

# March 2002 – Came In Like A Lion Cub



## Central Michigan Amateur Radio Club *THE SCOPE* Lansing Civil Defense Repeater Association



[www.qsl.net/cmarc](http://www.qsl.net/cmarc) 80 Years of Service to Our Community! [www.qsl.net/lcdra](http://www.qsl.net/lcdra)

### ZIEGENBEIN NOMINATIONS ARE DUE MARCH 15<sup>TH</sup>!!

Hey, is it March, already??? Then, don't forget to mail your nomination for the annual Ziegenbein Award to the Ziegenbein Chairman by March 15<sup>th</sup>!!!! It doesn't take much time? just think about the CMARC member (must be current) who you think has contributed the most to CMARC and/or Amateur Radio in general, during the year 2001. Then get out a piece of paper and write why you think they should get the award, stick your nomination in an envelope (don't forget the stamp!) and address it to: Ziegenbein Nominations; Julie McLain/KB8ZXR; 4444 Sycamore St., Apt. #1; Holt, Michigan 48842-1651. Remember, they MUST be received by March 15, 2002 or they won't count.

After the nominations are received, the Ziegenbein Committee (which is made up of Julie McLain/KB8ZXR-Chairman, Pam Denomme/KB8PSF, and Erv Bates/W8ERV) will meet together to select one of the nominees to receive the Ziegenbein Award. At the Ladies Night Banquet in May, a plaque will be presented to the winner of the Ziegenbein. Below is a list of the winners of this most prestigious plaque to date.

**Ziegenbein Chairman-Julie McLain/KB8ZXR**

### *Ziegenbein Honor Roll*

|      |                       |      |                      |      |                     |
|------|-----------------------|------|----------------------|------|---------------------|
| 2000 | Jim Erv Bates-W8ERV   | 1986 | Marion Stoner-W8VWY  | 1972 | John Sheldon-WA8MVH |
| 1999 | Pam Denomme-KB8PSF    | 1985 | John Hewitt-K8DHN    | 1971 | Mert Henry-K8ETU    |
| 1998 | Julie McLain-KB8ZXR   | 1984 | Rowena Elrod-KA8OBS  | 1970 | Wally Beck-W8QQL    |
| 1997 | Roy Uchigashima-N8GAQ | 1983 | Linda Haigh-KA8HHA   | 1969 | Harold Bell-WA8LAY  |
| 1996 | Pete Elrod-N8EST      | 1982 | Jere Haigh-WA8BAP    | 1968 | Duane Cross-K8ATU   |
| 1995 | Don Cote-KD8BD        | 1981 | Harold Mahlke-W8OG   | 1967 | Dick Kelly-K8BZV    |
| 1994 | Dick Pennington-W8SFA | 1980 | Beverly Stoner-K8ZJU | 1966 | Ben Hassell-W8VPC   |
| 1993 | Dick Thomas-W8VJC     | 1979 | Lee Hamilton-K8CDM   | 1965 | Dan Harger-W8BCI    |
| 1992 | Ken Kruger-W8AAX      | 1978 | Dale Moore-K8YRD     | 1964 | Don Rickerd-W8BQD   |
| 1991 | Bill Chapman-W8TJQ    | 1977 | Larry Alman-WA8QCW   | 1963 | Pete Gossett-W8CKK  |
| 1990 | Don Devendorf-W8EGI   | 1976 | Lloyd Brox-K8ZKM     | 1962 | Currin Skutt-W8FSZ  |
| 1989 | Inez Pearson-KY8V     | 1975 | George Croze-K8VKX   | 1961 | Gorden Main-W8OCK   |
| 1988 | George Wood-K8GHX     | 1974 | Carl Hunsaker-K8ILF  |      |                     |
| 1987 | Don Tillitson-WB8NUS  | 1973 | Lyle Brooks-W8TIJ    |      |                     |

### Oh Where Oh Where Did My Scope Go!

Once again the deadline for dues renewal is here close. Folks who have not renewed by March 1<sup>st</sup> will be ineligible to receive The Scope until after their dues are paid. Please use the membership form on the back page of the newsletter for renewal and keep the newsletter coming to your door.

Thanks,  
John Hayes

### Field Day 2002 Update

Due to over exuberance on the editors part, Wayne and Candy were volunteered to help in this event in a capacity that they are not able to accommodate due to time constraints. Field Day needs a chair to pull it together and get it rolling. It comes up sooner than the Ham Fair which I'm organizing (I'm feeling pushed for time with this). Promote any victim you want for the job, just don't say I told you too!

**Michigan Amateur Radio Club**  
**Minutes of the Board Meeting (February 1, 2002)**

The meeting was brought to order my club president Mike Rhew (KC8DBP) at 7:00 pm.

The following board member were present for the meeting:

- Michael Rhew (KC8DBP) – President
- Ken Faiver (W8HNI) – Vice-President
- Candace Coburn (KC8QZF) – Treasurer
- Wayne Atkinson (AB8MI) – Secretary
- Bruce Rainy (KC8ODP) – Director
- Gregg Mulder (WB8LZG) – Director
- Tyler Whitney (KC8NSB) – Under 22 Chairman

The following items were discussed the board meeting:

- Mike Rhew (KC8DBP) went over the agenda with the

board members.

- The board had a general discussion about the state of the Ham Fair.
- Wayne (AB8MI) brought up for discussion some issues in regard to the CMARC radios and station at the Red Cross.
- Mike Rhew (KC8DBP) provided the board members with a list of positions that needed to be filled for the coming year. It was decided that we would announce these positions during the regular meeting and ask for volunteers.
- Candace Coburn (KC8QZF) informed the board that CMARC donated \$25.00 to the American Cancer Society in the memory of Rick Hayner (WA8JQV).
- Gregg Mulder (WB8LZG) mentioned to the board that he would like to discuss the issue of club projects during the regular meeting.

The meeting was adjourned at 7:32 pm.

**LCDRA Minutes From January**

Meeting at 7:35 by Dan(w8bci)

\*Busy year but all things are positive.

\*Thanks to Tom(kc8nj) and the City of Lansing for the use of Fire Station #8 to hold the quarterly LCDRA meeting.

\*A special thanks to Bruce(kc8odp) and Don(wb8nus) for restoring the Delta Township Emergency Communications group.

\*Everyone introduced themselves around the table and told a little about themselves.

-----  
room for list of members  
-----

\*The Secretaries report was read by Troy(w8tcc) and was moved by Wayne(kc8qek), and 2nd by Bruce(kc8odp) and was carried by the group.

\*The treasurers report was read and submitted by Scott(w8srn) report was moved and seconded and carried.

Repeater report: Dan(w8bci):

\*145.390 repeater is in good shape. the id talks over people.

\*146.700 repeater has some beeps on it .

\*Jamming has occurred over the years and some of the people responsible for it leave and new ones end up taking their place. The best way to deal with it is to ignore them. Try not to feed their need for publicity.

