



March Newsletter

Volume 09, Issue 3

March 1, 2009



WOSV

*St. Cloud Amateur Radio Club
Celebrating 90 years on the airwaves*

Message from the President - The Prez Sez...

Thank You to everyone who assisted in any way to making the Armory Hamfest a great event. Also a great deal of gratitude to those who gave up many hours to setting up the new controller on the 147.015 repeater.

The recent weather has brought to mind, the upcoming spring weather and the real possibility of thunderstorms and tornado season. It is time to think about preparing your portable and mobile equipment to make sure that it is ready for severe weather season. In

addition remember that severe weather brings lightning and possibility of near strikes that can destroy equipment. Winter season allows us to turn off the equipment and not worry about disconnecting or grounding antennas. Start back in with your safety habits with your antennas or start the habit of disconnecting your equipment from the AC mains and antennas if you are going to be away from your station should there be a likelihood of thunderstorms. It is also not too early to think about

donating items for the May auction at the clubhouse. It does not have to be ham related. It can be something that anyone might enjoy. Food items, Candy, gag gifts, an un-needed working computer, household item etc. Some of us will be making the Pilgrimage to Dayton Hamfest May 17 thru May 19. I will be home for the Club Auction this year, missed that fun last year. That does it for this edition. See Ya at the Meetings or at lunch on Fridays. 73,

Art Carlson, WA0NJR

Dates to Remember:

March:

March General Mtg	19th
April Board Mtg	9th
April Gen Mtg	16th
May Gen Meeting	21st
June Gen Meeting	18th
June Field Day	27-28
July Board Mtg	9th
July Gen meeting	16th
Aug Gen Meeting	20th
Sept Gen Meeting	17th
Oct Board Meeting	8th
Oct Gen Meeting	15th
Nov Annual Meeting	20th
Dec Gen Meeting	17th



Stearns County Skywarn and ARES:

Are looking for licensed ham operators to participate in their programs. If you are interested, but are not licensed, training and testing sessions will be scheduled to help you achieve this goal. Contact Jack Maus, 320-685-8295 for further details.

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February General Meeting Minutes

The meeting was called to order on February 19th at 7:00 p.m. by president Art Carlson, WA0NJR.

The January meeting minutes were accepted as printed in the February newsletter.

The Treasurer's report was as follows:

Checking	6,460.74
Savings	1,323.71
Rest. Savings	547.68
CD	<u>1,022.73</u>
Total Balance of	\$9,354.86

Money was received from the St Cloud Hospital (\$2,500.00) which will be used to purchase equipment to improve amateur radio repeater connections for use in hospital emergency communications, so while a majority of this will be spent on equipment, some remaining money will be for the clubs' efforts to work with the area hospitals.

Also for the clubs recent hamfest we sold over 385 tickets for entry, we rented out 50 tables for vendors at \$10 each. The kitchen earned approximately \$547.00, with gracious donation of food items from Scott Hall, NOUV. Art Carlson, WA0NJR and Harold Hoffman, KCOFAX also made gracious donations to the club towards some of the Armory usage fees. Factoring in expenses for post card printing and mailing, prize expenses and janitor fees for the armory, the club raised approximately \$2,418.70 from the hamfest fundraiser.

Prior to the hamfest there were 6 six foot plastic folding tables purchased for a total of \$216.00, which were rented at the hamfest.

Treasurer's Report was accepted.

In conclusion of the hamfest there was discussion about improvements for next year. There was some confusion for the vendors as to where to pay and their table location, a member suggested that it may be beneficial to offer incentives next year for vendors register in advance, such as registered vendors may enter at 7 a.m., but non-registered not able to enter until 8 a.m. There were less sales that took

place before 9 a.m., so that was an improvement over last year by not allowing general entry until 9 a.m. It was also suggested by a club member to send letters with more detailed info to vendors before the hamfest so they are more prepared of what to expect. Sales at the back door for vendor table and entrance fees may help, but requires a person fixed at that location. The VE team reported that 13 tested during the event, of which 12 passed. Over all the hamfest was another successful event for the club that went really well with 385+ paid entries and 50 tables rented.

**The Feb 14th Hamfest
was another success for the
club raising over \$2400.00
for the club.**

Thanks to those who helped
with the event and special
thanks to those who donated
towards the event!

The controller on the .015 repeater went bad, a controller was ordered, has been installed and is now operational. The repeater controller needed to be replaced with the same brand so that it would easily interface with the rest of the Superlink repeaters, the control cost the club \$880.28. Work still continues to work out software issues for additional features, but it is currently functional for the repeater and the superlink.

