

January 2002 – Happy New Year



Central Michigan Amateur Radio Club

THE SCOPE



Lansing Civil Defense Repeater Association

www.qsl.net/cmarc 80 Years of Service to Our Community! www.qsl.net/lcdra

Local Area Amateur Radio Operators Are Recognized By The Michigan Legislature For Communications Support After The 9/11/2001 Trade Center Disaster And Tornado Reporting

A RESOLUTION TO CONGRATULATE THE AMATEUR RADIO RELAY LEAGUE FOR THEIR EFFORTS IN BENEFITING THE PUBLIC THROUGH COMMUNITY SERVICE AND EMERGENCY SITUATIONS

WHEREAS, The Michigan House of Representatives recognizes the Amateur Radio Relay League, and more specifically the Delta Township Auxiliary Communications Service, for their efforts in benefiting the public through community service and emergency situations; and

WHEREAS, The tragic events of September 11, 2001 have further demonstrated the importance and necessity of having an amateur radio network to assist local emergency crews. The Amateur Radio

Relay League has admirably volunteered their time and services to aid both the American Red Cross and the Salvation Army; and

WHEREAS, The Amateur Radio Relay League provides assistance to countless civilians during severe weather; be it thunder storm, tornado, or hurricane. Members of this distinguished association relay vital information, such as downed power lines or severe weather sitings, to local emergency departments; and

WHEREAS, The Radio Amateur Civil Emergency Service has demonstrated on numerous occasions their ability to aid communities in times of emergency or in training their local areas for possible disaster situations; and

WHEREAS, Amateur radio

broadcasters provide their local communities with unique opportunities, such as allowing elementary school students to speak directly with astronauts on the International Space Station; now, therefore, be it

RESOLVED BY THE HOUSE OF REPRESENTATIVES, That the Amateur Radio Relay League is a vital association of the State of Michigan and provides necessary services for local communities. We commend this association for their loyal and diligent effort to their surrounding areas; and be it further

RESOLVED, That a copy of this resolution be forwarded to The American Radio Relay League, the Delta Township Auxiliary Communications Service, the Central Michigan Amateur Radio Club and the Eaton County Amateur Radio Club.

Notes of December 2001 CMARC Meetings

The Board agreed to allow the clubs duplicator, printer and supplies to be transferred to John – KC8RQV, our new Scope editor, and relieve Erv of responsibility for them when the transfer is complete.

Jane – KC8FSK will no longer be taking care of refreshments at the CMARC meetings, so a new volunteer(s) will be needed. Pam – KB8PSF said she could help from time to time, but not at every club meeting.

There was quite a bit of discussion regarding the presentation of a State House of Representative Resolution honoring the local amateur radio groups and operators that participated in recent emergency response communications. The bulk of the discussion regarded the absence of any ARRL

representatives, and how the local hams perceived this. It was noted that there was very little notice given to our ARRL officials, and some indicated prior commitments could not allow attending.

Pam pointed out a typographical error in the October checking balance as reported in the Scope. The amount was shown as \$581.90 but it should be \$591.90, and Pam suggested that the problem could be avoided if her report was imported into the Scope page layout, rather than being completely re-typed.

Pam reported sending a \$25 dollar check from CMARC in memory of Ken Harris. Pam was informed that Jerry Maslowski passed away on Nov. 29, and she said she would send a check in memoriam for him as well.

Adjourn to regular meeting.

The primary business of reopening nominations and electing Directors was begun when Dick – KI8C and Dennis – KB8ZQZ moved and seconded to open nominations for the 2 year director position. No nominations were made, so they repeated to close the nomination.

The 1 year nomination was opened when Dennis – KB8ZQZ and Greg Hiscock – WA8DLI moved and seconded. No nominations were made, so Currin – W8FSZ and Troy – W8TCC moved and seconded to close.