\* There is a group outside of town that has a repeater that causes the 146.700 repeater to trigger, from either a 100 hz pl or a product of more than two frequencies.

The repeaters are working better than ever. Dan tuned the 145.390 repeater, and added turns to the cans, and the repeater works great.

\*Dan put together a remote controlled repeater controller, to be used on our coordinated 70cm remote control frequency, which will control two 145.390 repeaters, main and back-up. These two repeaters will be cycled from time to time to keep them in good working order.

\*Bil (w8eb) will donate a pair of 440mhz stacked beams. The beams will be used to remotely control the 145.390 repeater(s).

\* Need to move quickly to buy enough equipment from our source, before it dries up. The company that was dumping the equipment found a new way to get rid of them .

\*Motion was made to pay Dan(w8bci) for his expenditures; made by Don(w8bqd) and seconded by Clint(kc8ehr), motion carried.

\* \$450 was needed to buy three extra base stations. Moved by Wayne(kc8qek) and seconded by Bil(w8eb).

\*Technical discussion followed by John(n8jfb ) showing the group the Cushman ce50 Communications Monitor for testing radio deviation, frequency

stability, and many other functions.

New Business...

\*Dan(w8mmq) is concerned with the 220 repeater and the usage of it. He would like to link the 220 repeater to the 146.940 or 145.390. There is a lot of activity on 6 meters, as of late and it would be nice to have a 6 meter repeater for the area. Cost could be negligible for the 220 to be linked into the 146.940.

\* Moved by Dan(w8mmq) to link 220 repeater to the 146.940 seconded by Bob(k8rbt) carried by the membership.

\*John(kc8rqv) is not only editor of the Scope, but also Chairman of the Ham Fair committee. John also went over possible locations for ham fair. We need to get a location set before the Marshall swap, March 16, 2002 so that the word can be gotten out for exposure.

\*Election of officers:  
All officers will remain the same

\*A motion was made to authorize candy(kc8qzf) to collect LCDRA dues at the CMARC meeting for LCDRA's treasurer, Scott(w8srn) who is unable to make the CMARC meetings. Bruce(kc8odp) and it carries.

\*The Constitution and Bylaws changes passed unanimously, and to receive a copy, pull off a copy from the LCDRA web site.

Meeting adjourned at 9:35pm

## Wanted To Sale

I have a Batternut HF5B beam antenna for sale. This is commonly called the butterfly beam. It is a very compact antenna, and is easily turned by a TV type rotor. It is about 20 + years old, but has been repaired and still tunes up good. I am asking \$100.00 for it. It is assembled and resting at ground level at my home. Buyer must partially disassemble to transport in a pickup truck or van. ontact Mike Rhew, phone : (989)725-1853; E-mail: [KC8DBP@arrl.net](mailto:KC8DBP@arrl.net)

### DBS – Reviewed by Dan Harger, W8BCI

Many amateurs, both new licensees and old timers, are somewhat shakey in their knowledge of decibels. A short review might help reinforce knowledge of dBs:

The decibel is a shorthand way of measuring relative changes in power: that is it does not

### Ham Fair 2002 by John Hayes

On Sunday, March 3 the third CMARC-LCDRA 2002 Ham fair was held at 4:30.

The next Ham fair will be held at the Red Cross building on Sunday April 7 at 4:30 in the Kropschotz room. All are welcome to attend. In attendance at the last meeting

### FM Evolution From Scope '91 by Dan Harger, W8BCI

Last month I talked a little bit about the FM Bulletin and communications we had with one another about getting on FM and hints and kinks, etc. The FM news and information was started with a single mimeographed sheet but went from the FM Bulletin format and evolved eventually to R P T magazine; or it seems as though I saw on used small caps, r p t magazine. For a long time it was called FM, period. It ended up at the end as glossy, so that increased the cost of printing and eventually it fell by the wayside. During this period, FM was certainly not being completely neglected by QST, CQ, 73's and the other amateur journals, with the FM Bulletin however, this was the reason for its existence, FM!

The information we were getting in the early FM Bulletins let us know right away that other areas already had repeaters working, up and running. In fact the East coast had a complete hookup up and down the East coast

## Tell The World You're A HAM HB 5679

H.A.M. OPERATOR PLATES (Brown, R.) Allows two identical plates to be issued for two different vehicles for amateur radio operators. Am. Sec. 217a, PA 300, 1949 (CL 257.217a) as amended by PA 419, 1988.

For more information, see this site.

<http://michiganlegislature.org/mileg.asp?page=getObject&objName=2002-HB-5679&userid=>

|   | dBs | Gains (+) | Loss (-) |
|---|-----|-----------|----------|
| stand alone but compares two sets of values.  |     |           |          |
| Each dB of gain (increase) is 26% more than the last number, and each dB loss (decrease ) is 11% less than the last number. A 2dB gains is an increase of 60%, 3dB is a gain of 100% and 10db is a gain of 1,000%. -3dB is a loss of 50%, and -10dB is a loss of 90%. The following table converts dB gains (+) and loses (-) to multiplying factors: | 0   | 0x        | 0x       |
|   | 1   | 1.26x     | .79x     |
|   | 2   | 1.60x     | .63x     |
|   | 3   | 2.00x     | .50x     |
|   | 4   | 2.50x     | .40x     |
|   | 5   | 3.20x     | .32x     |
|   | 6   | 4.00x     | .25x     |
|   | 10  | 10.00x    | .10x     |
|   | 20  | 100.00x   | .01x     |

were:  
Mike Rhew  
John Hayes  
Don Tillitson  
Mary Lou Tillitson  
Don Rickerd  
Scott Newfer  
We have selected Lakeside Christian school as the site.

with multiple repeaters, using VHF, UHF and 220 Mhz links! It was overpowering to our simple .94 simplex minds even to comprehend complexities of these magnitudes! Our problem at the moment was to make our single frequency rigs TWO frequencies! Then manufacturers were coming out with 6 and 10 frequency ten and 25 watt units all crystal controlled. So we were starting to get the information on multiple frequency conversions. If you happened to get a used rig that was more than one frequency it was a find!

So we all wanted to have a repeater in our area and .34/.94 was chosen without even looking at anything else, mainly because we were already on .94 simplex. This required only that one get a second transmit rock on .34 Mhz. Simple enough.

So at this time we pressed into service the help of our two-way radio techs like Vic Jackson, W8BLT who has a call of W9NDM now and people like Greg Hiscock. I think that both of these were working for Troup Electronics at the time.

Mark Humphreys has constructed the shell for a website to promote the fair and is patiently awaiting the development of a flyer (due to be done this weekend) so that he can finish it. Please visit the site in the near future. All information will appear there, then in the Scope. I'll avoid saying more at this time as a couple of items need finalization. The address of the site is: <http://www.qsl.net/lcdra/hamfair2002.org.htm>

By this time I had put so many rigs on .94 I practically knew everyone in Motorola. And eventually ended up working full time in state and local government sales for Motorola as a representative selling and designing communications systems.