The echo link antenna was replaced a

mounted much higher in January, nobody present at the meeting had a report about the improvement in functionality since this upgrade.

A motion was improved to purchase lumber and build additional shelving in the back room of the club house.

Discussion and a motion was approved to purchase 6 additional six foot plastic folding tables to replace the heavy wood door tables to allow for easier transport and storage.

President Art Carlson would like to add an anonymous suggestion box at the clubhouse for suggestions from club members.

In the past newsletters were sent out 4 times each year, but the decision was made to mail it out only 1 time each year, this mailing would be for the November Annual meeting and include absentee ballots for officer and trustee positions. To keep with the times it seems appropriate that email distribution and access to the newsletters on the www.wOsv.org website should be sufficient. See page 3 of this newsletter for information on how to join the email reflector to receive the monthly newsletters in your email inbox.

See the front page of the newsletter for important upcoming dates for meetings and other club events.

Charlie Chirhart, KOSV was present and won the \$5 door prize.

The meeting adjourned at 8:00 p.m.

Respectfully submitted by Mike Parker, KCOUEA.

**World Radio is now only available
online, go to
[http://mailman.sunserver.com/
mailman/listinfo/WorldRadio-L](http://mailman.sunserver.com/mailman/listinfo/WorldRadio-L)
to be notified of new releases**

Volunteer Opportunities

Improvements at the Clubhouse

Additional shelving will be installed at the clubhouse and improve the arrangement of test equipment and other items at the clubhouse. Coordinate with Art Carlson, WAONJR to learn how you may be able to assist this work.

Tower Construction at the Clubhouse

At the January meetings it was discussed to wait until March or April to move forward with actions to get city approval to construct the tower. We hope to be able to begin tower construction this Spring/early Summer.

Special Thanks This Month!

Thank You to Norm Bakken, KCOSD, Ed Steinbach, KOVU, Tom Weyhrauch, KDODOS, and Phil Jorgensen, N1ARM who spent several hours working the 147.015 repeater, including replacing and reprogramming the new controller!

Thanks to EVERYONE who helped plan, hold and clean-up to make the Cabin Fever Reliever Hamfest a great fundraising event for the club!

Special Thank You to donations for the hamfest from Art Carlson, WAONJR, Scott Hall, NOUV, and Harold Hoffman, KCOFAX, as well as those who donated food items for the bake sale!

Current Board Members

President

Art Carlson—WAONJR—Elected

Vice President

Dave Leigh - WODZW - Elected

Treasurer

Jerry Dahlager - KCOWCF - Elected

Secretary

Mike Parker - KCOUEA - Elected

Trustees

Larry Snodgrass - KCOSMM (2009 - 11)

Leonard Hopkins - KCONZF (2008 - 10)

Harold Hoffman - KCOFAX (2007 - 09)

Past President

Scott Hall - NOUV

Webmaster

Phil Jorgensen - N1ARM



To join the club's email reflector and/or to include your e-mail address on the private list shared between club members only, please email Mike, the newsletter editor at kc0uea@gmail.com



Weblinks of Interest

www.epanorama.net

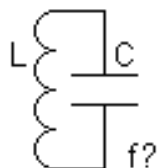
Tell me a Techie person like yourself can't spend hours at this site learning about anything and everything Electronics/Technology related! Lots of good info and if they don't have all the info your looking for I am sure you can find it on one of the good web links that they provide.

www.hamuniverse.com/repeater.html

Good information about Repeaters, mostly fundamental concepts, if it's all old news to you, it's at least a good reference to provide to hams who may not be familiar with repeater functions or to share with someone considering learning about ham radio. Lots of other info besides just repeater info too!

A Tube-Based Test Oscillator

Bryant Julstrom, KCØZNG
St. Cloud, MN



In working with analog RF circuits, one task that arises regularly is finding the resonant frequency of a parallel LC tuned circuit, often called a tank. This frequency can be estimated through calculation, if the tank's inductance and capacitance are known or can be calculated in turn, but sometimes the circuit's physical arrangement matters, and relevant values can't always be easily found. Consider, for example, trying to find the frequency of an unknown IF transformer.

