

THE KEY

Official Journal of The Riverland Amateur Radio Club



The Riverland Amateur Radio Club is a Special Service Club affiliated with the American Radio Relay League. The club is active in community service as well as actively promoting Amateur Radio in the Coulee Region. The Club is open to all who are interested in Amateur Radio and will help unlicensed persons become licenses thru the FCC.

**Riverland
Amateur Radio
Club**
P.O. Box 621
Onalaska, WI.
54636

Repeater
146.970 PL 131.8

RARC Net
8:00 PM Sunday
night on the
146.970 Repeater

Club Meetings
Trustee Meeting
3rd Monday of the
month at King
Street Kitchen at
5:00 PM, all club
members are
welcome.

Program evening is
1st Tuesday of the
month at 7:00 PM,
Gunderson Clinic
conference room 1



W0JDC's 95th Birthday at the OFRG...by Carl Thurston, KC9HDS

Oh yes, it was a bit later than his actual Birth Day (September 3rd), but the OFRG (Old Fart Radio Group) only meets once a month on the third Tuesday of the month at Druggan's Restaurant near Holmen, WI, so we surprised Arthur with a cake commemorating his 95th Birth Day. As is our habit of marking those special dates for our members, we had a very special cake made for him to mark this date. It was a chocolate cake with white frosting and the words "Happy Birthday W0JDC 73+22" and appropriate symbols of radio on the sides including an antenna tower, a microphone, and an "On Air" sign. This cake was specially made for the occasion by the bakers at Linda's Bakery in West Salem. The members of the OFRG pooled together to have it made and presented it after dinner at this month's meeting.

Continued on page 3



Not to long ago I walked into a friends shop and looked around at all the items he had strewn around the room in what I would call a major mess. Off in the corner was my friend sitting almost hidden by the piles of parts and such. He was deep in thought on a project that appeared to be giving him a lot of pleasure as he turned this wrench and tighten that screw. "How can a guy work in this mess" I thought. Then, looking up at a wall littered with various signs and stickers was something that was painted in smooth flowing cursive, *Pursue Your Passion*. Of course, that made sense, this guy was pursuing his passion. In thinking back this is how I always remembered him, deep in thought in the middle of his passion making something that did not work into something that did. He had this one passion and he went after it. He did not wait for it to come to him or to show up at a local club. He *Pursued His Passion* and in doing so learned more and got more enjoyment out of it. I need to do more of that, how about you?



**Riverland Amateur Radio Club
PO Box 621
Onalaska, WI 54650**

President.....Kevin Holcomb, KC9ZGD
Vice-President.....Dan Abts, AB9TS
Secretary.....Rick Kolter, KD9GVS
Treasurer.....Greg Miller, K9LEC
Trustee.....Carl Thurston, KC9HDS
Trustee.....Roger Reader, KA9BKK
Trustee.....Bill Wood, KE9XQ
Newsletter Editor.....Greg Miller, K9LEC

The Key is published monthly and e-mailed to members and friends of the Riverland Amateur Radio Club. Address any correspondence to: Greg Miller at k9lec@arrl.net.

Visit our website at rarc.qth.com



Only one testing date remaining for 2018 for any new licenses or up grades.

November 10

Register 5 days in advance with Roger Reader, KA9BKK, 608-783-0723 or readers@centurtytel.net.

THINGS TO REMEMBER

September 30...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is Mark, kb9ofk.

October 4...Program night, Kevin, kc9zgd, discussion on analog vs. digital and Florida vacation.

October 7...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is David, kd9epn.

October 14...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is Greg, k9lec.

October 17...Trustee Meeting at King Street Kitchen, 5 PM, club members are welcome.

October 21...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is Carl, kc9hds.

October 28...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is Rick, kd9gvs.

November 4...Sunday Night net on the 146.97 repeater at 8:00 PM. Net control is Kevin, kc9zgd.

As is usually the case when ever Arthur has been pointed out for his achievements, he told us that we shouldn't have made such a fuss, but we couldn't help ourselves as it isn't often that one of our members reaches such a mile stone as 95 years. Besides, Arthur is a Ham who is always there at every event, the first to come, and the last to leave, offering his help with anything and to anyone that needs it. A Ham like Arthur comes along so seldom that we just have to express gratitude for his presence among us.

