cranked down modulation,
Even installed lightning protection.

He neutralized tubes
In my linear amp...
(Never worked right before-
now it works like a champ).

Then, he reached really deep
in the bag that he brought,
and he pulled out a big box.
A new rig's what I thought!

A new Kenwood? An Icom?
A Yaesu, for me?!
(If he thought I'd been bad
I might get QRP!)

Yes! The Ultimate Station!
How could I deserve this?
Could it be all those hours
I worked public service?

He made final adjustments,
And left a card by the key:
"Merry Christmas, from Santa Claus.
And Seventy-Three."

I ran back to the station,
And the pile-up was big,
But a call from St. Nick
would be worth my new rig.

Oh, too late, for his final
came over the air.
it was copied all over!
It was heard everywhere!

The Ham's Santa exclaimed
what each ham expects,
"Merry Christmas to all,
And to all, good DX!"

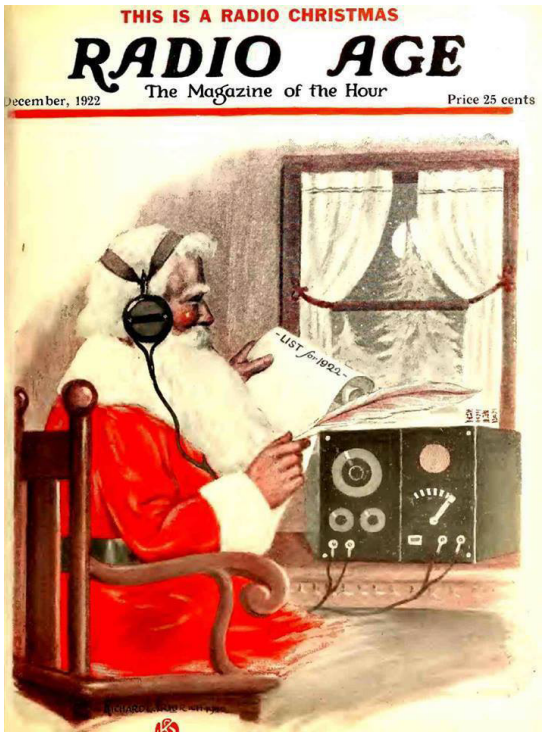
CALENDAR

December 11, 2016 -VE Exam Session - Capital Area Radio Enthusiasts, Shaker Road Fire Department 550 Albany Shaker Rd. Time: 11:00 AM (Walk-ins allowed)

December 14, 2016 - EGARA Meeting & Holiday Party, Moscatiello's Restaurant at 99 North Greenbush Road (Route 4) in Troy. ***RSVP by 12/7/16*** to Ridge: **kb2hwl@gmail.com**

January 7, 2017 - EGARA VE Session - East Greenbush Library at 10 am.

May 13, 2017 - EGARA Hamfest 2017 - East Greenbush Fire Deptartment



Pro Tip: Safer Troubleshooting

Has it happened to you - you're troubleshooting a powered-on board with your multimeter and the probe slips... ZAP! Noooo! Burnt components and magical smoke everywhere!

Use the heatshrink tubing in your parts bin to insulate everything but the very tip of your meter probes. Unless you're pushing your probes into electrical outlets there's really no reason for that much metal to be exposed.

This won't prevent every probe slip accident but it will surely reduce them. A small investment of your time beats the heck out of tracing which parts you destroyed and then trying to source replacements.

For Sale

- ***Heathkit Antenna Tuner Model - SA-2060A*** -- $ 300;
- ***Heathkit Sine-Square Audio Generator Model Ig-5218*** -- $35;
- ***Heathkit Im-28 Vacuum Tube Voltmeter*** -- $35;

For above items, contact Tom Scorsone by e-mail at: ***kc2fcp@nycap.rr.com***.

- ***Swan 700 CX*** - complete with matching 117v power supply, desk mic, optional VOX and external crystal oscillator. Completely refurbished, restored and tested - $500
- ***Ameritron Model Al-811H*** – Linear amplifier uses (4) 811's – with manual – great condition - $700 obo;
- ***Kenwood Ts-480 Hf Rig*** – 200 w PEP output, w/manual, cable, and microphone – like new - $800 obo;

For above items, contact: Steve WB2HPR at ***326-0902***.

Looking to Buy, Sell or Swap?
Send your info to W2RBJ@outlook.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, SK and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to the amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.