



E – Newsletter

For Quarter ending September 30, 2007

The year is seemingly going fast! Its already October and nearly pumpkin time, Turkey time, and don't forget to make your radio hamshack wishes known for the Christmas wish list.

The 2007 41st CSVHFS Conference must have been enjoyed by a lot of folks. Even as quite as the upper band Internet Reflectors are at times, there were several comments that San Antonio, TX was a great location for the gathering. Sure wish that I could have attended the Conference, but things are looking good for making the '08 Wichita, KS Conference, maybe then we can have some pictures and a post Conference write-up for the E-Newsletter.

CSVHFS website has some updates that you may want to check out. The Chambers Award Recipients, the Wilson Award Recipients, the Antenna Gain Results, and the Noise Figure Results have been updated through 2007. See <http://www.csvhfs.org/index.html>

PSK-31 Portable, **without a computer**, NUE-PSK31 Digital Modem announced at Digital Communications Conference The design team of Milt Cram, W8NUE and George Heron, N2APB have introduced a new, handheld, battery-operated digital modem that conveniently provides for PSK31 communications ... without using a PC! Presented at the recent ARRL/TAPR DCC 2007 conference, the NUE-PSK digital modem will work with any SSB transceiver to finally allow PSK31 to be easily done in the field ... "portable PSK". See the the AmQRP website <http://www.amqrp.org> for overview, details, photos and more. Also available is the DCC article, the slides we used to present at the conference, and (soon) a movie file showing the modem in action. They are working on the logistics to kit up the NUE-PSK and will soon have it available for ordering and are planning for a November availability. See note at the bottom of the web page to sign up for notification of kit availability news.

.....73.....Walter Dufrein - K5EST - EM48mu – Editor

2008 Conference - Wichita, KS

The conference will be held on July 25 and 26, with many folks arriving the day before. Dave Powers KAØKCI and Mel Graves, WRØI are your principle hosts but many more will step forward to assist them in making the conference a reality.

Block out those days in your 08 calendars and standby for the details as they are released. See you in Wichita in 2008



from the President's Desk

Progress Report For 2008 CSVHFS Conference

Plans are moving forward on the 2008 Conference. The outline for the conference has been laid out and we are in the process of filling in the details. Now is the time to document your projects and start preparing presentations for this conference. We intend to have two or more auctions and of course the Flea Market. We have also identified a company that will be open on Saturday to box and ship your purchases made here at the conference. Keep checking the web site for the latest developments, such as the CSVHFS Hilton Hotel Reservation page, points of interest, etc. Looking forward to seeing all of you in Wichita in 2008.

73's

Mel Graves, WRØI

CSVHFS President 2008



from the Board Chairman

It seems like we just got home from San Antonio. I enjoyed the conference and already look forward to the Wichita Conference. We also have started work for the 2009 conference. Thank you to all teams for graciously hosting a conference. Thank you to everyone who helps in anyway to keep CSVHFS a success.

During the Board of Directors meetings, there was discussion about forming a CSVHFS email reflector. The need is based on member requests for a reflector as well as reports that CSVHFS is a not very friendly society. The Information Technology Committee left the conference with an action to look into ways of improving the situation. It seems that there may be multiple ways of solving this reported problem. I look forward to a seeing their report. Shortly after arriving home, the Board of Directors received an email request to continue looking into creating a CSVHFS reflector. I believe that the Board of Directors is continuing with this request.

I attempted operate the Leonids using SSB. I failed. I guess I have To upgrade to JT software. I played in the September VHF QSO Party while I cleaned out my shack. Whenever I had something in hand, I had to log a contact. It was an interesting technique for improving my rate.

73s

Bill Caldwell, NØLNO

CSVHFS VUCC/r Award

The CSVHFS sponsors the Reverse VUCC/r award for Rovers who have helped their fellow operators by activating significant numbers of grids. The complete rules are found on the website at: <http://csvhfs.org/CSVHFVUC.HTML>

