

The Starved Rock Radio Club (SRRRC) meets on the first Monday of every month, unless otherwise scheduled, at 7:00 p.m. at the SRRRC clubhouse in Leonore, Illinois. Club nets are held on the SRRRC repeater (W9MKS) every Wednesday evening at 7:00 p.m. The W9MKS repeater is located at the SRRRC clubhouse in Leonore, Illinois, and it operates on a frequency of 147.120 MHz (+103.5 PL). The Starved Rock Radio Club was organized in September of 1933, has remained an ARRL affiliated club since 1934, and was designated a Special Service Club in 2004..

The mission of the Starved Rock Radio Club has continually been to give faithful, co-operative service and assistance for the betterment of amateur radio, in the promotion of interest in amateur radio communications, for the advancement of the radio art, for the use of amateur radio for public service and welfare, and for the maintenance of fraternalism and the promotion of good fellowship along with a high standard of conduct. Visit us on the web at www.qsl.net/w9mks

Officers

- President:
Steve Michalski KB9UPS
- Vice President:
Kurt Clausen KB9RKU
- Secretary:
Frank Carraro KF9NZ
- Treasurer:
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- Directors:
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- Static Editor:
Dirk Wolgast W9QA

Simple AM Broadcast Receiver

By Rick Lucas, WB0NQM

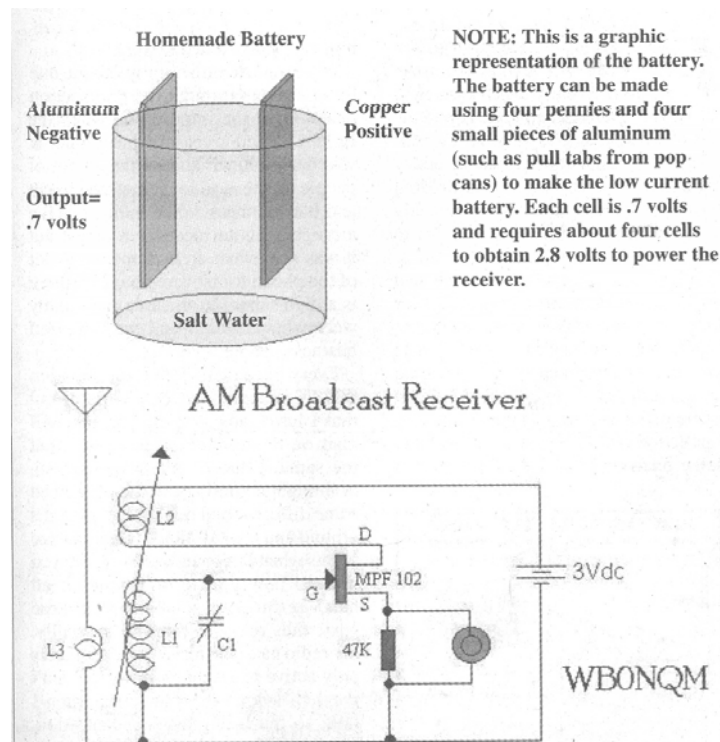
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The following is a simple AM broadcast receiver that is fun to make and doesn't require test equipment or fancy hand tools to construct. In fact, the receiver is made from material found around most homes. As I said, this is a broadcast receiver; however by changing the coil inductance and variable capacitor, it will work equally as well on the Ham bands.

Being a retired Electrical Engineer, I have been doing research into the origins of early electronics, and especially radio. In doing so, I designed a simple receiver that not only can be constructed from material found around the home, but can also be used as a QRP transmitter. I can carry the parts in my wallet and create a radio practically on the spot!

The schematic shows just how easy the receiver is, and the only commercial parts needed are an FET transistor (MPF 102), a 47k resistor, and a crystal earphone. However, in my radio, I used an element from an old piezo element for my earphone.

Now, as I said, this is quite



NOTE: This is a graphic representation of the battery. The battery can be made using four pennies and four small pieces of aluminum (such as pull tabs from pop cans) to make the low current battery. Each cell is .7 volts and requires about four cells to obtain 2.8 volts to power the receiver.