The under 22 nomination was opened when Dick – KI8C and Larry – KC8RVI moved and seconded. Kevin Mulder – KC8QZE

was nominated for this position (nominators name missing in my notes). Currin – W8FSZ and Scott – K8SBT moved and seconded to close.

Ballots were distributed and while votes were being cast and counted, the Treasurer's report was accepted as corrected, when Don – KD8BD and Currin – W8FSZ moved and seconded.

The Secretary's report was accepted when Bernie – N8PVZ and Troy – W8TCC moved and seconded.

While ballots were being counted, State Representative Paul DeWeese presented copies of the Resolution he sponsored in the Legislature to honor area amateurs for their emergency communications service. Receiving for CMARC/Lansing/Ingham County was Clint Hannahs – KC8HER. Larry St. George – KC8RVI represented the Clinton County group, and Greg Hiscock – WA8DLI and Richard Meister represented the Delta Township group. Tom Rocheleau – WA8PLI was present to accept a copy for the Eaton County group. After the presentation, we had a break for refreshments and Rep. DeWeese had a chance to mix in and talk with the club members informally.

Three volunteers (names not recorded) counted the Ballots and the results are:

Bruce – KC8ODP elected to a new 2-year term following his 1-year of service.

Gregg – WB8LZG elected to a new 2-year term.

Wayne – KC8QEK elected to a new 2-year term.

Candy – KC8QZF elected to a new 1-year term to complete the term vacated by Mike –

The National Weather Service, in conjunction with the Ingham County Amateur Radio Public Service Corps, will

Ruminations

Mike Rhew – KC8DBP

If you are interested in working on hands on projects, such as Antenna construction or Kit building, we may be able to do so at McDonald Middle School in East Lansing. There is a Ham Radio Club at the school, and the students are working on projects already. They are Lucas – KC8OTY, Tyler – KC8NSB, Bill – KC8SDB, Emily – W8ELS, and Clay – KC8RHL. All of these young hams are either CMARC members or have visited at CMARC meetings. There is

KC8FCA.

Tyler Whitney – KC8NSB elected as 1-year under 22 Director.

Wayne will serve as CMARC Secretary, and Candy will serve as CMARC treasurer. Gregg will act as CMARC liaison with the McDonald School, with the goal of setting up some hands on projects there with the school club.

Both Tyler and Emily, current and past under 22 Director, are students there and members of that club. Clay – KC8RHL is a CMARC member who is a student there and was present at our meeting We also have several other regular visitors from the schools students that are members of CMARC. A new Ham at the school, Richard McCreight – KC8SOT, was visiting us along with Billy – KC8SDB. This School is very well represented by these fine young people, and I encourage everyone to engage them in conversation when you hear them on the frequencies.

Not returning to the CMARC Board were Pam – KB8PSF, Randy – KC8IHV, and Emily – W8ELS. I want to thank Pam, Randy and Emily for their service to the club as Board members. I also want to thank Jane – KC9FSK for serving the snacks we all enjoy so much at the break during the meeting. If anyone is interested in taking over the position Jane is vacating, please let me know.

John – NG8I is the CMARC membership chairperson. His work is preventing him from attending meetings, but he says that he can still accept membership applications and dues that are sent to his home address.

2002 SKYWARN Spotter Training

offer SKYWARN spotter training Saturday, April 13, beginning at 12 pm at the Red Cross building in Lansing. All spotters affiliated with Lansing Area SKYWARN should attend, and the public is welcome.

at least one new Ham from this school, Richard McCreight – KC8SOT and he visited with CMARC at the November meeting. There are many students who have expressed an interest in getting a license. I urge all CMARC members to offer any help (Ruminations – continued) and support to these young people that is possible. Gregg Mulder – WB8LZG will act as liaison with the school to get things set up.

We need to have a volunteer to take over the snack preparation at the CMARC meetings,

John A. Ingraham
2807 Greenbriar Ave
Lansing MI 48912

John was also handling the door prizes for the CMARC meetings, and has been unable to continue this due to his job requirements. In the past few months we had some 50/50 drawings instead. I would like to have a volunteer to take on the function of door prize manager. There are some funds left that John will provide to acquire new prizes.