The OFRG is a gathering of Hams who find it most convivial to get together once a month to enjoy each other's company and debate the hot issues of our time in a friendly and entertaining manner. Though this group is not a formally organized bunch, we felt that it was necessary for us to meet, so it was started as an out growth of a previous Executive Board meeting of the RARC. When the time came for other Hams to step up to being on the Executive Board of the RARC, the out going Board decided to continue to meet on a monthly basis, since we all enjoyed this getting together so much. This gathering is open to all Hams, but we seldom have anyone else that decides to join us. Oh we have had one or two guests over the years, but they were usually family members of one or the other of one of our members who were in town for a visit. We always invite such guests to these events as it tends to enhance the round table discussions that take place there.



It is not usual for us to advertise our events or to even publicize that we even exist, but since we are not a secret organization, and this one time is such a special occasion, it only seemed right to take the time to write about this activity. As always, we had a great time and Arthur was totally surprised by our remembering his Birth Day. It is a rare thing to be able to surprise Arthur as he has experienced so many things in his long and colorful life, but we do try once in a while to put a little excitement in things for him.

For those of you who do not know him, Arthur is a Veteran of WWII, where he was a radio operator on merchant marine ships. He has been a Ham longer than most of us have been alive, and among other things, he is the recipient of the "Ernie Gershon Life Time Achievement Award," an award that was presented to him last year as a small token of appreciation for his many years of service to the Ham community. When ever there is an event scheduled, Arthur is there. His sage comments and advice is welcomed by all and his humor is particularly good all of the time.

We felt that this was a good opportunity to present him with a cake and our fervent appreciation for is continued presence in the RARC, our OFRG gathering, and our entire Ham community. He stands as an example to us all as to what Ham should be. A friend to all and a very special Elmer to many, Arthur, we salute you and thank you for showing us the way. Happy 95th Birthday!



It's Time to Retire...by Carl Thurston, KC9HDS

It has been said that "All good things come to an end." So it is with Radio City in Mounds View, MN. Dan and Maline Fish have owned and operated that store for 36 years and they feel that it is time to retire. Can't say that I blame them. After so many years of faithfully serving the Ham community with equipment, repairs, and special sales events they have earned a rest from all of that. Over the last 10 years, I have made it up to that store rather infrequently, averaging only one trip there per year, but this year was an exceptional year for going there. From April to the present, I have made 4 trips up there, and must make at least one more to retrieve two radios that I took there for repairs. With a little luck, I might even make it up there for their farewell party.

For those of you who haven't been there, the Radio City store in Mounds View has catered to the Hams of Minnesota and Wisconsin, as well as other states with a wide variety of not only Amateur Radio equipment and repair service, but also they featured a fine variety of Telescopes used for Astronomical observation as well. Indeed, half of their store is filled with many name brand telescopes of all different price ranges, as well as Weather Stations and miscellaneous connectors, fittings, cables, and manuals for both Amateur Radio Operators and for Astronomy buffs. Their friendly expertise in both fields has been much appreciated by both groups. Dan Fish expressed the hope that someone will step forward and take over the management of Radio City and keep it open for all of the past customers.

Several years ago, I went up there with some other Hams from the RARC to a special event called "Yaesu Days." A Vice President from Yaesu was present to do a presentation and answer questions about Yaesu's line of transceivers and other electronic equipment. Dan and Maline hosted that event in fine fashion and everyone present came away from there greatly impressed with their generosity and friendly service.

Over the years, there have been several Amateur Radio stores that have gone out of business, due to the fact that the internet has made so many inroads into the daily business of sales and service of radio equipment and also due to dwindling interest among many of the members of the Ham community. It is too bad that this is the case, but there it is. Other than on line sources for radio equipment, the Hams in Wisconsin only will have Ham Radio Outlet in Milwaukee for a store to go to to see the latest radios and assorted equipment available and for personalized help with the setting up and operating of Amateur Radios. Its just too bad that radio stores are going the way of the dinosaurs. A lot of good advice and help was usually available at such stores, and that will be missed by all those who remember the hay days of the radio stores. Even the old and stayed Radio Shack stores are a thing of the past. So it is getting harder and harder get good advice about radios and electronics in general. New Hams who don't have an Elmer to rely on will be stuck with going to books or the internet sources for needed help.

The lack of a friendly neighborhood store to help Hams is too bad, so we will have to step up and be more open to the idea of helping each other with technical advice and assistance with setting up radio stations, antennas, and other devices needed for radio use. This sort of situation is not new to many older Hams who remember the days before there were neighborhood Radio Shacks or electronic parts stores to go to for help. So when someone comes to you and asks for your help with the answer to a problem, help finding a needed part, or just a friendly face that is willing to be there for them, don't turn away, the next time it might be you looking for assistance with some project, the answer to a nagging problem, or just a patient and friendly ear to share your concerns. It is too bad that Radio City is closing, but nothing lasts forever.