NOTE: regeneration is accomplished by varying the distance between L1 & L2 This receiver is designed for the AM broadcast band. L1=130uh which is telephone wire (0.41) wrapped around a 2.5" diameter form and the number of turns is 55. Note: (length of wire is 35') L2=14 turns wrapped around a 2.5" cylinder and is separate from L1 so that the two can be adjusted. C1=2.5" diameter cylinder covered with aluminum foil used on it. Note a coke can may be used with paper wrapped around it. L= $a^2n^2/9a+10b$ (a-radius of coil) (b-length of coil) (n-number of turns) C= $.224[K.A]/d(n-1)$ (A-area of sq. inches) (K-dielectric)

simple and being so, it requires some patience when tuning it. Try to keep the wire lengths as short as possible. When tuning, your body capacitance will have an effect in tuning. I solved this problem in part by us-

ing scotch tape and taping down the paper cylinder and connecting a piece of cardboard to the soda-pop can. That way my hand capacitance didn't interfere with

See **Receiver**, page 2

From the President's Desk

Steve Michalski, KB9UPS, SRRC President

March 23, 2005

Hello everyone.

Storm season is now upon us. I can't express enough the most important word to anyone that will be spotting this year: "Safety". All spotters should be doing their final equipment checks before hitting the road this year. One of the most important aspects is to know where you are at all times. If you have not been out on the back roads since last year, please take some time and do some foot work in your area of activity. Make notes of possible flooding points, escape routs and any other information you may need in a moment's notice. As for equipment, you should have basic First Aid supplies on board and know how to use them, also have road flares to mark downed power lines or other obstacles that would be dangerous. Remember that our weather nets are "directed" nets - no idle chitchat will be tolerated.

The ISS / Northlawn school contact has



Steve Michalski KB9UPS

K9JKW photo

been narrowed down to two dates. These dates are the week of September 19, 1000-1300 CST and the week of September 26, 0800-1300 CST. I will have a final date very soon as the schedule is tight this year. I will be setting up meetings with school personal this week to work out important details

that must be passed on to ARISS mentor, Charlie Sufana, ASAP. New construction at the school has shown a need to re-think my setup plans. I will have an equipment list defined soon and will need volunteers to help with the setup of both equipment and student briefings on the contact. As a reminder, this is several months of total chaos followed by 12 minutes of shear terror.

Anything can happen and probably will, so we must be ready for anything so we can make this contact work for the students of Northlawn School. Anyone wishing to participate in the event, please submit times and dates that you can meet with me personally.

73's for now and good DXing

Receiver, continued from page 1

the tuning as much. The frequency range is 600 kHz to 1700 kHz and it separates stations very well. If you haven't guessed this is a regenerative receiver and the regeneration is controlled by moving L2 closer or farther away from L1. When the "hissing" sound stops, that is the most sensitive spot. The 47k resistor is used as an impedance and DC bypass device. The crystal earphone is a capacitor and will not allow the DC to flow to ground. If you decide to build this and have some problems, you can email me at: re13005@yahoo.com.

By inserting a key between the source of the FET and the 47k you can key the receiver and transmit a very low pow-

ered signal to other Amateur Operators. If you are interested in making a model for the Ham bands I will be glad to email the specifications.

March Meeting Notes

Frank Carraro, KF9NZ - SRRRC Secretary

We were happy to see W9QA and K9JKW at the meeting - and not ONLY for the delicious cakes that Jan brought. President Steve announced that KB9PZA has had DSL Internet service from the Leonore Mutual Telephone Co. installed and he has paid for a year's service. KC9FGU also donated some useful computer equipment. Thanks to Eldon and Jim. Eldon also purchased a mike for the Club PA System, and a "Rascal" data interface for the club.

KB9RKU gave the Activities report and members were alerted about the April 16th Grayslake hamfest, the May 1st DeKalb event, and the April 23rd Illinois Repeater Association meeting.

Building and Grounds is making noise

about starting on the back room again, and gave notice that there will be a spring antenna party. The condition of the deck was mentioned too.

The Equipment report was about the BBS being in service. We still have not heard about our Yeasu FT736 at AES.

It was confirmed that we will have Shabbona Park for Field Day.

It seems like many of the hamfest vendors will be at our event for two days. We want to be sure to have HF stations on the air. The City of Princeton may have a table, and we will give it to them free if they have the Internet running on site. Anyone have a BIG linear we can borrow?

We have the lightning arresters on the antennas on the new tower, but we had a time trying to drive ground rods close to the entrance box on the south wall of the clubhouse. There's something big and hard down there.