Usually, we turn to one of several pieces of test equipment to measure a tank circuit's resonant frequency. The most common of these is the familiar dip meter, about which much has been written and of which many examples have been described and manufactured. Another is the resonance probe, as presented by KE2HF in the September, 2007, *QST*. A third mechanism, however, may be the most accurate and convenient: An oscillator whose frequency is determined by the resonant circuit under test and whose signal is delivered to a frequency counter. Just read the tank's resonant frequency off the counter's display. More generally, an oscillator that can be set to any of a wide range of frequencies is handy for many jobs: signal injection, alignment, testing higher-level stages, and so on.

Such an oscillator should satisfy several conditions. It should produce a strong signal over a wide range of frequencies and with a variety of L/C ratios. It should load the circuit under test only lightly so as not to change the circuit's resonant frequency. It should accommodate any parallel arrangement of an inductor and a capacitor, so it cannot require a tapped coil or divided capacitance; we can't use a Hartley or Colpitts circuit. The oscillator should be relatively simple and require no exotic or hard-to-find parts. And the finished unit should be small and convenient to use.

Many of my projects fall in the category of build-your-own boat anchors---their active elements are vacuum tubes---and it's interesting and rewarding to build test gadgets with the same technology. I was pleased, then, to find the cathode-coupled oscillator shown in Figure 1 in the 1974 edition of *Amateur Radio Techniques* by Pat

Hawker, G3VA. Hawker credits an article in the April, 1960, *CQ* by G2UJ, who praised the oscillator's tolerance of high-C tanks, and it undoubtedly has appeared elsewhere. Volume 5 of Rocky's *The Impoverished Radio Experimenter* presents a version that uses FETs.

On the breadboard, with a 6J6 as shown, the circuit was an unqualified success. It oscillated with tuned circuits whose resonant frequencies ranged from below 400KHz to above 30MHz and it undoubtedly can go both lower and higher. The ratio of L to C made no discernable difference, and the oscillator's output was always sufficient to drive a frequency counter.

The B+ voltage was not critical. A value between 90V and 100V was adequate, though the circuit works with more and less. (Always be careful around the higher voltages associated with tubes.) Also, almost any dual triode can be used. Hawker presented the circuit with a 6SL7 (octal) and mentioned the 7-pin miniature 6J6, which I chose. It also works with a 6CG7, the 12A*7 dual triodes, and no doubt many other types.

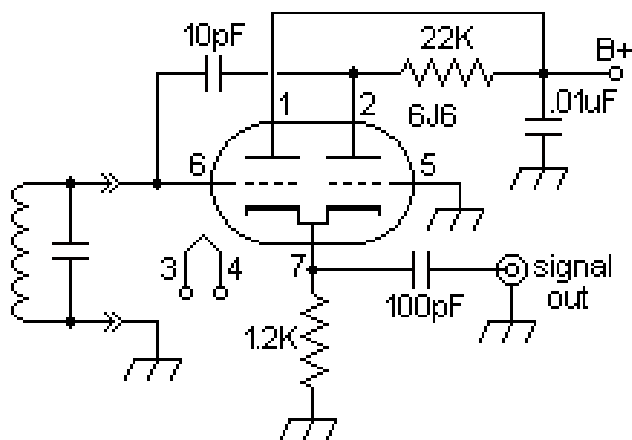


Figure 1. The cathode-coupled oscillator of G2UJ and G3VA. Its frequency is determined by the LC circuit on the left.

The unit can be built in many ways, depending on the tube---octal tubes are bigger---and the contents of the builder's junk box. I found all the parts that I needed in mine; these included not only all the electronics and connectors but also a spiffy LMB-Heeger box (2"x1½"x4") that was just big enough to hold everything comfortably. The oscillator is built into the bottom half of the box. A bracket fabricated from a piece of sheet aluminum holds the tube socket.

A Tube-Based Test Oscillator Continued

I like indicator lights, so I know what's on and because of their pleasant glow. The junk box yielded a nice red one that required only 2.5V, so it is connected to the 6.3V lines through a 270Ω resistor, in parallel with the 6J6's filament.



Figure 2. The inside of the unit, as seen from the back. A homebrew bracket holds the tube socket and a Jones connector accepts power from an external supply.

The indicator, banana jacks for the test circuit, and a phono jack for the output signal occupy one end of the box. The bottom of the tube socket is near this end, so all the signal connections are short. (In an arrangement like this, it's best to install the tube socket in the bracket and wire as much of it as possible before installing the bracket in the box.) The other end of the box holds a male 4-pin Jones connector for the power connections. Figure 2 shows the inside of the unit.



Figure 3. The completed test oscillator, from the front, with ink-jet decal labels.