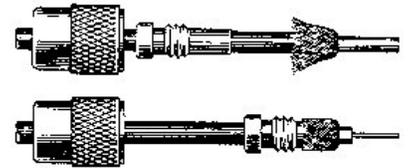
A better way to install PL-259 connectors on RG-8X type coax

Dan Richardson, K6MHE

When installing small coax such as RG-8X in a PL-259 using a reducer have you ever wondered if you were really going to get a good solid connection to the outer braid when you looked in the holes in the PL-259 and saw only one or two flimsy little strands of the shield? Well, here is an unauthorized solution to that problem.

Installing RG-58, 8X and their kin to PL-259 connectors can be a bit of a challenge. No matter how nice a book's assembly diagram (Figure 1) looks and how easy the installation instructions sound my results using those methods never seem to come out the same. The problem for me is getting the shield portion folded back over the reducer. The shield loses its form very quickly when folded back over the larger diameter of the reducer. I tried several approaches to solve this problem such as combing, trimming and arranging the braid very carefully, but when screwed into the PL-259 body the results many times are that only a few strands of shield is visible through the holes of the connector body to solder.

Figure 1 - A typical example illustrating how a reducer is to be installed. Looks easy enough doesn't it?



A GOOD THING TO KNOW

Several years ago I observed an amateur installing PL-259 connectors on RG-8X coax using a unique method that made me wonder why I hadn't thought of it myself. I have been using this procedure ever since obtaining good sound mechanical and electrical connections without ever experiencing a failure of any kind. A good thing should be passed along so here's how it's done.

To begin, let me state that I normally always use silver plated connectors and reducers. They are so much easier to solder to than the slightly less expensive nickel-plated connectors. However, if you are using a reducer that is not silver-plated you will need to tin the end of the reducer prior to installing the cable. To do this use a fine cut file or on a piece of fine emery paper to remove the plating on the end of the reducer (Figure 2) until you can see the bright brass exposed. Next using a large soldering iron tin the end of the reducer where the plating had been removed (Figure 3). Apply just a light flash of solder on this surface. Don't pile it on as it may run down the inside of the reducer and make a mess of things.

Figure 2 - Removing the nickel plating from the end of a reducer. This step should not be used for silver plated reducers.

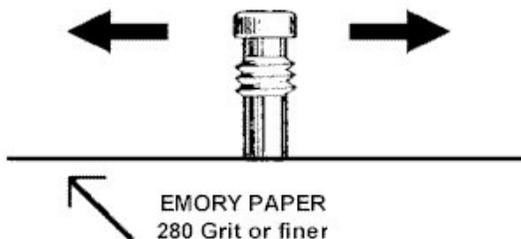
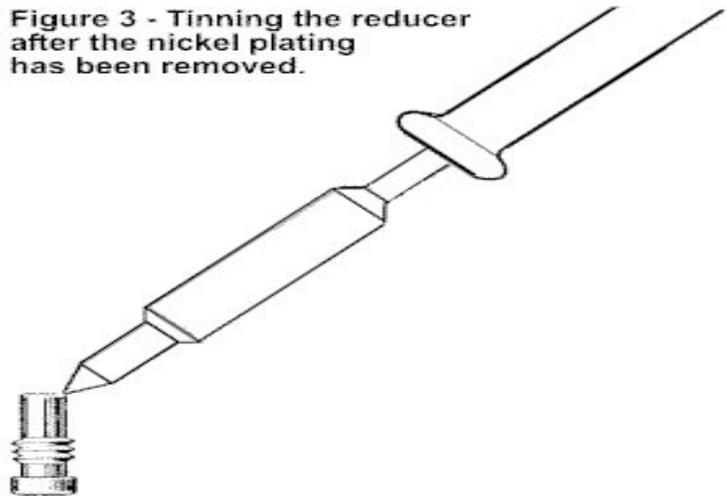


Figure 3 - Tinning the reducer after the nickel plating has been removed.



Prepare the cable by removing the outer jacket and shield as shown in (Figure 4). (Note: The 1/4" dimension shown for the shield's length is approximate. It can be longer as it will be trimmed later during the installation.)

Slip the prepared cable into the reducer so that the end of the outer jacket is even with the reducer's end. Next, fold the braid over the end of the reducer so that the strands are at a right angle (90°) or more (Figure 5).



Figure 4 - Coax cable preparation. The 1/4" braid length is approximate and can be longer - it will be trimmed later.



