# The CMRA SQUELCH TALE

AMATEUR RADIO SERVING THE PUBLIC

April 1994 | An ARRL Special Service Club | WDØDVG Repeater 146.16/.76


## President's Corner - Bill Stroud NØNMB

The Club sponsored a table at Rockbridge High School's Global Village where NØUDU, NØUEY, NØNMC and NØNMB demonstrated and talked about Amateur Radio. A number of students expressed interest in obtaining their ticket.

According to the ARRL's Letter #6, this is a count of current licensed Amateurs.

| | |
|---|---|
| Extra Class | 65,277 |
| Advanced Class | 112,637 |
| General Class | 126,898 |
| Technician Class | 227,681 |
| Novice Class | 99,1Ø5 |
| TOTAL | 631,598 |

With the expected drop anticipated from the 1Ø year license term anniversary, the Technician Class may well become the mainstay of Amateur Radio.

## Reminders

Lew Gordon, our ARRL District Representative will speak at the next meeting, April 12 at 7:ØØ P.M.., in the Boone Electric Building. This should be a very interesting and informative meeting. See you there!

73 Magazine reports there will be no shuttle busses at Dayton this year.

The May Newsletter will be the pre-Hamfest issue. We need your input early!

73s - Bill


**Central Missouri Radio Association**
**P.O. Box 283, Columbia, MO. 652Ø5**

| | | |
|---|---|---|
| **President** | **Bill Stroud,** | **NØNMB** |
| **Vice-President** | **Bill Brady,** | **NØUEY** |
| **Corresponding Secretary** | **Perry Ogletree,** | **NØNMC** |
| **Recording Secretary** | **Rob Bosma,** | **NØWYF** |
| **Treasurer** | **Irvin Books,** | **NØUAE** |
| **Member-at-Large** | **Jerry Niemeier,** | **NØOLT** |

The CMRA is a not-for-profit Missouri corporation. To receive the newsletter, or to submit articles, contact the editor, Perry Ogletree, NØNMC, 36Ø9 Bray Ave., Columbia, MO. 652Ø3-Ø877 [(314)445-2662]. Equipment ads by individuals will be accepted as space allows.


## Meeting Minutes - Bob Bosma NØWYF

The meeting was called to order at 8:Ø7 P.M. on March 8, 1994 by Bill Stroud, NØNMB following a tour of the Space Science Classroom project at Hickman High School. Committee reports follow:

TECHNICAL COMMITTEE: (Mike Baker, NØLBA) Rob, NØLLZ has taken over partial programming of the 146.76 repeater. Get with Mike if you want a mailbox assigned. This feature is for paid club members only. Mailboxes over 1 year old will be purged. Motion made by Brian, NØLXP to close the autopatch portion of the repeater for use by paid club members only. Motion passed by voice vote. Rob, NØLLZ, has prepared new code sheets for the repeater. Perry, NØNMC said 911 access should remain available to everyone no matter what restrictions are placed on autopatch use. Mike also reported on CEMA funding grant for HF equipment for the communications trailer. "What we budgeted was a TS-5Ø and a matching antenna tuner and some kind of HF antenna. If we get the paperwork back from the state in time, we should have everything available for Field Day." Jim reported on the antenna tuners. Checked on several MFJ models - leaning toward a 962 -rated at 1.5 kw priced at $275 from HRO. Motion to purchase the tapped inductor model and to authorize treasurer to pay for the that tuner. Motion passed.

HAMFEST COMMITTEE: (Bill Brady, NØUEY) The Hamfest is set for Saturday, May 28 at the Hearns Center. A sign-up sheet was passed to sign up for helpers. Door prizes are a Yaesu FT24ØØ, Glen Martin Roof Top Tower, MFJ 127ØC TNC, MFJ SWR Meter and a $25 gift certificate from Gateway Electronics. More volunteers are needed for this event - contact NØUEY.

FIELD DAY COMMITTEE: (Bill Brady, NØUEY) Field Day this year will be June 25-26, set up on the grounds of Ellis-Fischel Hospital. Insurance request still needs to be mailed.