One of the FM issues had complete instructions in it for a ring diplexer to use a simple antenna with .600 separation. We put this together, WKAR helped us by supplying some aluminum cavities, Dick Thomas did some fancy aluminum soldering on these to make them operative. We also selected the Michigan National Tower, downtown Lansing as a site. Unfortunately, the level of RF there made the receivers on repeaters go comatose! There was a 10 KW FM transmitter there, the stations call letters at the time was WMRT which is now WITL. Brother! The repeater transmitted out terrific, but it was limited by desensing because of the high level of RF present at the site.

The view from the top of the Michigan

National Tower was really spectacular. I talked to several of those who had a hand in the repeater just to find how many floors we could take up in the elevator. The elevator went all the way to the penthouse, but the owners at the time would not give access to us or other maintenance people. So we went to floor 21 and hauled the equipment and ourselves up the other two floors (or whatever the distance was) to give us access to the roof. It has a very solid railing all around the top and we eventually mounted the antenna directly to the railing.

I was trying to remember who it was that worked on the COR (carrier operated relay) for the repeater and Dick Thomas said the guys from Owosso, Keith Coates and another ham with the call W8CAP helped out. The other situation we had with the repeater was with licensing. The FCC was not too easy to deal with. The list of requirements was extensive. We had to have some sort of control and we did this by telephone. It was not as fancy as the East Coast hams, but it worked.

Since I was working at MSU in the radio

department we had access to the Dobie Road tower. WKAR had some old rigid copper transmission line. 1-7/8" stuff. I forgot to ask Dick Thomas where this came from, but I think it was some that was taken off the 300' self-supporting tower on Forest road when the FM station was there with the present AM transmitter. Anyway, this had a circular groove in it that was designed to place a rubber "O" ring to seal the line. This was crucial when you were running high power RF from a large broadcast transmitter. We decided that it would be OK to hang this line up to the 300' platform on the Dobie tower, the loss would be negligible at 146Mhz.

We were not prepared for what one has to go through, however to climb a large tower. Also, the strength it takes to hoist a line, hangers, tools. A professional crew has a motorized winch at the bottom of the tower and this powers the operation.

The first thing we had to do was to hang a pulley, which we did as I recall on the 300' platform. This platform is quite large at Dobie; this did nothing for my well-being

however, I left many fingerprints, etched indelibly imprinted at Dobie. I held on so tight, my whole body was sore after each weekend we took to install the antenna. In the end we got the line to the 170' level and mounted the antenna right in the middle of this triangular tower. It worked very well there. At least it never got hit by lightning inside the tower!

No one knows unless they have climbed a tower like this that it may be calm windwise on the ground, but up the tower above 100' the wind was always blowing 30 to 40 MPH, unbelievable! We only went up the tower on beautiful days; you would really be taking your life in your hands to do otherwise because the Dobie tower loves lighting! More than once this site has suffered from Mama nature! She loves to blast the heck out of the 3 phase power not to mention phone lines. I was horrified to have Dick T. tell me the railroad tracks also contribute to the woes from strikes at Dobie!

(Next month I work my first maritime mobile, he's in the middle of Lake Michigan in a bathtub, WOW!)

These amplifiers are fairly common, and you can pick one up off of eBay, or at any good hamfest, for around \$400.00. I have seen them as high as \$500.00, but I wouldn't pay any more than that for one.

This amplifier is particularly nice for the six meter enthusiast, primarily because of the easy modification for operation on six meters. There are only a few components that need to be changed, in order for the SB-220 to operate on six meters.

First, the 10-meter tap on the plate coil needs to be moved to a point 1-2/3 turns from the plate-tune capacitor. At this point, you may want to check for resonance at 50-MHz.

Next, the 10-meter input coil needs to be unwound, leaving 2-3/4 turns.

C33 and C34 need to be replaced by a single 10-pF mica capacitor.

Finally, C35 will need to be changed with a 33-pF mica capacitor.

The SB-220 has now been converted to six meter operation. General operation and tuning of the amplifier will remain the same. After you have moved the 10-meter tap on the plate coil, you may want to use a grid-dip oscillator to check resonance at 50-MHz. This is not necessary, but may save time later on when attempting to tune the amplifier for the first time on six meters.

After this modification, the SB-220 is capable of 800-watts on six meters. Depending on the condition of the final amplifier tubes in your amplifier, your output results may vary.

I have copies of the schematic for this amplifier, if you would like one. I also have a couple of manuals that I would be willing to loan out, if you should need one.

Feel free to contact me at [w8mmq@email.com](mailto:w8mmq@email.com) with any comments or questions. I will get back with you as soon as possible.

73 de,  
Dan, W8MMQ

## Converting the Heathkit SB-220 for Use on Six Meters

By Dan, W8MMQ

The six meter band has been growing in popularity over the past several years. It's wonderful to hear many new call signs on the band as I tune around FM and SSB.

In my previous article, I gave a basic introduction to six meters, and some of the types of equipment that are available. This article is more for the serious six meter enthusiast, and details the conversion of the Heathkit SB-220 linear amplifier for use on six meters.

(Converting - continued)

First of all, let me introduce you to this amplifier. The SB-220 was first introduced in the mid to late 1970's. This particular amplifier covers the 80 through 10 meter bands. Average PEP output on 80 meters is about 1,500 watts. On 10 meters, average PEP output is about 1,000 watts. The amplifier uses two 3-500Z final amplifier tubes. For full power output, it does require 100 watts of drive.

## Science Olympiad 2002

Science Olympiad 2002 is scheduled for Saturday, April 27. The Olympiad brings

high school students from around the state to compete in science-related events. Activities are held in about six locations on the MSU campus.

Organizers have asked the ham community for communications support for this event again this year. The main communications

needs are in locating the rally point for each school group, and helping organizers locate missing supplies or staff. I'll be NCS; I will need 6-7 operators. We're asked to be on duty from 7:30 AM to noon. We will use the MSU repeater, 440.500, PL 77.0 Hz. Coverage of this repeater is much better this year than it was a year ago, though we've not had problems in the past.

I've organized communications support for this group the last two years. Ham participants seem to enjoy working this event; the favorite activity is the launch field for the air/water powered rockets built out of pop bottles.

etc. If you're able to participate, please contact me by:

e-mail ([drb@msu.edu](mailto:drb@msu.edu))  
phone (337-0857).