Figure 5 - Folding the shield braid strands over the end of the reducer.
AN ASIDE:

Note it is very important when soldering connectors onto coaxial cables to use a LARGE SOLDERING IRON - at least 100 -150 watts or better. If you use a small pencil type soldering iron or a soldering gun - even a high wattage type - there simply is not enough mass in the soldering tip to do the job correctly. The idea is to make the solder joint as fast as possible and get away from the connector quickly before the whole thing gets too hot and ruins the cable. You should not allow the soldering iron contact with the connector for more than 2-4 seconds. If your soldering iron is of sufficient size the short time will not be a problem. If you cannot get the solder to flow in that length of time then that's an indication that the iron is not big enough for the job.

NOW BACK TO THE INSTALLATION

At this point I place the coax/reducer assembly into a small tabletop vise so that they are held firmly in a vertical position. Carefully place the tip of soldering iron on the braid (Figure 6). Be careful that you do not allow the tip of the soldering iron to touch and damage the cable's plastic dielectric. The trick is to keep the tip of the soldering iron about 1/8" away from the dielectric and let the solder wick up the braid and fuse to the reducer. Don't pile the solder on. It takes very little solder to make a sound connection. Also, don't try to solder the entire surface at once. I solder about 20-30% of the area, let things cool a bit and then solder another section repeating this until I have completely bonded the braid to the reducer all the way around.

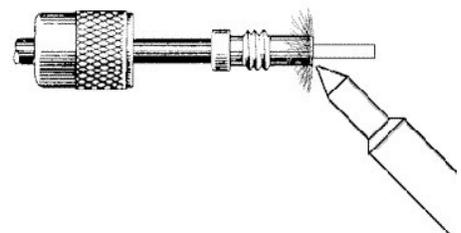


Figure 6 Soldering the braid to the reducer

Allow the assembly to cool and then inspect the dielectric to be sure there isn't any visible damage. If you see that you have accidentally melted or damaged the dielectric just stop at that point; remove the reducer and start over.

Using a sharp flush-cutting diagonal cutter (or heavy-duty cuticle scissors) cut off the remaining excess braid around the reducer (Figure 7). After removing the excess braid I use a small fine cut file to do a final touch-up removing any jagged rough spots.

Next cut and remove the dielectric insulation leaving a portion that extends about 1/32" to 1/16" beyond the end of the reducer as shown in Figure 8. If the coax has a stranded center conductor it should be tinned at this time. Screw the reducer and cable assembly into the PL-259 and tighten well.

Continue by soldering the center conductor to the PL-259's pin in the conventional manner, trimming off the excess conductor and cleaning any flux residue from the pin.

Finally, solder one of the holes in the connector body to assure that the reducer will stay put. I have found that without this important last step, in time, the reducer will loosen.

Conclusion

Using this technique I have no doubt that I have a good electrical and mechanical connection as 100% of the braid is now soldered and bonded rather than just a few strands.

There is concern by some that soldering the braid to the reducer in this manner may damage the cable. While that possibility exists, this method allows you to visually inspect the dielectric for any possible damage prior to installing the reducer/coax assembly into the connector body - something you can't do using the conventional method. I have been using this method for a number of years and I have never had a problem or failure.

Figure 7 - Trimming off excess braid after soldering.

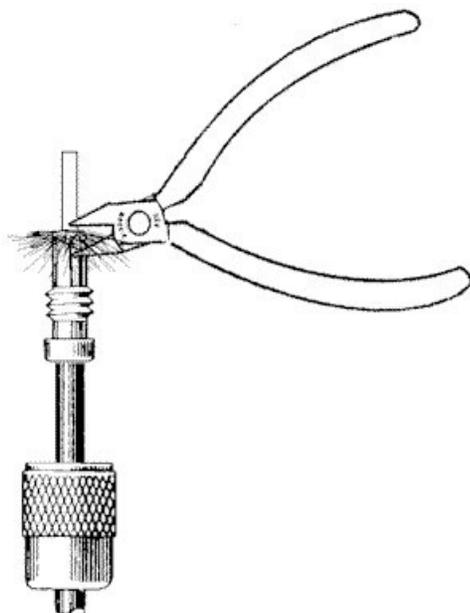
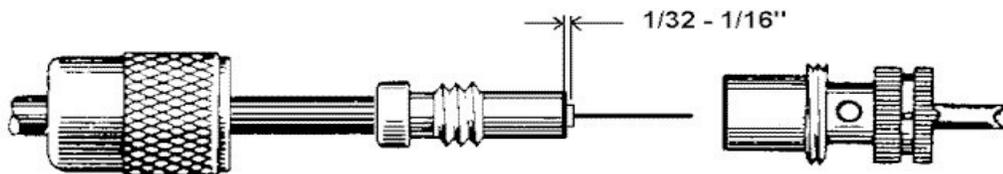


Figure 8 - Coax and reducer ready for final assembly.