COMMUNICATIONS: (Bill Stroud, NØNMB) Rockbridge H.S. requested amateur radio display to the Global Village, making contact with foreign

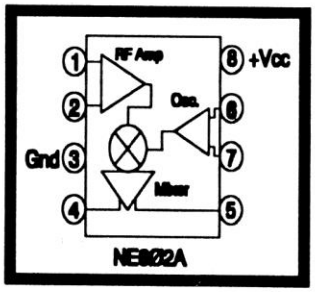
Meeting Minutes (continued)...

countries on March 3Ø from 9:ØØ A.M. - 11:3Ø A.M. St. Louis Council of Amateur Radio Clubs is looking for 2m. help for the VP fair July 1-4. Also 1Øm. help for the Olympic Festival July1-1Ø.
NEW BUSINESS: Mark Carpenter, NØZOF, accepted as new member.
Meeting adjourned. Minutes submitted by Bob Bosma, NØWYF.

## Circuit Notes - Perry Ogletree NØNMC

A very useful and fun integrated circuit for amateurs to experiment with is the NE6Ø2AN. This 8 pin mini-DIP is most of a direct conversion receiver! With a few passive components and high impedance earphones or a small audio amp, you can have a nice receiver for SSB and CW. AM reception is possible but may have a squeal in the audio. In the next couple of newsletters, I will show you how to build up a receiver from Radio Shack experimenter PC boards and components. The 6Ø2, however, is not available at Radio Shack (see parts list).

So until next issue, get the soldering iron warmed up, a spot cleaned up on the bench, and hunt through your parts bins (What no parts bins! Tsk, tsk...) or buy the following:




NE6Ø2AN I.C.
LM386 Audio I.C.
1 K to 2.2 K 1/4 watt resistor
1Ø ohm 1/4 watt resistor
1Ø Mfd. 1Ø to 25 volt electrolytic cap.
1Ø to 1ØØ Mfd. 1Ø to 25 volt electro. cap.
25Ø to 47Ø Mfd. 1Ø to 25 volt electro. cap.
5 K to 1Ø K audio taper potentiometer (with on-off switch)
.Ø47 to .Ø5 Mfd. 25 to 5Ø volt cap.
5 each - .Ø1 Mfd. 25 to 5Ø volt cap.
5 each - .1 Mfd. 25 to 5Ø volt cap.
5 each - 1N4ØØ1 1 amp. 5Ø volt diode
Small 4 to 8 ohm speaker
Small value mica or ceramic caps. (1Ø to 47Ø picofd. 25 to 5Ø volts - value dependent on frequency range)
Experimenters PC board
Small plastic or metal box
9 volt battery, holder, and battery clip
Miscellaneous hardware

Sources:
Radio Shack
Tinkertronics
(both local)
DC Electronics

Circuit Notes (continued)...

P.O. Box 32Ø3
Scottsdale, AZ. 85271-32Ø3
(8ØØ)423-ØØ7Ø
( order cat. no. 6Ø2EXP at $7.95 for a kit that includes the 6Ø2 I.C., multi-purpose PC board, and instruction manual. They also have most of the other parts in their catalog.)

In the future, I will use this basic I.C. to build an RDF receiver and a 6 Meter DSB transceiver. Let me know your interests!

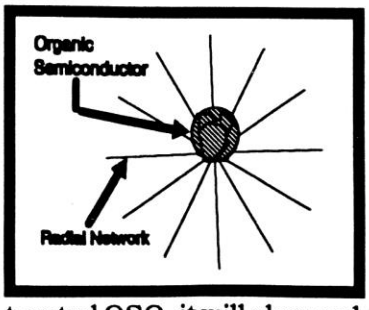
## STS-59/SAREX UPDATE

[The SAREX mission for STS-62, as reported last issue, was canceled and rescheduled for STS-59. Give it a try this time!]

Astronaut-Hams Dr. Jay Apt, N5QWL, and Dr. Linda Godwin, N5RAX, will operate the Shuttle Amateur Radio Experiment from on board the space shuttle "ENDEAVOUR" in April. The nine day mission is scheduled to launch on April 7 at 12:Ø7 UTC.
The worldwide SAREX downlink frequency is 145.55 MHz. The downlink is the Astronauts' transmit frequency. PLEASE DO NOT TRANSMIT ON THIS FREQUENCY!
The worldwide FM packet uplink frequency is 144.49 MHz. The FM uplink frequencies are 144.91, 144.93, 144.95, 144.97 and 144.99 MHz. Earth Stations should use these as their transmit frequencies.
The SAREX mission will begin 3 hours after take off.