Dennis Boone  
KB8ZQZ

Public service events of this type are good practice in directed net operating, handling informal messages, testing your equipment,

vintage radio equipment including some tubes that are 2 1/2' to 3' tall. She needs some help in pricing and selling the equipment. Foremost, she needs to know how much the

stuff is worth. She would welcome any appraisals and can be reached at: 482-1498

### What Are These Old Tubes Worth

Jackie Welch lost an uncle a while back. Kenneth Noyce, W8DSH left her with some

### Editorial Commentary

Well, I guess I'm about as late as I was last month. Family problems have contributed to the tardiness. I should be right on time in April. Short months being what they are and all the first Friday in April falls on the 5<sup>th</sup>, hooray! I really will be adhering to deadlines so that the April Scope is out before the April CMARC meeting.

By the way, ANYBODY is more than welcome to contribute to the Scope! In particular, I could use a little help with a few items. I believe they are things folks would like to see in the newsletter. I am seeking a monthly commitment for preparation of the following:

- a monthly ham fair calendar
- a monthly VE testing calendar
- a monthly events calendar
- a monthly local net column
- a monthly HF net column
- a monthly contest calendar

Each one of these would take no more than 1 hour a month to maintain at most, but it would really help me out to have these things passed my way in a from that I could integrate into the newsletter. I ran them last month and they are running this month.

If you noticed that a few things in this months newsletter were also in last months

newsletter, that is because there were critical pieces missing in these items or they warranted extra coverage due to their nature.

As stated previously in this issue, Field Day still needs a chair. I misrepresented what Candy said to me in an E-mail message and volunteered her and Wayne for the job. They have events taking place during that period of time which would make it impractical for them to assume the chair position.

I'd take on the job but I may be on vacation then, either that or they will prepare a little padded office for me so that I won't drive anybody else bonkers as I go around the bend myself. I really wanted company, darn!

### CMARC/LCDRA Elmers

| Specialty                 | Name and Call          | Phone         | E-mail            |
|---------------------------|------------------------|---------------|-------------------|
| Packette Radio, PSK31, DX | Bill Blick W8EB        | (517)675-5858 | w8eb@arrl.net     |
| CW, QRP, DX               | Ralph Riggs N8YQJ      | (517)641-4384 |                   |
| Home Brew, QRP            | Gregg Mulder WB8LZG    | (517)646-6257 | margo937@cs.com   |
| 6 Meters                  | Dan Hicks W8MMQ        |               | w8mmq@email.com   |
| HF Contesting             | Steven Rentschler N8SR | (517)332-0237 |                   |
| Drafting Volunteers       | John Hayes KC8RQV      | (517)393-2787 | jhh@envirobat.org |

### Why You Should Be On The Elmer's List

Elmers are folks who volunteer there expertise to assist those folks who are having problems with various aspects of amateur radio. The folks in the list above have agreed to be information resources with respect to various aspects of the hobby. We need more elmers than these. Also, multiple elmers in any one group is perfectly OK. We don't want anybody to get stressed out from being over utilized. If you want to be an elmer and have a specialty in mind just give me a call or send E-mail.

### Recent Silent Keys

**George J. Wood K8GHX** an extra class operator and life member of CMARC passed away recently at 81 years of age.

## Ham Radio Propagation Web Sites

|           |   |             |   |
|-----------|---|-------------|---|
| Real Time | <a href="http://www.hamradio-online.com/">http://www.hamradio-online.com/</a>                               | Software    | <a href="http://www.dxzone.com/catalog/Software/Propagation/">http://www.dxzone.com/catalog/Software/Propagation/</a> |
| Forecasts | <a href="http://www.eham.net/DX/propagation">http://www.eham.net/DX/propagation</a>                         | Grayline    | <a href="http://www.iri.tudelft.nl/~geurink/grayline.htm">http://www.iri.tudelft.nl/~geurink/grayline.htm</a>         |
| Forecasts | <a href="http://dx.qsl.net/propagation/propagation.html">http://dx.qsl.net/propagation/propagation.html</a> | Information | <a href="http://www.ardfnl.demon.nl/hamprop.htm">http://www.ardfnl.demon.nl/hamprop.htm</a>                           |
| Forecasts | <a href="http://www.hfradio.org/propagation.html">http://www.hfradio.org/propagation.html</a>               | Listservers | <a href="http://users.hunterlink.net.au/westlakes/pageae.htm">http://users.hunterlink.net.au/westlakes/pageae.htm</a> |

Product: 27-day Outlook outlook.txt  
 Issued: 2002 Mar 05 2211 UT

Prepared by the U.S. Dept. of Commerce,  
 NOAA, Space Environment Center  
 For a descriptive text, write to SEC or refer to our Web page.  
 Web page URL: <http://www.sec.noaa.gov/wwire.html>

Twenty-seven Day Space Weather Outlook Table Issued:  
 Issued 2002 Mar 05

| UT Date     | Radio Flux 10.7 cm | Planetary A Index | Largest Kp Index | UT Date     | Radio Flux 10.7 cm | Planetary A Index | Largest Kp Index |
|-------------|--------------------|-------------------|------------------|-------------|--------------------|-------------------|------------------|
| 2002 Mar 06 | 170                | 30                | 5                | 2002 Mar 20 | 200                | 8                 | 3                |
| 2002 Mar 07 | 170                | 15                | 3                | 2002 Mar 21 | 200                | 5                 | 2                |
| 2002 Mar 08 | 175                | 12                | 3                | 2002 Mar 22 | 200                | 5                 | 2                |
| 2002 Mar 09 | 180                | 10                | 3                | 2002 Mar 23 | 195                | 5                 | 2                |
| 2002 Mar 10 | 185                | 10                | 3                | 2002 Mar 24 | 195                | 8                 | 3                |
| 2002 Mar 11 | 185                | 10                | 3                | 2002 Mar 25 | 195                | 5                 | 2                |
| 2002 Mar 12 | 190                | 10                | 3                | 2002 Mar 26 | 190                | 5                 | 2                |
| 2002 Mar 13 | 195                | 5                 | 2                | 2002 Mar 27 | 185                | 10                | 3                |
| 2002 Mar 14 | 200                | 5                 | 2                | 2002 Mar 28 | 180                | 8                 | 3                |
| 2002 Mar 15 | 200                | 5                 | 2                | 2002 Mar 29 | 180                | 5                 | 2                |
| 2002 Mar 16 | 200                | 8                 | 3                | 2002 Mar 30 | 175                | 5                 | 2                |
| 2002 Mar 17 | 205                | 8                 | 3                | 2002 Mar 31 | 170                | 8                 | 3                |
| 2002 Mar 18 | 205                | 5                 | 2                | 2002 Apr 01 | 170                | 8                 | 3                |
| 2002 Mar 19 | 200                | 8                 | 3                |             |                    |                   |                  |