It was reported during the meeting that Hal Bell – WA8LAY was in the Dimondale Home in room 120. A former member of CMARC, who has been living out of the area, Don Holloway was reported as having passed away recently. The father of Steve Dible also recently passed away.

Some new Beginners' Licensing Classes will be offered. In the Lansing area, CMARC and the MSU ARC will sponsor classes starting Jan. 19 through Feb. 23 at MSU, from 10:00 to 11:30, followed by a Morse code class from 11:30 to 12:30. Text book purchase is required (Now You're Talking, 4th ed. from ARRL). To order through the Instructor and get a discount, Dennis Boone – KB8ZQZ must receive payment by Jan. 5, 2002. Register for this class by contacting Greg Mulder 517-646-6257 or Michael Shanblatt 517-332-0489, or email to class@msuarc.egr.msu.edu. Web page registration is available at <http://msuarc.egr.edu/class/>

The Eaton County ARC is holding a Technician License class starting Monday Jan. 14, 2002 at 7:00 p.m., in Charlotte. Contact WB8TGY@arrl.net for more information.

For more information, contact Jaymes Kenyon, KC8DJH, Ingham County AEC, at (517)646-0558 or kc8djh@arrl.net. Get more from the Web. FREE MSN Explorer download : <http://explorer.msn.com>

since Jane – KC8FSK has said she can no longer do this. Thanks Jane for all your efforts over the years.

We also need a volunteer to take over the Door Prize acquisition job. John – NG8L is not able to be at CMARC meetings now because of his job, so we have had several meetings without door prizes. I much prefer prizes over a 50/50 drawing, and we may be able to get prizes from ARRL that will be of interest to the members. John will continue as membership chairman, and will accept dues and applications mailed to his home.

Thanks John for the work you have done and continue to do for CMARC.

It is time to start planning for this year's Field Day. As we found out this past Field Day, it takes a combined effort of many people to carry this off well. We need people with Knowledge and Experience to guide and train the newer people in the hobby. We need younger members with Strength and Energy to handle the tasks that

LCDRA President's Report

From: Dan Harger, President of LCDRA
Merry Christmas and Happy Holidays!

Just a note to all, thanking you for your support of LCDRA and the efforts of everybody involved in 2001. I know that we all appreciate the LCDRA board and the consistent work they have put forth. Also, thanks to Jim Harvey KA8DDQ, Dennis Boone KB8ZQZ and everybody else who has helped us put this year of 2001 together.

As you know by now, all our repeaters, the 145.39, the 146.94, the 146.70 and the link on 145.47 are all sub-audible tone squelch now, 100 Hz input and output. The 224.98 machine is still standard squelch. This has eliminated most interference and nuisance problems that we had been experiencing lately, especially on the 146.70 machine. Of course, this has also made us update our equipment to add the CTCSS tones. I

Editorial Commentary by John Hayes, KC8RQV

As many of you know Erv Bates has stepped down as newsletter editor, effective this month. Due to a number of responsibilities and the anticipated arrival of their third child, Erv felt that he would not be able to continue to produce the same high quality newsletter he had in the past and so chose to retire in this capacity. We will all miss the **Scope** that Erv produced month after month for the last few years.

I volunteered to assist with **The Scope** some months back and have assumed the role of newsletter editor this month. I am new to Amateur Radio and am ignorant of many things. Editing the newsletter provides me with a unique opportunity to learn many things about Amateur Radio in our area and also in general. Please bear with my ignorance about some issues. I still have many things to learn, and with your help I will get there.

are physically demanding. If you are interested in being one of the Field Day Chairmen, please contact me.

We need to start the site selection process for a Ham Swap this year, since it is clear that the Summit is not interested in working with us. If anyone has knowledge of a site that is in or near Lansing, with easy access to Highways, ample parking, and hopefully drive in for set-up, at reasonable rental rates,

personally have added tone encoders to several of the older units out and about!