## Advanced Antenna Design - Pol Forail,Phd FO2U

New advances in antenna materials and design now allow the construction of complex polarization high gain antennas in very compact packages. NASA and the Jet Propulsion Laboratory have jointly published design specifications for a broad band antenna with exceptional performance. Typical designs yield 2Ø to 22 dbi gain over a 2 to 2ØØ MHz. bandwidth! The key to these designs is the use of organic semiconductors as the radiating elements. The illustration below demonstrates the suggested construction. The semiconductor material is the result of advanced space materials but, a very close substitute is the common red cabbage. With suitable preparation, this antenna will give the builder a truly spectacular signal and after a protracted QSO, it will also make a side dish for dinner!



## Historian's Corner - Dan Nicholson NØFPE

On Sunday, June 3, 1979, the Central Missouri Radio Association held its annual picnic.

The afternoon activities were highlighted by a traditional "rabbit hunt". The rabbit was concealed by WØRKU, Carroll Markivee, last years winner. This year, the teams were well equipped with directional antennas of many types and accurate signal strength meters. Attenuators were used for operations close to the signal source.

Once at the scene of the hidden transmitter, the hams had to figure out how to turn it off. The "rabbit", was enclosed in a garage, visible but not within reach. The secret to this last part of the hunt was to decipher a electronic circuit diagram posted on the window of the garage, which showed that the door would open electronically if a radio signal were sent on the correct frequency to a radio receiver inside the garage.

The winning team was captained by Wayland (MAC) MacKenzie, (WBØKZS), included Wayne Fowler, (WBØFZS), Don Blenden, (WBØKUW), and Don Miller. The second place team was captained by Don Manson (KØTVO) and included Bill Schweitzer, (WBØGTI), Gary Merriman, and Sylvia Manson. Other teams were, Capt. Ray Mayginnes, (NØAMH), with Paul Hawley, (WBØSET), Gray Wolfe, (KAØCTE), Ivan Nyberg, (WDØFZL), and Ann Guptill, (WBØTEG). Also Capt. Tom Hammond from Jeff. City, (NØSS), with Al Hargis, (WDØAFE), and John Malinak, (WDØAFA), and a beginners's team consisting of Capt. Allen Dye, (WDØAFD), Homer Parman, (KAØBGC), and Jim Smith, (KBØCL).

That was how they did it 15 years ago! Do the new hams think they are up to the challenge? If you want to have a "rabbit hunt" contact the club president. Time for the new guys to show the old-timers how to do it!!!

That's all for now. 73 de NØFPE sk

---

## Editor's Corner - Perry Ogletree NØNMC

This is the third issue of the newsletter in its evolving format. I hope it is stimulating and enjoyable. As you saw in the last issue, we are now up to four pages! I have had to reduce the font size from 11 to 1Ø points in this issue to pack in a little more! I hope it doesn't make it more difficult to read. I want to be in the position where there is more information than I can put in one issue. That depends on YOU! Please submit any information you would like to see in the newsletter to me. I will find a spot for it if I have to send the newsletter out with magnifying glasses! Until next time... 73s

Closing date for the May issue is April 25.

## C.M.E.N. Manager - Dan Nicholson NØFPE

Hello! As the net manager for the C.M.E.N., I would like all net control stations to use the following suggestions for running their nets.

1. Announce that it is not an emergency, but a regular net session.

2. Traffic is first - Emergency, time valued, then routine.

3. Net announcements can be next, and again later in the net.

4. Ask for the Official Bulletin Station to see if there are bulletins to be read. If no response ask again later in the net. Break up the net with the reading of the bulletins.

5. At this point ask to see if the local Emergency Coordinator is on frequency and if that person has anything for the net. If no response ask again later in the net.

6. We no longer ask for short time check-ins. If some one is short time they usually indicate so when they check in. By not requesting short time check-ins we get folks to stay a bit longer for the net and the ones that are not really short time but just bored, or think the net is a waste of time, stay and check- in anyway or don't check-in at all.