## March Ham Fair Calendar

| Date    | Event And Location   | Contact   |
|---------|--|---|
| 3/16/02 | Southern Michigan ARS & Marshall HS Industrial Arts Club<br>Marshall, MI | John Malinowski N8BGM, 616-781-4540, n8bgm@aol.com                  |
| 3/17/02 | Toledo Mobile Radio Association<br>Maumee, OH                            | Paul Hanslik N8XDB, 419-385-5056 or 419-535-6594<br>kb8iup@arrl.net |
| 4/6/02  | Hamfest/Computer/Electronics Show<br>Elizabethtown, KY                   | Laura Lonczak, 216-663-3258, ln4js@visn.net                         |
| 4/20/02 | Jackson County ARC<br>Coalton, OH  | Edgar Dempsey KD8XL, 740-286-3239<br>kd8xl@ohiohills.com            |
| 4/28/02 | Athens County ARA<br>Athens, OH  | Drew McDaniel W8MHV, 740-592-2106<br>mcdanied@ohiou.edu             |

\* NOTE: All information can be found on <http://www.arrl.org>

## Events For March 2002

| Local Area |            |                      |  |
|------------|------------|----------------------|--|
| Date       | Time       | Event                | Location   |
| 3/1/02     | 08:00 AM   | Rod's Ham Breakfast  | Flap Jack Shack in Dewitt; everybody is welcome              |
| 3/1/02     | 07:30 PM   | CMARC                | Lansing American Red Cross; E. Grand River Ave.              |
| 3/2/02     | 07:30 AM   | 5.39 Breakfast       | Flap Jack Shack; (6927 S. Cedar)                             |
| 3/2/02     | What Time? | QCWA                 | Remy'S Copper Skillet; 2005 N. Larch Street; Lansing         |
| 3/4/02     | 07:00 PM   | DTACS Packett Class  | Fire Station #1 On Canal and Saginaw                         |
| 3/6/02     | 07:00 PM   | CCARA                | Clinton County Sheriff's office on Townsend Road             |
| 3/8/02     | 08:00 AM   | Rod's Ham Breakfast  | Flap Jack Shack in Dewitt; everybody is welcome              |
| 3/9/02     | 09:30 AM   | Lansing VE Testing   | 1800 E. Grand River at the Red Cross Building; Kroschot Room |
| 3/13/02    | 01:00 PM   | OOTC Lunch           | Contact Irv Graham for location                              |
| 3/15/02    | 08:00 AM   | Rod's Ham Breakfast  | Flap Jack Shack in Dewitt; everybody is welcome              |
| 3/21/02    | 07:00 PM   | Ingham ARPCS Meeting | Ingham County Sheriff Dept.                                  |
| 3/22/02    | 08:00 AM   | Rod's Ham Breakfast  | Flap Jack Shack in Dewitt; everybody is welcome              |
| 3/23/02    | 08:00 AM   | QCWA                 | Flap Jack Shack; (6927 S. Cedar)                             |
| 4/1/02     | 07:00 PM   | DTACS Packett Class  | Fire Station #1 On Canal and Saginaw                         |
| 4/5/02     | 07:00 PM   | CMARC                | Lansing American Red Cross; E. Grand River Ave               |
| 4/6/02     | 07:30:00   | 5.39 Breakfast       | Flap Jack Shack; (6927 S. Cedar)                             |
| 4/6/02     | What Time? | QCWA                 | Remy'S Copper Skillet; 2005 N. Larch Street; Lansing         |

• Note: Outgoing Old Timers Club – several times a month, lunch or breakfast

| Weekly Local Area FM Information Nets |         |     |       |         | Assorted Information And Traffic SSB Nets |      |             |         |                 |
|---------------------------------------|---------|-----|-------|---------|---|------|-------------|---------|-----------------|
| Name                                  | Freq.   | Day | Time  | PL      | Name                                      | Band | Approx Freq | Days    | Time            |
| Mid Michigan Info                     | 145.390 | Sun | 08:30 | 100     | Intercon                                  | 20   | 14.300      | Su – St | 07:00–12:00 EST |
| QCWA                                  | 146.7   | Tue | 20:30 | 100     | Maritime Mobile                           | 20   | 14.300      | Su – St | 12:00–22:00 EST |
| ARPSC – Simplex                       | 146.58  | Mon | 19:30 |         | GLETN                                     | 75   | 3.932       | Su –St? | 20:30 EST       |
| DTACS                                 | 146.940 | Tue | 21:00 | 100     | SWOTM                                     | 2    | 144.155     | S       | 21:00 EST       |
| 6 Meter – Simplex                     | 52.530  | Sun | 20:00 |         | E. Mich. SSB                              | 2    | 144.250     | M       | 20:00 EST       |
|                                       | 147.28  |     |       |         | PLC                                       | 40   | 7.262       | Su – St | 10:00 EST       |
| ECARC                                 | 147.08  | Sun | 20:00 | 103.5   | BBC                                       | 75   | 3.973       | Su–St   | 3:00 EST        |
|                                       | 443.63  |     |       | 103.5   | Breakfast Club                            | 75   | 3.973       | Su – St | 5:00 EST        |
| QCWA                                  | 146.7   | Tue | 20:00 | 100     |   |      |             |         |                 |
| CCARA                                 | 146.86  | Thu | 20:00 |         |   |      |             |         |                 |
|                                       | 444.85  |     |       | 141.3   |   |      |             |         |                 |
|                                       | 146.48  |     |       | Simplex |   |      |             |         |                 |

\*If there are others that should be listed here let me know!

Day Codes: Su – Sunday, M – Monday, Tu – Tuesday, W – Wednesday, Th – Thursday, F – Friday, St – Saturday

### Newsletter Deadlines

| Deadline                   | Event  |
|----------------------------|--|
| 3/10/02                    | Hard copies, scannable submissions   |
| 3/15/02                    | Computer editable submissions  |
| Inform as soon as possible | Event schedules, notices, wanted to sell/buy, birthdays, anniversaries, obituaries |

### Regional Skywarn Training Dates & Locations

| Date    | Time        | Event                           | Location  | Contact                             |
|---------|-------------|---------------------------------|---|-------------------------------------|
| 3/19/02 | 7-9 PM      | Jackson County Skywarn Training | Boos Recreation Center, 210 Gilbert Street<br>Jackson, MI | Dorothy Helm (517)768-7910          |
| 4/9/02  | 7-9 PM      | Eaton County Skywarn Training   | Basement of Sheriff's Department Charlotte, MI            | Steve Jackson (517)543-3512 ext 393 |
| 4/13/02 | Noon - 2 PM | Ingham County Skywarn Training  | Red Cross Building on Grand River<br>Lansing, MI          | James Kenyon (517)646-0558          |