Hints, Kinks, Projects, and Tidbits

40 to 6 Meter "No Tune" Transverter

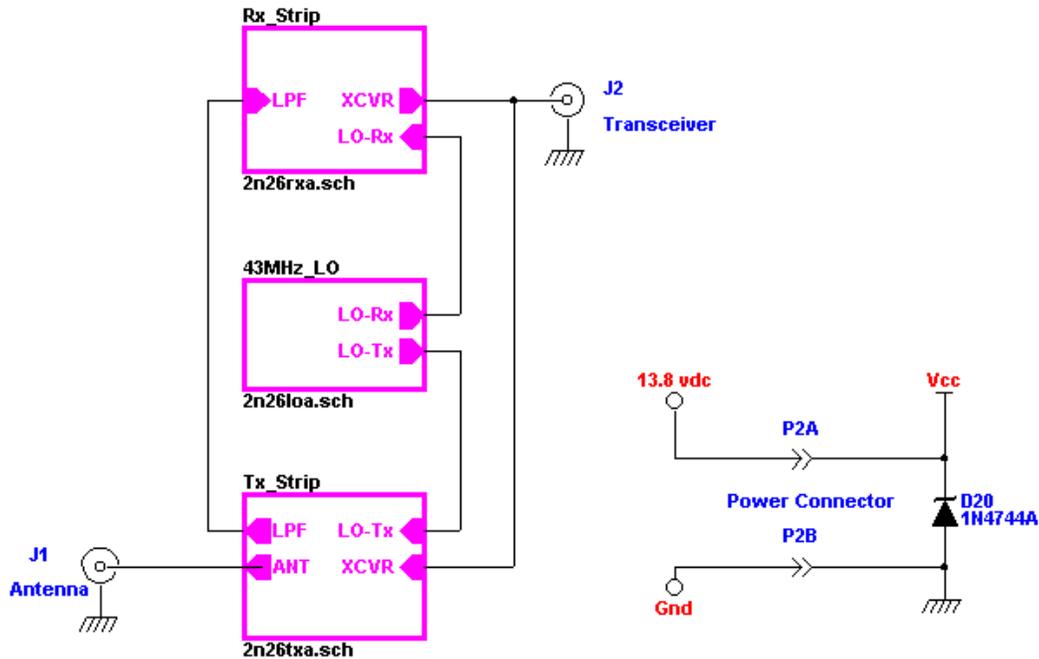
by Jim Kortge – K8IQY

<http://www.k8iqy.com/qrprigs/2n26/2n26page.htm>



This project is a 40 meter to 6 meter CW "no tune" transverter using ten 2N2222 transistors and one 2N2907. The transverter requires 2 watts of drive from a 40 meter cw transceiver and outputs 2 watts on 6 meters. On receive, it uses the 40 meter rig as the intermediate frequency amplifier. Its receive sensitivity is approximately 0.5 microvolts. Transmit spurious outputs are less than -50 dBc, meeting FCC spectral purity at a 2 watt power level. All transmit/receive switching is solid state.

Overall Layout



This is the block diagram of the 2N2/6. As can be seen, there are three main operational sections, and a simple power supply. Each of these blocks is shown below at the next level of detail. A 50 MHz antenna is connected to J1 and a 40 meter CW transceiver is connected to J2. All signal routing during receive and transmit is handled by solid state T/R switches inside the transverter, allowing full QSK keying.

Block Diagrams - major sections with interconnects.....

<http://www.k8iqy.com/qrprigs/wn26/2n26block.htm>

Schematics - the latest schematics for the project.....

<http://www.k8iqy.com/qrprigs/2n26/2n26schematic.htm>

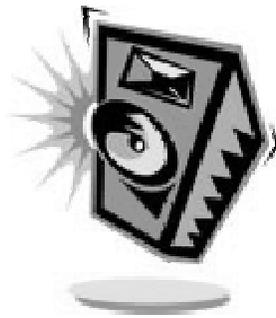
Pictures - selected pictures showing how the transverter was built.....

<http://www.k8iqy.com/qrprigs/2n26/2n26picture.htm>

Parts List - a complete list of parts used.....

<http://www.k8iqy.com/qrprigs/2n26/2n26bom.htm>

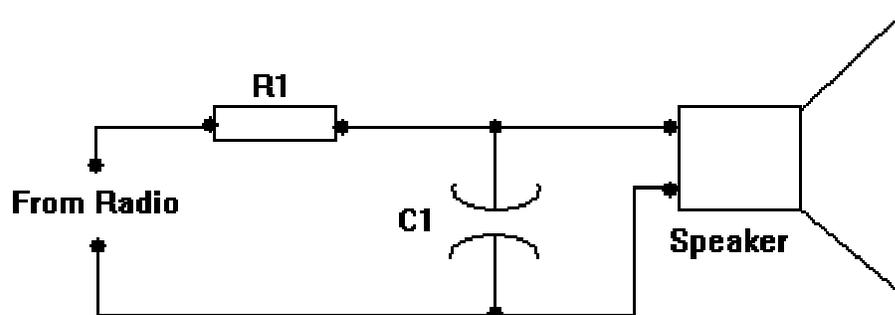
Editor's note: Jim – K8IQY has made the 2n2222 transistor into a famous component in Amateur Radio with his designs, primarily for HF rigs but he has given the upper band folks a taste of easy construction and low cost equipment.....Happy Building!\\



A \$1.00 Noise Reducing Speaker

Kill the crackle on the cheap.

by **L.D. Blake – VE3VDC**



<http://www.ldblake.ca/radio/noisecancel.htm>

Many a good QSO has been wrecked by that high pitched crackling noise that is common on weak signals. Sometimes it comes in louder than the voice and makes it impossible for you to hear your partner. It's called "Bacon Frying" or "Spike Noise" and it's the enemy of every ham.