Labels on the top and ends of the enclosure, including a schematic of a parallel LC circuit to indicate the test connections, were made with ink-jet decal paper from Decal-Paper.com. (They also carry laser-printable decal paper, which I haven't used.) It takes a little practice to get good

results with this paper, but you can try as often as you like (make several copies of each label) and any text or graphics that you can produce on a computer can be applied to a panel. Spray the completed panel with a couple of coats of clear acrylic to protect the decals. Figure 3 shows the completed unit, with labels and cover.

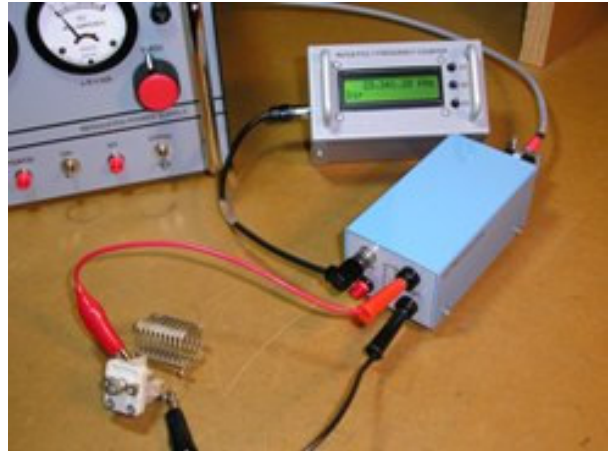


Figure 4. The oscillator in use. Alligator clips connect to the tuned circuit under test and a short cable carries the oscillator's signal to a frequency counter. In the upper left is a power supply.

Figure 4 shows the completed oscillator in use. Short cables terminated with alligator clips connect to the tuned circuit being measured, in this case an air trimmer in parallel with a short length of Miniductor. A cable carries the oscillator's output to a frequency counter, which displays the circuit's resonant frequency. The larger unit in the picture's upper left is a power supply. The unit draws a few mA of plate current and 0.45A at 6.3V for the 6J6's filament, plus another 20mA or so at 6.3V for the indicator.

Should this circuit interest you, don't be put off by the cost of a frequency counter. The NorCal FCC-1, which appears in Figure 4, is available as a kit, without an enclosure, for only \$35.00. Other counters cost less than \$100.00, and some digital multimeters now include counters as well.

I built this oscillator just a few months ago, and I've used it regularly on both receiver and transmitter projects. It easily drives the NorCal FCC-1 counter, a Redco C-40, and the counter built into a Chinese-made digital multimeter over a wide range of frequencies. It's been particularly useful in choosing components for tuned circuits and in identifying mystery IF transformers and other stuff in cans. I've also used it as a signal generator. It's always true that parts is parts, and an oscillator like this one will help you identify and use those parts.

Local Repeater Info

Clubhouse Phone: 320-255-1410

E-mail: webinfo@w0sv.org

E-mail Reflector:

<http://groups.yahoo.com/group/scarcmn/>

To send to the reflector and all those signed up for the reflector, send your email to:

scarcmn@yahogroups.com

On the Web @
WWW.WOSV.ORG

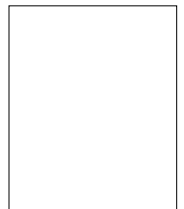
Repeater	Offset	Tone	Location
147.015	+	PL 100.0	Collegeville, MN
146.940	-	Autopatch	St. Cloud, MN
146.835	-	PL 85.4	St. Cloud, MN
147.105	+	PL 85.4	Avon, MN
224.800	-	No Tone	St. Joseph, MN
444.350	+	No Tone	St. Cloud, MN
442.225	+	No Tone	St. Cloud, MN
443.650	+	PL 85.4	Avon, MN
145.270	-	No Tone	Paynesville, MN
147.255	+	No Tone	Sauk Centre, MN
146.520		Simplex	Nationwide Simplex
146.640		Simplex	Nationwide Simplex



If you have any additions, corrections or suggestions for this newsletter, please email the editor, Mike Parker, KCOUEA at KCOUEA@yahoo.com

St. Cloud Amateur Radio Club

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Waite Park, MN 56387



About the St. Cloud Amateur Radio Club

The St. Cloud Amateur Radio Club is 88 years strong! It all started back in 1921 with Robert "Bob" Witchen, WØSV, licensed as 9SV. The St. Cloud Radio Club call is registered as WØSV in honor of Bob Witchen, first licensed ham in the area. Since then, the club has grown by leaps and bounds serving in many useful ways among the surrounding tri-county area. For a more detailed history visit our website at: www.w0sv.org