Professional installers who have access to specialized tools such as industrial resistance-soldering stations may have better methods utilizing those tools, but for the average Joe Ham (me) who is using a knife, diagonal cutters and soldering iron (of the proper size) this procedure works very well. Try it yourself and see what you think.



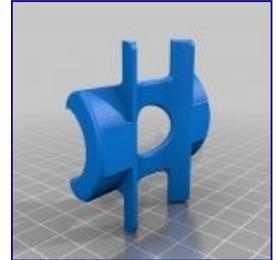
I want to thank Dan Richardson, K6MHE, for allowing me to reprint this article. While cruising the internet I ran across this and thought it would be of interest to all who read "The Key". Dan has a web page with other useful information at <http://k6mhe.com/index.html>.

3D printed parts for ham radio

By Dan Romanchik, KB6NU

One of the things that I keep telling myself that I need to learn how to do is 3D printing. This morning, I ran across a couple more 3D printing projects for ham radio that I thought I'd pass along.

The first I found on reddit: 3D Printed Parts for Portable Tape Measure Yagi Designs (https://www.reddit.com/r/amateurradio/comments/963br3/3d_printed_parts_for_portable_tape_measure_yagi/). The summary on Thingiverse (<https://www.thingiverse.com/thing:3042505>), which is a website where "makers" share their designs, says:



These parts are made for use with 1-in. PVC pipe and 1-in. Harbor Freight tape measure steel. You can use electrical tape to attach the element holders to the side of the pipe, and use the driven element bridge to give structural rigidity across the driven dipole element. I have used this with up to 5 elements on 2m with good success. When not using the antenna, just pinch the elements to remove them from the holders, and store them INSIDE the tube! you can add some end caps to make this ultra portable. Use these parts with any of the multitude of tape measure YAGI design guides online.

Here's a look at an antenna made with these parts:



The element holders are attached to the boom with electrical tape in the photo above. While I haven't tried it, I'd suggest that the antenna might be a bit more robust if you could screw or perhaps glue the holders to the boom.

There are lots of other cool amateur radio 3D printing projects available on Thingiverse (<https://www.thingiverse.com/search?q=ham+radio&dwh=415b6d8da129c3c>). Browsing through the list quickly, here are just two that look like they might be useful to me:

Soldering Fingers (<https://www.thingiverse.com/thing:1725308>). This project looks simple and quick.

μ Bitx Case (<https://www.thingiverse.com/thing:2925336>). I still gotta do something with the μ Bitx I bought. This looks like it might get me started.

Continued on page 8

Finally getting in gear

Last week, I attended a 3D printing class at our local maker space, All Hands Active (allhandsactive.org), and now I feel like I can finally attempt a 3D printing project. I'm thinking about starting out with the simple Soldering Fingers project. If that goes well, I'll try a Raspberry Pic case and finally start using that in the shack. And, while these projects all seem pretty cool, I feel like I'm only scratching the surface.

Have any of you 3D printed anything cool for your ham radio projects? Is there another source of designs for ham radio 3D printed stuff besides Thingiverse?

When he's not 3D printing enclosures for his ham radio projects, Dan blogs about amateur radio, writes exam study guides (www.kb6nu.com/study-guides), and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him about your experiences with 3D printing at cwgeek@kb6nu.com.





RIVERLAND AMATEUR RADIO CLUB

Monday Sept 17, 2018 Executive Meeting

MINUTES

Call to order: 1718 hrs.

Members Present : Kevin Holcomb KC9ZGD, Greg Miller K9LEC, Roger Reader KA9BKK, Dan Abts AB9TS, Carl Thurston KC9HDS, Rick Kolter KD9GVS

Approval of Minutes: July minutes approved without comment.

Treasurer's Report: Sept financial record available upon request

Committee Reports: None noted

Old Business: Roger, KA9BKK, has the following for sale : Icom 751 HF radio with Astron power supply, no microphone. Contact him for further details.

New Business: New venues were discussed for future club meetings and Christmas parties. The Onalaska Legion was agreed upon as a good choice. Further investigation will be done to find out what they could offer.

At least two existing executive team members will not be seeking re-election for 2019, so other club members will need to step up and be willing to get involved.

Motion to Adjourn : 1822 hrs.