Spike noise is a high frequency pulse that rides on top of the voice on weak signals. It is usually the highest pitched sound coming from your speaker and sometimes it's the loudest. Traditionally this has been handled by add on filtering systems using either analog or digital signal processing methods. Only high end (i.e. expensive) rigs have had these devices built in. Whether analog or digital, many low end and mobile radios don't include them.

Fear not! There is a perfectly workable solution to the problem using nothing more than a couple of cheap parts...

The circuit, pictured below, is a simple low pass filter that can be added to any speaker and uses only a pair of 50 cent parts.

Despite the unusual electronic symbol, C1 is a common non-polarized electrolytic capacitor used mostly in speaker crossover networks. It has to be non-polarized because the speaker is working on alternating current. You cannot use a polarized electrolytic capacitor here because under reverse voltage it acts like a short and would cause considerable distortion.

The resistor, R1, is also a common part you can get at any electronics supply house. There is some volume loss due to the resistor being in series with one of the speaker leads but it is barely noticeable and given the benefits, it's a good trade off.

Human speech doesn't require full fidelity audio. Most voice energy is concentrated in the range of 400 to 3000 hz. Most of the really annoying noise is in the range of 2500 to 10,000 hz. Since these two ranges don't overlap very much we can effectively reduce the audible noise on a signal using a low pass filter to remove the portion of the audio spectrum above 3,000hz. This effectively takes off the noise and leaves the voice alone.

The combination of series resistor and shunt capacitor forms our low pass filter. At low frequencies the capacitor appears as an open circuit and all the audio goes to the speaker. At higher frequencies it acts as a short across the speaker, causing this energy to be dissipated across the resistor where we don't hear it.

The part values for noise canceling with minimal impact on voice quality are on the right. The resistor should be 2 watts or better. The capacitor should be a non-polarized electrolytic type rated for at least 16 volts.

There is no harm in experimenting with different capacitor values to get a tonality you like. Increasing the capacitor's value will increase the noise reduction but will also make voices sound more bassy. Go too far and everything will sound muffled. To avoid excessive losses you should always match the resistor with the impedance of your speaker.

Values For Minimal Effect		
Speaker	R1	C1
4 ohms	5 ohms	10 uf
8 ohms	10 ohms	4.7 uf
16 ohms	15 ohms	2.2 uf

((editor's note: J.D. sent me an email with this added: By the way... if you'd like to add a little tip for your readers you could mention that wire wound resistors work better in that situation than carbon ones... the inductance of the wire coil helps the curve of the filter.))



Construction

Adding this to your station speakers is easy:

1. **Take the back off of the speaker you are going to modify.**
2. **Unsolder one wire from the speaker connection point. It doesn't matter which wire.**
3. **Now solder the capacitor to the speaker's two connections, one wire on each.**
4. **Solder one end of the resistor to the speaker connection where you took off the wire.**
5. **Then solder the wire you took off the speaker to the other end of the resistor.**
6. **Tuck the parts down out of the way, making sure they don't touch the speaker itself as this would cause a buzzing sound at louder volumes.**
7. **The finished project should look something like the picture above.**
8. **Finally, reassemble the speaker.**

Conclusions



Ok, a \$1.00 circuit isn't going to replace a \$100.00 DSP unit but it can bring about considerable relief from that nasty crackling noise and it might save you a couple of headaches when trying to work that rare signal. So there you have it... less than a dollar for a noise reducing speaker that will turn your station into a headache free zone!

The 2007 – 2008 CSVHFS Dues are payable, NOW!

Central States VHF Society Life Membership Information

At the 34th Annual CSVHFS Conference in Winnipeg, Manitoba, Canada, the Board of Directors made "Life Memberships" available. Life Membership offers five benefits to the Life Member:

1. No further annual membership fees for life.
2. Guaranteed mailing of conference announcements even after a few years of missing conferences. This assumes you keep the society updated on your current address.
3. Nametag with name, call, and CSVHF logo with "Life Member" added.
4. Certificate recognizing your support for the future of the Central States VHF Society.
5. The pride and privilege of being a Life Member and supporter of the Central States VHF Society's future.

The fee required for Life Membership has been set at 25 times the current annual membership fee. Since the annual fee is \$5.00, Life Memberships are now available for \$125.00 payable to the Central States VHF Society and mailed to: ([see next page for the form](#))

Bruce Richardson, W9FZ
2330 Lexington Ave S. #312
Mendota Hts, MN 55120

But if Life Membership is not for you, please continue as a member with annual dues of only \$5. The CSVHFS has not raised it's annual dues since the society's inception over 40 years ago!