LCDRA has acquired several MICOR base station units to convert to repeater use. We will have complete back up for all our repeaters when we get these converted.

So just imagine if we didn't have our repeaters and we were stuck with simplex, or "direct car-to-car" talk power only, like we had years ago before repeaters. Today, we can talk forty to fifty miles, no problem, with a handie-talkie with a grubby stub ¼ wave antenna. Repeaters are a must! So support emergency communications in the Lansing area through LCDRA for another year. Dues for the year 2002 are \$15 for single and \$7.50 for each additional family member. Applications can be found at the back of this club paper edition.

This year at our LCDRA meeting, January 17th at Lansing Fire Station #8, we will have a test set up for you to bring your HT or

I must apologize for the appearance of this month's **Scope**. It is my very first. I have produced newsletters for organizations in the past, but that was some time ago and my skills are rusty. There aren't many graphics in this month's newsletter. This case may continue for a few months, but as I refine the format it will improve. This month in particular things may appear substandard. December is a busy month for me so this was probably not the best time to start the job. I have sacrificed some content and quality to try and have a copy of the newsletter in everybody's hand by this month's CMARC meeting. That will be my goal every month. My other goal is to produce a newsletter as fine as the one Erv has published for CMARC on a monthly basis. It will take me a month or so to get up to speed.

What the newsletter needs is content. If you want others in the club to see something, **The Scope** may be the logical choice to spread the news. If there is something you need to write out to tell others about,

please contact me.

I welcome your comments and suggestions as we work together to make CMARC an even better organization. You may contact me at kc8dbp@arri.net, or telephone 989-725-1853 (long distance for most of you).

73 de KC8DBP

transceiver for deviation (modulation) adjustment. We'll have the necessary tools and parts available, including a communication service monitor. We will meet at 7:30 PM as usual and remember this is the meeting for the election of officers.

Lastly, please continue to be faithful in showing up for our various nets. The .39 Sunday evenings, the .70 on Tuesday nights are 8pm and, of course our new net on 146.94 that Delta ham groups are operating at 7:30pm each week also on Tuesday nights. The 6-meter net meets Sunday night at 9pm on 52.525. The 2-meter simplex net meets at 8:30pm Monday night on 146.58 MHz. Thanks to all the faithful net control operators and their efforts.

Once again, Merry Christmas and a very Happy New year!!!

Dan Harger W8BCI
LCDRA President

consider writing an article for **The Scope** and share it with a larger audience. As I get to know you and learn what your particular interest are, I may solicit for articles from you.

This month I have pulled things from last month's newsletter to fill in gaps. I will make corrections to any mistakes next month. Those of you who are aware of proper schedules please provide me with corrections as soon as possible. I will continue to publish birthday, anniversary, sickness and obituary notices as provided. This month, out of ignorance I have none. Next month I will include all things missed this month.

To get **The Scope** to you in a timely manner I am creating some deadlines for various types of **Scope** submissions. I hope they are not viewed as being too hard or selective. Their sole purpose is to deliver **The Scope** by the CMARC monthly meeting date. My goal is to make **The Scope** work for CMARC and LCDRA. I want to make the newsletter a source of information for

everybody so it is of real value to the membership and also to the public at large. It would be nice if folks viewed **The Scope** alone as being worth the \$10 annual CMARC dues. In that vein, I will produce extra newsletters and make them available at the monthly meetings. I would like to strategically place small numbers of copies in places where "would be" and active Amateur Radio hobbyists may find them and take them home. Hopefully this may promote good will and membership. Also, I will continue to provide a PDF version on the CMARC web site. Folks could conceivably obtain a copy there before they get it in the mail.

The deadlines I am posting will be constant from month to month. Over time I will solicit for help in some aspects of **The Scope** based on scheduling and need.