7. Ask and stand by for any "LOW POWER" portables. Take only portable stations as check-ins. Not mobiles, not people sitting in their ez-chair at home. Portable is portable as defined by the FCC and the ARRL. If you are unsure of this ask!

8. Mobiles are the next group to ask for. Here again only mobiles!

9. Regular check-ins are next. This can be handled in any manner the Net Control Station would like as long as it is still a directed net. No "free for alls".

1Ø. After the regular check-ins and the bulletins, etc., ask for late or new check-ins.

11. Close the net by thanking everyone for participating, announce the Net Control Station for the next week, and clear with the current time in UTC.

12. Net reports should be given to the net manager as soon as possible. I would like to have them listed as to the number of portables, mobiles, and regular check-ins. Also the number of pieces of traffic passed on the net.

13. When calling the net MAKE SURE YOUR SIGNAL IS CLEAN AND STRONG! You as Net Control Station are setting the standard for the net operations. Noisy signals and bad audio make passing information next to impossible. We need to show all new hams the need for good signals and good operating practices.

The following is a sample preamble and net session:

Calling the Central Missouri Emergency Net...
(*repeat 2 or 3 times*).
This is not an Emergency!
My call is _____ .
My location is _____.
My name is _____.
Is there any emergency or time valued traffic for the net?

**Central Missouri Radio Association**
P.O. Box 283, Columbia, Missouri 65205



**1994 Member**
Jesse Bowen
1915 Blue Ridge Rd.
Columbia, MO 65202

C.M.E.N. Manager (continued)...

Is there any routine traffic for the net?
Are there any net announcements?
(*ask again later in the net*)
Are there any bulletins for the net?
(*directed to the Offical Bulletin Station*)
Is there anything from the Emergency Coordinator?
(*ARES/RACES*)
Low power portables wishing to check-in please come now.
Mobiles wishing to check-in please come now.
Routine check -ins please come now.
(*after 1Ø to 12 check-ins, break for bulletins, if any, then continue with routine check-ins* )
Any late comers wishing to check-in?
Thank everyone and close the net.

If you have any questions on the above information, please contact me.
Thanks to all Net Control Stations.

## Classified Ads

FOR SALE

Vintage S.W. radio - Hallicrafter's SX-71, covers Ø.55 to 34 MHz. and 47 to 55 MHz. CW, AM, or SSB. Great for SWL, with high-Z and 5Ø ohm antenna inputs. $1ØØ.ØØ

486SX-33 Motherboard, 6 ISA slots, will support up to 128 Mbyte RAM and 256 Kbyte cache. $16Ø.ØØ

Perry NØNMC
445-2662

FOR SALE
Heathkit Equipment:
HW-1ØØ 1Ø-8Ø Meter Xceiver.
HP-23 Power Supply for HW-1ØØ
HW-22 4Ø Meter Xceiver.
HP-13B 12 v. D.C. power supply for HW-22
HT-1ØØ 1Ø-8Ø Meter Xmtr.
SB-2ØØ 1Ø-8Ø Meter 1 KW Linear

Classified Ads (continued)...

IO-21 Oscilloscope
VTVM
HW-21Ø2 SWR & Rel. Power Meter
HD-15 Hybrid Phone Patch
AM-2 SWR & Ref. Power Bridge
HM-11 SWR & Ref. Power Bridge
AG-8 Audio Signal Gen.
Hammarlund Equipment:
HQ-11Ø 1Ø-8Ø Meter Rcvr.
HQ-17Ø 1Ø-8Ø Meter Rcvr.
Knight Equipment:
Spanmaster II 1Ø-8Ø Meter Rcvr.
Star Roamer 1Ø-8Ø Meter Rcvr.
R1ØØA 1Ø-8Ø Meter Rcvr.
Eico Equipment:
221 VTVM
4ØØ Multimeter
Comdel Speech Processor
All offers considered!! Contact:
Dave Chase KBØLQB
Rt. #2, Box 669C
Gravois Mills, Mo. 65Ø37
(314)374-5Ø77

# Columbia Hamfest '94
# Coming this May
# Details next issue!
# Watch for it!