Membership & Renewal Form

Name (first and last): _____

Call sign _____

E-mail: _____

Address: _____

City _____ State _____ ZIP _____

Postal Code Country (outside USA) _____

Grid Square: _____

ARRL Member: (yes / no) _____

Please check one membership of the categories below

Society Dues for 2007-08: **NEW** Regular Member = \$5.00 _____

Society Dues for 2007-08 **Renewal** Member = \$5.00 _____

NEW CSVHFS Lifetime Membership: \$125.00 _____

Complete the form, enclose your payment, and mail to:

**Bruce Richardson, W9FZ
2330 Lexington Ave S. #312
Mendota Hts, MN 55120**

States Above 50 MHz 2007-2008 Program Year Just Begun

The 2007-2008 program year just began on July 1st. Learn about the States Above 50 MHz Award Program at:

<http://csvhfs.org/CSVHFTST.HTML> and use the program as a motivator for increased activity at your station. Go check out some of the log sheets for tracking your states.

K9JK developed a multi-tabbed Excel spreadsheet that is available for download. Once filled it, it can be submitted as your annual entry (electronically).

Regional clubs are encouraged to use the program as an interclub activity motivator. The Northern Lights Radio Society uses the program, with monthly updates on their reflector, and has strong annual participation.

Other clubs--give it a try!

Get on the air and collect your states--even up to 24 GHz and higher!

Help Your Society

Any group survives on the efforts of it's members who do the heavy lifting. But as more members are involved in the society's work, then no one individual member bears as heavy a load.

First, consider helping your society by writing a paper or making a presentation for a future conference. Sharing of

information is the long-time function of being in Central States VHF Society. Second, consider serving on a conference hosting team. Many hands make easy work. Third, consider serving on one of our Committees:

AWARDS
PUBLICITY/RECRUITMENT
ELECTRONIC ARCHIVE
FCC
FINANCE
WORLD WIDE WEB HOME PAGE

You do not need to be on the Board of Directors to serve on a committee. In fact, we need more members to assist on the committees. Contact any committee chair or Board Member to express your interest in helping.

The complete list of Committee's and Chairman are at:
<http://www.csvhfs.org/CSVHFOFF.HTML>

Lastly, consider serving as a Board of Director member. The terms last two years and you can help guide the society as the Board carries out the Society's business. Elections occur during the business meeting on Saturday of the conference. You need not be present but a nomination must be made on your behalf for you to be eligible during the voting. We have 15 BOD members. We elect 8 each year with the bottom vote getter serving a 1-year "Alternate" term. Contact a Board member if you have questions or to express your interest--and, in the mean time, cultivate a nomination for this year's business meeting.

2009 Conference
Near Chicago, IL
Watch <http://www.csvhfs.org/index.html>

Host a Future Conference

The primary function of the society is to hold annual conferences full of information sharing and fellowship. Putting on a conference takes work but that volunteerism is required to keep our society moving forward. Further, conferences help show off the strengths of an area or region be them ham radio oriented, shopping, or touristy.

The 2008 conference will be held in Wichita, KS. The hams in that area graciously have stepped forward to host us there. But what about your area? We need conference hosts in 2010, and onward. The society tries to plan 2-3 years out so that a host team has time to conceive of the idea and gel towards actually hosting the event. Talk it up with hams in your area and consider hosting a future conference. If your intention and offer become firm, contact any CSVHFS Board Member to let your plans be known. If you need to learn more about what is involved with putting on a conference, talk to any Board member and ask for a copy of the "President's Handbook".

Your Board of Directors appreciates the burden of having to choose between competing offers to host an upcoming conference. Get with hams in your area and put together an offer to host 2010, or 2011!!!!

Show Your CSVHFS Pride!

As a member, you can show your affiliation with the CSVHFS by including the CSVHFS logo on your QSL cards and personal webpages.

Logos for your use may be found at: <http://www.csvhfs.org/filearea/logos/> You can "right mouse click" the files and save them to your computer. Some scale better than others down to small sizes.

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The Central States VHF Society website URL

<http://www.csvhfs.org>

Walter Dufrain – K5EST – Editor

publishing dates within 2-weeks after Mar 31st, Jun 30th, Sep 30th, and Dec 31st

Please have your articles and newsletter information in to the Editor by the end of the newsletter quarter.....next copy E-Newsletter deadline, Dec. 31st.

For news, articles, inquiries for the CSVHFS E-Newsletter, email
SPOTk5est@yahoo.com (remove SPOT for correct address)

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