<i>Deadline</i>	<i>Event</i>
1/10/02	Hard copies, scannable submissions
1/15/02	Computer editable submissions
Inform as soon as possible	Event schedules, notices, wanted to sell/buy, birthdays, anniversaries, obituaries

These deadlines are important as they will save me from getting a flood of things of varying types all at the last minute. I have tried to set deadlines that will accommodate everybody while helping me stay on track. Please note that there will be some redundancy in the newsletter for the sake of completeness, in the area of event scheduling. I'm certain many things will be listed in CMARC, and LCDRA minutes and notes, that will be placed in other areas of the newsletter to provide a complete one stop listing of events. Any item that misses it's schedule by type of submission will be delayed until the following month. The deadline for mail the newsletter is the Friday exactly one week before the monthly CMARC meeting.

Ways To Get Information to Me

You can mail hard copy, floppy disk or CDROM content to:
 John Hayes KC8RQV
 4311 Old Castle Circle
 Lansing, MI 48911-2528

Floppy disks (3.5") should be formatted for use under DOS. CDROMS should be in the ISO standard format. Always include the date, your name, address, phone number, E-mail (if you have it) and return postage and packaging if you want your items returned. I

frequently have questions and like to follow up with folks about issues to make sure I use the content correctly.

The way I would prefer to receive content is by E-mail. It probably represents the least work for both parties if you have that capability. My preferred E-mail addresses are:

KC8RQV@arrl.net
jhh@envirobat.org

If all else fails use:
jhh@msu.edu

Computer editable submissions are always preferable. Formats that I can use include:

MS WORD 95, 92, 2000
 MS Win Word 6.0
 ASCII Test
 ANSI Text
 Rich Text Format

Graphics I can work with include:

GIF
 JPEG
 BMP
 TIFF
 PNG

Spreadsheets I can work with include:
 MS Excel 5.0, 95, 97, 2000

I can also use Dbase databases. Text based tab separated fields of dumps from other types of database will work well also.

If you want to call me on the phone and provide small items of news verbally, that is fine. My home phone number is: (517)393-2787

There is no answering machine at this time. My answering system died and I haven't had time to reconstruct it.

If you hear me on frequency, you can also provide small items of information that way. I am frequently mobile when on the air so I may ask you to call or E-mail your information. I do check in to the local nets occasionally and ask for items then.

Don't ever assume I have heard about something. It would be better for me to hear it twice than not at all.

With Respect To Content Editing

I am not a professional editor. My spelling may be no better than yours. It may even be worse. Sometimes my grammar is not perfect. Also, my "spell" checker could be better (I aint usin M\$ Windows). I am using a version of Linux (a Unix clone) put out by Mandrake (version 8.0 soon to upgrade). My

document processing system is Star Office 5.2 which is fairly compatible with M\$ products, but it is not quite in the same league with M\$. Heck, I never used all those features anyway. I won't be making many editorial changes to items posted unless there is a glaring error. If there are any questions, I will contact the content provider. In most cases I will assume their content reflects the writing style of the individual who provided it. I will provide serious editing services to those who request it.

I am including a format I want to use for **The Scope** on a monthly basis. Please feel free to suggest changes for the format. I am especially interested in any omissions. This means I am missing some forms of content.

Scope Contents

- National/state Amateur Radio News
- Scope contents
- Local amateur radio news
- Club news
- ARRL news
- News from other organization
- Announcements
 - Obituaries
 - Illness
 - Other
- Articles
 - CMARC President's article
 - LCDRA President's Article
 - Editors article
 - Letters to the editor
 - Other articles
- Events calendar
 - CMARC events
 - LCDRA events
 - Other local area meetings
 - Local VE testing
 - Classes
 - Ham fairs
 - Contests
 - Special events
 - Other events
- Advertisements – wanted to sell and buy
- Birthdays and anniversaries
- News of illness
- Obituaries
- CMARC and LCDRA organizational reports
 - CMARC board report
 - LCDRA board report
 - CMARC treasurer's report
 - LCDRA treasurer's report
- Information directory
 - Local area repeater directory
 - Local area Ham web site directory
 - Local area net schedule
 - Other net schedules
- Other items
- Newsletter deadlines