### Local And Area VE Testing Schedule For 2002

| Location     | Schedule   | Time       | Site   | Contact   | Talk-In                      |
|--------------|--|------------|--|---|------------------------------|
| Lansing      | Jan 12, Mar 9, May 11<br>Jul 13, Sep 14, Nov 9                       | 09:30 AM   | Lansing American Red Cross; the Kopschot Room<br>1800 E. Grand River | Joe Denomme N8VYS<br>(517)589-5263  | 145.390 +<br>dup<br>PL 100Hz |
| Corunna      | 12/27/01   | 06:30 PM   |  | <a href="mailto:aa8tc@arrl.net">aa8tc@arrl.net</a><br><a href="http://www.qsl.net/aa8tc">http://www.qsl.net/aa8tc</a> | 147.020 +<br>dup             |
| Howell       | On the 2 <sup>nd</sup> Tuesday of<br>the odd months                  | 07:00 PM   | Emergency Operations Ctr.; Highlander Way                            | Greg Mcdiarmid AA5GO<br>(517)548-5893   | 146.680 -dup<br>PL 100Hz     |
| Grand Rapids | On the 1 <sup>st</sup> Friday of the<br>month                        | 06:30 PM   | Red Cross; 1050 E. Fuller Ave., NE                                   | ED N8UXN<br>(616)458-9029   | 146.760 -dup<br>PL 94.8      |
| Charlotte    | On the second Saturday<br>of the even months                         | 12:00 Noon | Eaton County Sherrif Dept.   | x95korroch@wmich.edu  | 147.080 +dup                 |
| Mt. Clemens  | On the 1 <sup>st</sup> and 3 <sup>rd</sup><br>Saturdays of the month | 07:00 PM   | Salvation Army   | Bill Chesney<br>(810)468-8345   | 147.180 +dup                 |
| Jackson      | On the 3 <sup>rd</sup> Saturday of<br>most months                    | 10:00 AM   | Jackson District Library; 244 W. Michigan                            | Dick McGuire<br>(517)782-1430   | 146.880 -dup<br>PL 100Hz     |

### March 2002 Birthdays - Happy Birthday!

### March 2002 Anniversaries

| Date | Name                              | Call            | Years Young | Date | Name                                 | Call                     | Years Young    | Date | Name                   | Call Sign | Years |
|------|-----------------------------------|-----------------|-------------|------|--------------------------------------|--------------------------|----------------|------|------------------------|-----------|-------|
| 4    | Jim Harvey                        | KA8DD<br>Q      | 53          | 26   | Forrest Clark<br>Lowell Hoyland      | N8PWD<br>KC8RAG          | 71<br>65       | 10   | John Fairbank and Wife | KC8HGB    |       |
| 12   | Dale Moore                        | K8YRD           | 74          | 27   | Douglas Risdon                       | KM8P                     | 62             | 17   | Tom Cain and Wife      | KB8ZL     | 34th  |
| 17   | Laurie Bates<br>John Fairbanks    | KCHGB           | 39<br>60    | 28   | Mike Rhew<br>Tyler Head<br>Bob Right | KC8DBP<br>KC8LWG<br>W8QN | 50<br>18<br>84 | 21   | Ken Hull and Wife      | KR8S      | 60th  |
| 22   | Ken Harris Sr.<br>Candice Knepper | W8KWO<br>KD8IMJ | 93<br>41    | 30   | Marc Rosenthal                       | WB2FGB                   | 47             |      |                        |           |       |
| 23   | Alton Soddard<br>Herbert Terbrack | KD8MB<br>KB8QEZ | 51<br>53    | 31   | Paul Carpenter III                   | KB8YQW                   | 43             |      |                        |           |       |

### Post Oak Elementary School Science Day

This event is happening on Tuesday March 19 from 6:30 PM - 8:00 PM. Everyone is welcome to attend. The school is located on Wood Street in Lansing. For more information contact Joe Denomme at (517)589-5263



**The 2002 CMARC BOARD****The 2002 LCDRA Board**

The Scope is published monthly by the Central Michigan Amateur Radio Club in association with the Lansing Civil Defense Repeater Association

| <i>Office</i>  | <i>Name</i>           | <i>Phone</i>  | <i>Email</i>        | <i>Office</i>  | <i>Name</i>         | <i>Phone/E-mail</i> |
|--|-----------------------|---------------|---------------------|--|---------------------|---------------------|
| President  | Michael Rhew KC8DBP   | (989)725-1853 | kc8dbp@arrl.net     | President  | Dan Harger W8BCI    | (517)882-8784       |
| Vice President   | Kenneth Faiver W8HNI  | (517)321-8170 | kfaiver@voyager.net | Vice Viresident  | Don Rickerd W8BQD   | (517)339-8496       |
| Secretary  | Wayne Atkinson KC8QEK | (517)349-7120 | kc8qek@arrl.net     | Secretary  | Troy Creed W8TCC    | (517)323-6358       |
| Treasurer  | Candace Coburn KZ8QZF | (517)349-7120 | coburnca@attbi.com  | Treasurer  | Scott Newfer W8SRN  | (517)381-8148       |
| Director   | Bruce Rainey KC8ODP   | (517)627-9118 | kc8odp@arrl.net     | Director   | Hal Bell W8LAY      | (517)484-0962       |
| Director   | Gregg Mulder WB8LZG   | (517)646-6257 | margog937@cs.com    | Director   | Bruce Rainey KC8ODP | (517)627-9118       |
| Under 22   | Tyler Whitney KC8NSB  | (517)337-9749 | kc8nsb@arrl.net     | Repeater Trustee   | Dennis Boone KB8ZQZ | (517)337-0857       |
| Editor   | John Hayes KC8RQV     | (517)393-2787 | kc8rqv@arrl.net     |  |                     |                     |
| Membership   | John Ingraham NG8L    | (517)484-8027 | ng8l@arrl.net       |  |                     |                     |
| <b>Meeting: 1<sup>st</sup> Friday of every month at the Red Cross, Lansing Chapter, 1800 E. Grand River (upstairs) at 7:30 PM</b><br><b>Club Calls: W8MMA &amp; W8PLP</b>  |                       |               |                     | <b>LCDRA Call: WB8CQM</b><br><b>Meetings: Quarterly on the 3<sup>rd</sup> Thursday at 7:30 PM at Lansing Fire Dept., Station #8, on marshall St. at Grand River, just west of the Red Cross.</b> |                     |                     |
| <b>For continued membership annual dues must be paid by March 1<sup>st</sup>. Fill in the membership form on the back of <i>The Scope</i> and mail it in with a check for the appropriate amount. Make check payable to C.M.A.R.C for CMARC membership. Make checks payable to L.C.D.R.A for LCDRA membership.</b> |                       |               |                     |  |                     |                     |

### What I Did For Science Day At The Mall by John Hayes

When I heard about science day at the Meridian Mall wanted to take my HF rig there and set it up for the event. I had been told that making contacts from within the mall was difficult because of the building design and also CMARC's site frequently didn't permit folks to put an HF antenna outside. I thought this was the perfect excuse I needed to build a portable antenna I had seen in my ARRL 2001 Antenna book. The antenna was a multibander with tapped custom wound induction coils and sectional resonators. I had been wanting to build that antenna for a long time and here was my excuse.