The new, less expensive insurance has been applied for.

The Leonore cable TV group has asked if we would be willing to put a receive antenna on our tower as they have problems getting some Chicago channels clearly. They offered to give us free TV service for life. No decisions were made, and we hope to have a representative attend our meeting and talk about it. The matter was tabled.

Repeater Status Report

By Frank Carraro KF9NZ



Around the middle of March we started having some pretty bad receive problems with the repeater. I went to the clubhouse and looked at the trouble on the 16th (I think). It was at once obvious the problem was with the repeater equipment. Even quite strong signals were popping and scratching, and even dropping out completely for brief periods. However, signals from very close - like in the clubhouse itself - would be strong and solid. Obviously the receiver was losing the signal from the antenna. It had to be somewhere from the cavity filters to the local receiver itself.

After three trips to the site, and with help from KB9LNK and KA9FER it was found and located INSIDE the receiver itself where the coax pigtail in-

side the receiver housing was not properly bonded to the circuit board. PHEW!

I am going to recommend to the members that we replace the present Midland receiver, as well as the transmitter. I have several reasons for this. First, the transmitter is really what is called an "exciter". It has very low power output, and it requires that we have an intermediate power amp, followed by a final PA. Second, we have no means of repairing any serious trouble with either the receiver or transmitter since they use surface mount devices, several Midland proprietary parts, and require special computer software and interfaces to test and program them. I could go on...

I have acquired a GE MASTR II VHF mobile radio. The radio has its own 110 watt integrated power amplifier. There are dozens of these units in service as ham repeaters all over the Country. They are a well established, proven, maintainable design. I urge any of the members who are curious about them to research <http://www.repeater-builder.com/rbtip/geindex.html> for a lot of info. I will donate this radio to the club after modification, but the club will have to pick up the cost of new crystals, and a few bucks for the other parts to adapt the radio to the repeater.

Club Calendar

April

4/4/2005 April Member Meeting Leonore
 4/16/2005 Hamfest Committee Meeting Leonore
 4/16/2005 North Shore Hamfest Grayslake II
 4/23/2005 Lewis & Clark Hamfest Godfrey II
 4/24/2005 Moultrie ARC Hamfest Arthur II
 4/30/2005 Hamfest Committee Meeting Leonore

May

5/1/2005 DeKalb Hamfest Sandwich II
 5/2/2005 May Member Meeting Leonore
 5/14/2005 Habitat for Humanity Run
 5/14/2005 Hamfest Committee Meeting Leonore
 5/28/2005 CQWW WPX CW Contest
 5/28/2005 Hamfest Committee Meeting Leonore

June

6/3/2005 Hamfest Setup? Princeton
 6/4/2005 Hamfest/VE Testing Princeton
 6/4/2005 SVRC Hamfest Springfield IL
 6/5/2005 Hamfest/Convention Princeton
 6/11/2005 ARRL VHF QSO Party
 6/12/2005 Six Meter Club Hamfest Wheaton II
 6/13/2005 June Member Meeting Leonore
 6/25/2005 Field Day TBA
 6/26/2005 Field Day TBA

July

7/9/2005 IARU HF World Championship
 7/10/2005 Fox River R.L. Hamfest Aurora II
 7/11/2005 July Member Meeting Leonore
 7/16/2005 CQWW VHF Contest
 7/17/2005 KARS Hamfest Peotone II
 7/23/2005 Board of Dir Budget Meeting Leonore
 7/30/2005 VE Testing & Tech Session Leonore

August

8/1/2005 August Member Meeting Leonore
 8/6/2005 ARRL UHF Contest
 8/13/2005 Western II Hamfest Quincy II
 8/14/2005 Hamfesters Hamfest Peotone II
 8/20/2005 ARRL 10 Ghz contest
 8/21/2005 BARS Hamfest Joliet IL

September

9/10/2005 ARRL VHF QSO Party
 9/12/2005 September Member Meeting Leonore
 9/16/2005 Peoria Superfest Peoria IL
 9/16/2005 W9DXCC Convention Elk Grove Vill
 9/17/2005 Radio Expo CFMC Grayslake II
 9/24/2005 VE Testing & Tech Session Leonore
 9/25/2005 CQWW RTTY Contest

October

10/3/2005 October Member Meeting Leonore
 10/15/2005 Jamboree On The Air TBA
 10/29/2005 CQWW DX Phone Contest