Due to time constraints I didn't get started on building the thing until the day of the event. I thought that it didn't look that difficult and that it would go together quickly. Then I started to think about the coils the plan called for and I got this bright idea. I have an ICOM 706 Mark II G and an AH4 Automatic random wire antenna tuner. I thought to myself, "wait a minute, it won't take long to wind the coils but it will take even less time if I don't have to wind them at all." The AH4 tuner provides a matching network that can match any ham band from 6 meters through 80 meters with a 23 foot antenna. I had successfully worked 160 meters with a 109 foot insulated wire. The specifications didn't allow for that but I got creative.

The idea I came up with seemed pretty simple, "construct a vertical sectional antenna and use the tuner to match it." I liked the idea as it didn't require me to get to fussy about the length of the resonator. I would let the tuner do the work.

Ok, the antenna I had planned to make was a vertical. For my portable beauty I would make a vertical antenna. All I needed was a resonator as I already had my matching network. And of course the resonator would need a base to hold it up. Would copper pipe work well for this project? It appeared to work well for J-Pole antennas. Why not use it here also! Ok, how tall could I make it. What about sectional? Sure why not sectional, but how tall could it be and still be reasonably portable? I decided on an experimental scheme using progressively smaller diameter lengths of copper pipe. I started out with a 10' section of 1" diameter pipe, then a 10' section of 3/4" diameter pipe, and finally a 5' section of 1/2" pipe. I took the long sections and cut them in half producing five 5' long sections of pipe. On one end of a 1" diameter section I sweat soldered a male connector, to the other end I sweat soldered a female connector. Between all the pieces I alternated male and female ends utilizing reducers as necessary so that I could screw all these pieces together and produce a 25' tall resonator. Finally I got a 102" whip from Radio Shack and fashioned a connector for its base and hooked it up to the top end of the resonator. This produced a sectional resonator about 34 1/2" tall (well at this point it was still laying on the ground).

But now I had a big problem. I needed a fairly solid base to support this thing. What to do, what to do. I ended up cutting two 22" pieces of 2"x12" wood and laying them side by side then taking two 22" pieces of 2"x4" wood and screwing them across the ends of the 2"x12" pieces effectively making a platform about 22" square. Next I got a shorter piece of 2"x4" board and screwed it to the platform along the length of the seam formed by the 2"x12" boards being laid side by side, thus bridging the length of them jointly. Underneath that piece of 2"x4" I put a length of pexiglass to provide insulation. This may not have been necessary but it didn't hurt. Finally, to complete the base, I screwed on a pipe mount with a female threaded receiver for a one inch diameter pipe right in the center of the piece of 2"x4" board that ran down the center of the base. Ok, the base was complete.

Next came the experimental part, could I screw the resonator into the base and upright it without having the thing fold in half under it's own weight? All right it didn't self destruct! Well, a few guy lines to stabilize it would be in order and it wouldn't hurt to stake the base down with some spikes so that a wind wouldn't blow it over... now to test it.

I hooked up my tuner to the base of the resonator with by a piece of wire coming from the tuner's connector post to the antenna with an auto hose clamp. Then I connected up the control line from the tuner to the radio and the feed line as well and started tuning through the frequencies.

By the time I got it all finished and made it to the mall it was almost over (sob). But I'm ready for next year and field day too (If we're not in Alaska that is). Later on that evening I got into a 3 way conversation with a fellow in New York and another in Florida on 20 meters. After that checked into a net in Washington DC on 785 meters. OK the thing seems to work pretty good even if it took longer to build than I thought it would. That seems to be how all my antenna projects go. At least this one worked the first time around and it only took part of one day, not parts of lots of days! Maybe I'm getting better at antenna design, or did I cheat?

\*Note: this article doesn't cover all the issues concerning this antenna but it covers the major part of them. If anybody has questions please feel free to contact me by way of E-mail: kc8rqv@arrl.net

---

## Select March Contests from The ARRL Web Site

### March 9-11

RSGB Commonwealth Contest, CW, sponsored by the RSGB from 1000Z Mar 9-1000Z Mar 10. Open to UK and Commonwealth stations only; work stations once per band outside own call area. HQ stations may be worked by everyone and count as a separate call area. Frequencies: lower 30 kHz of 80-10 meters, except Novices on 15 and 10 meters. Categories: SO--open (full-time), restricted--(12 hours max), Headquarters--MO and SO; no spotting assistance. Scoring: 5 pts/QSO--1st 3 QSOs with a call area count 20 pts. Keep separate logs and bonus lists per band. For more information, <http://www.rsgbhfcc.org/>. Logs must be emailed or postmarked within 16 days of the contest to [hf.contests@rsgb.org.uk](mailto:hf.contests@rsgb.org.uk) or RSGB--G3UFY, 77 Bensham Manor Rd, Thornton Heath, Surrey CR7 7AF, England.

North American RTTY Sprint, sponsored by NCJ from 0000Z-0400Z Mar 10. Frequencies 80, 40, 20 meters only. North American stations work everyone; others work NA stations only. Exchange both call signs, serial number, name and SPC. The same station can be worked multiple times provided 3 contacts separate the contact in both logs, regardless of band. QSY rule: Stations calling CQ, QRZ etc, may only work one station in response to that call; they must then move at least 1 kHz before working another station or 5 kHz before soliciting another call. Once you are required to QSY, you may not make a new QSO on the previous frequency until you have made a contact at least 1 or 5 kHz (as required) away. For more information, <http://www.ncjweb.com/>. Logs must be emailed or postmarked no later than 30 days after the end of the contest to [rttysprint@ncjweb.com](mailto:rttysprint@ncjweb.com) or to Wayne Matlock, K7WM, Rte 2, Box 102, Cibola, AZ 85328.

UBA Spring Contest--CW, 0700Z-1100Z Mar 10 (see Jan QST, p 107).

Wisconsin QSO Party, Phone and CW, sponsored by the West Allis RAC, 1800Z Mar 10-0100Z Mar 11. Frequencies: CW--3550, 3705, 7050, 14050 kHz and 15/10/6/2 meters; Phone--3890, 7230, 14290, 21350, 28400 kHz and 6/2 meters. Work stations once per band/mode/county; no repeater QSOs. SO, MS, MM and mobile categories. Mobile operators may not sit on a county line to operate. Exchange SPC or WI county. QSO points: Phone--1 pt, CW--2 pts. Score: Pwr mult x QSO pts x WI counties (max 72); WI stations--QSO pts x WI counties + SPC. WI mobiles/portables add 500 bonus points for each county with 12 or more QSOs. Power multiplier: x2 (<5 W), x1.5 (<150 W), x1(>150 W). For more information, [www.warac.org/](http://www.warac.org/). Logs must be postmarked within 30 days to WARAC, PO Box 1072, Milwaukee, WI 53201.