November

11/5/2005 ARRL CW Sweepstakes
 11/7/2005 November Member Meeting Leonore
 11/19/2005 ARRL Phone sweepstakes
 11/26/2005 CQWW DX CW Contest
 11/26/2005 VE Testing & Tech Session Leonore

December

12/2/2005 ARRL 160 M Contest
 12/5/2005 December Member Meeting Leonore
 12/10/2005 ARRL 10 M Contest
 1/1/2006 ARRL Straight Key Night

2005 Severe Weather Spotter Training

Date	Time	Location	Host	Contact
4/5	700 PM	Fowler Theater, Fowler	Benton County EMA	219-474-5987
4/6	700 PM	Crown Point Civic Center, 101 East St. Crown Point, IN	Lake County IN EMA	(219) 755-3549
4/11	700 PM	Northern Illinois University – Faraday West, Room 200, NIU	NIU AMS	
4/15	700 PM	Paxton - exact address to be announced later	Paxton EMS	
4/20	700PM	Argonne Field House east side of Cass Avenue across from Argonne Lab	Argonne Radio Club	

CHAPTER 19 – Charlie's Visit

Excerpted from *Voices in the Air—The Fascination of Radio* © Robert Bonebrake

Reprinted with permission of the author, Robert Bonebrake, W9GCQ. This 174-page book is available at the Streatorland Historical Society Museum or from Francis Kmetz, WB9VLW, at \$12.95 each. The club has a copy at the clubhouse, which can be checked out. It is enjoyable reading.

As 1944 came to an end and 1945 began, we heard predictions that the war would soon be over. I continued studying my radio handbook and experimenting with various circuits described in it. By now I had learned how to build amplifiers that could operate loudspeakers and so I no longer needed to use earphones to listen to the radios I built. I no longer needed to buy batteries because I had learned to build power supply circuits that would run my radios from ordinary house current.

In May the war in Europe was over but we were still at war with Japan. It was not until the atom bomb was dropped in August that the war was finally brought to an end. And the end of the war brought increasing excitement among the amateur radio operators. Soon the long wait would be over and the shortwave transmitters and receivers could be dusted off and put back into operation. However, the question remained as to exactly when. Finally the answer came, via the American Radio Relay League. Operation on 10 meters and all bands higher in frequency would be allowed beginning in November, and 80 meters would be opened in April of 1946. 20 and 40 meter operation would begin in November of 1946. 160 meters would not be re-opened until later, and then would be shared with a radio navigation system.

As the November 1945 date approached, I visited Charlie Burt to see what plans he was making to get back in operation. He didn't have a

transmitter that would operate on any of the bands that were opening then, so he and another local amateur had decided to build some simple equipment to use on the 2 1/2 meter band. It would be similar to the transceivers that Bill Merritt and I had built. I had previously told Charlie about the transceivers and how they wouldn't transmit, but I was excited about being able to use mine to listen to him and his friend when the band was opened. Charlie remembered that he had said he would come to my house sometime, so we agreed that the next Saturday afternoon would be the time, and he would look at my transceiver. Maybe even determine what was wrong with it.

I was nervous and excited as I showed Charlie my antenna and ground wires, my Air Castle radio, and all the other radios, amplifiers, and power supply equipment I had built. He seemed to be impressed with everything I had done. Then I got my transceiver down from the closet shelf and we hooked it up. I showed him how it operated in the receive position, but would not transmit. He wanted to know if a small flashlight bulb connected to a loop of wire would light up when the loop was held near the tuning coil. I didn't know, so we tried it and it wouldn't light, proving that the transceiver was not transmitting.

Charlie studied the transceiver and the circuit diagram for a few minutes. Then he said he thought that a condenser that was soldered into the circuit should be switched out during the transmit mode of operation. We disconnected the condenser to test his idea, and the bulb lit brightly when we turned the power back on. I was amazed at how the bulb could light without being connected to anything other than a loop of wire, but Charlie said that power was transferred to it via "inductive coupling". Not until later in my radio career would I completely understand that concept.

I had learned something new, and now my transceiver was working properly. All I had to do was to install another switch to switch the condenser in and out of the circuit. As Charlie left, I wondered if I would ever be smart enough to figure out how to make a circuit work the way he had just done.

THE STARVED ROCK RADIO CLUB

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Next Meeting: April 4, 2005