### March 16-18

BARTG Spring RTTY Contest, 0200Z Mar 16-0200Z Mar 18. Frequencies: 80-10 meters; work stations once per band. Categories are SO-Expert, SOSB, SOAB (one band change per 5 min), MS, MM and SWL; SO operate 30 hours total with off periods min 3 hours. Operators with a Top Ten log during the past three years must enter as an Expert. Exchange: three-digit serial number and four-digit time. Multipliers: DXCC entities + W/VE/JA/VK call areas, counted once per band. Score is QSOs x multiplier x continents (count only once). For more information, <http://www.bartg.demon.co.uk/>. Logs in Cabrillo format must be emailed or postmarked by May 1 to John Barber, GW4SKA, PO Box 611, Cardiff CF24 4UN, Wales, UK (only logs with 50 or fewer QSOs may be submitted as printed logs) or by email to [ska@bartg.demon.co.uk](mailto:ska@bartg.demon.co.uk) with the call and entry class in the subject line and the log included as an attachment.

Russian DX Contest, CW and SSB, from 1200Z Mar 16-1200Z Mar 17. Frequencies: 160-10 meters; work stations once per band/mode. Categories: SOAB-HP and -LP (<100 W), SOSB, MS (10 min rule), MM, SWL; SO may enter Mixed Mode, CW, or SSB; MO and SWL are Mixed only. Exchange: RS(T) + serial number; RU stations--RS(T) + Oblast designator. QSO points: own entity--2 pts; different entity, same continent--3 pts; different continent--5 pts; with Russians--10 pts. Multiplier: DXCC entity + Oblasts, count once per band. Score: QSO points x multiplier. For more information, <http://www.rdxcc.org/>. Logs must be emailed or postmarked within 45 days of the contest to [rusdxcc@contesting.com](mailto:rusdxcc@contesting.com) or to Russian DX Contest, PO Box 59, 105122 Moscow, Russia.

Virginia QSO Party--Phone and CW, sponsored by the Sterling Park ARC, 1800Z Mar 16-0200Z Mar 18. Frequencies: CW--1.805 and 50 kHz up; Phone--1.845 3.860 7.260 14.270 21.370 28.370 kHz; Novice/Tech--10 kHz up and 28.370; VHF/UHF--50.125 144.200,

146.58, 223.50, 446.00 MHz. No repeater or cross-mode QSOs. SO, MS, MM fixed station and mobile categories; no time limit; QSOs once per band/mode/VA QTH, VA stations work everyone; others work VA stations only. Exchange: serial number and SPC or VA county/city. QSO points: Phone--1 pt, CW--2 pts, Mobile--3 pts. Multipliers--VA city/counties + SPC. Score: QSO points × multipliers (counted only once). VA mobiles add 100 pts per VA city/county activated. Add 500 pts for QSO with K4NVA. For more information, <http://www.qsl.net/sterling>. Logs must be emailed or postmarked by Apr 15 to ks4ii@arrl.net or Virginia QSO Party, Call Box 599, Sterling, VA 20167.

Montana QSO Party, Phone and CW/Digital, sponsored by the Flathead Valley Amateur Radio Club from 2300Z Mar 16–2300Z Mar 17. Frequencies: all non-WARC HF bands; no categories or time limit. Exchange RST and SPC or MT county. Work MT stations once per band and mode; if a station changes counties it can be worked again. Score is QSOs × SPC + MT counties (count each only once). Logs must be emailed or postmarked by April 15 to K7LYY@arrl.net or rosscons@digisys.net or to FVARC, 117 Rainbow Dr, Kalispell, MT 59901.

YL International Single Sideband System QSO Party--Phone, see Feb QST, p 110.

| CENTRAL MICHIGAN AMATEUR RADIO CLUB<br>TREASURER'S REPORT<br>December 7, 2001 | CENTRAL MICHIGAN AMATEUR RADIO CLUB<br>TREASURER'S REPORT<br>March 1, 2002                    |
|---|---|
| Account Balances<br>As of December 7, 2001                                    | Account Balances<br>As of March 1, 2002   |
| ASSETS:   | ASSETS:   |
| Cash & Bank Accounts  | Cash & Bank Accounts  |
| Mich Nat'l Bank Checking           \$ 560.20                                  | Mich Nat'l Bank Checking           \$ 590.60  |
| Postal Deposit <u>110.40</u>  | Postal Deposit <u>214.36</u>  |
| TOTAL Cash & Bank Accounts       \$ 670.60                                    | TOTAL Cash & Bank Accounts       \$ 804.96  |
| Other Assets  | Other Assets  |
| Comerica Bank CD <u>\$1,423.96</u>  | Comerica Bank CD                 \$1,484.48   |
| TOTAL ASSETS:                       \$2,094.56                                | Accrued Interest                 \$+5.56  |
| LIABILITIES:                         \$0.00                                   | Total value <u>\$1,488.04</u>   |
| TOTAL NET WORTH:                   \$2,094.56                                 | TOTAL ASSETS:                       \$2,293.00  |
| Income & Expenses<br>Nov 2 – Dec 7, 2001                                      | LIABILITIES:                         \$0.00   |
| INCOME  | TOTAL NET WORTH:                   \$2,,293.00  |
| Coffee Fund                       \$ 5.05                                     | Income & Expenses<br>Feb 1, 2002 – March 1, 2002  |
| ARRL Dues Rebate                 0.00   | INCOME  |
| Dues                                0.00                                      | Dues Deposited--(amount includes<br>ARRL new member rebate amount<br>of \$15.00 <u>294.00</u> |
| Ft Wayne Tickets Sold <u>10.00</u>  | TOTAL INCOME:                       \$ 294.00   |
| TOTAL INCOME:                       \$ 15.05                                  | EXPENSES  |
| EXPENSES  | SCOPE Mailing--no bill in PO box   \$ 0.00  |
| SCOPE Mailings                   \$ 0.00                                      | ARRL Outgoing QSL                8.00   |
| ARRL Outgoing QSL                4.00   | PO Box 1yr renewal               55.00  |
| Food                               10.00                                      | George Wood donation            25.00   |
| Donation – Ken Harris            25.00  | Service Charges <u>10.00</u>  |
| Service Charges <u>20.00</u>  | TOTAL EXPENSES:                     \$ 152.00   |
| TOTAL EXPENSES:                     \$ 59.00                                  | TOTAL NET PROFIT:                   \$ 142.00   |
| TOTAL NET PROFIT:                   \$ (43.95)                                | Transferred from Checking to<br>US Postal Deposit Account           \$ 0.00                   |
| Transferred from Checking to<br>US Postal Deposit Account           \$ 0.00   | Transferred from US Postal Deposit to<br>Pay Bulk Permit Fee Due             \$125.00         |
| Respectfully Submitted  | Respectfully Submitted<br>Candace Coburn, KC8QZF<br>Treasurer                                 |
| Pamela Denomme, KB8PSF<br>Treasurer   |   |