- Corrections to previous publications
- CMARC officers list
- LCDRA officers list

• Back page

Future Editorial pages will be much shorter. 73,
de KC8RQV

Lansing Civil Defense Repeater Association Constitution and ByLaws Proposed Changes

This is a posting of the proposed changes to the L.C.D.R.A. Constitution as deemed necessary by the membership who were active in the previous years meetings. There are spelling changes and wording changes along with some changes that streamline the operation of L.C.D.R.A.

Proposed changes to the L.C.D.R.A. Constitution:

Article III Membership

1.a. ?valid amateur radio license? leave out; **operator and station**

Article IV Membership Pledge

?shall pledge himself or herself to adhere? add; **or herself**

Article VII Resignations

Second paragraph ?There will be no? corrected spelling; **will**

Article VIII Government

?President, Vice President? corrected capitalization; **V**

Article IX Meetings

1. ?a quorum shall consist of a majority of those members present and voting. Changed to; **a majority of those members present and voting.**

Article X Amendments

a. ?for approval to present at next regular meeting for adoption. add; **to present at next regular meeting for adoption**

b. deleted section b.

c. changed to **b.**

- ?in the form of an absentee ballot? added; **n absentee**

- ?entire membership at least two weeks before the next regular meeting. Changed to; **at least two weeks before the next regular meeting.**

d. changed to **c.**

- ?on the absentee ballot and must be received prior to the next meeting. added; **absentee ? received ? prior to the next meeting.**

e. changed to **d.**

- ?shall open the absentee ballots as well as certify the meeting voting results and determine? added; **absentee ? as well as certify the meeting voting results ?**

- added to the end of new d.; **A majority of those people voting shall be required for approval.**

f. changed to **e.**

Article XII Association Station Rights

?maintain and operate a club station(s)? removed extra **a, added (s)**

This is a posting of the proposed changes to the L.C.D.R.A. Bylaws as deemed necessary by the membership who were active in the previous years meetings. There are spelling changes and wording changes along with some changes that streamline the operation of L.C.D.R.A.

Proposed changes to the L.C.D.R.A. ByLaws:

Article III Dues and Assessments

Section 1. spelling; **joining ?**

?January 1 of each year thereafter. Added; **thereafter.**

Article IV

Article IV Election of Officers added; **Election of Officers**

Article V Duties of Officers

?exofficio voting member? added; v

Article VI Liability

c. ?improper personal benefit?changed case; p

Article VII Trustee

?position shall be appointed by the President and approved by the membership at the next regular meeting following the appointment. ?.changed that Dick Pennigton was the trustee

Article XI Meetings

added; **Section 4. Quorum – See Constitution Article IX Section 1.**

Submitted for membership information, prior to the vote to adopt or decline by membership, on 12/12/01, by Secretary, Troy C. Creed, W8TCC.

FM Evolution, Lansing Dan Harger, W8BCI

When Hal Bell, WA8LAY was talking about FM beginnings in an earlier Scope, I enjoyed it so much I thought of telling the story from my view, since I am the "Granddaddy of FM" here, really. I say that because of the many rigs that I converted from commercial units. A bunch!

I was a VHF nut from the beginning. When I came to Lansing in 1954, I hunted down the people on 144 AM and I was directed to Pete Gossett, W8CKK, "A Cat & Two Kittens" and Chuck Richardson, W8RXY. There wasn't a lot of people on VHF at the time. Chuck Duel was on the CAP freqs with a SCR522, but he wasn't a ham.

Things grew though and Gonset came out with their Communicator and Heathkit with the Twoer. I was making converters to convert two meters down for the communications receivers, selling them to anyone interested in improving their work on 144 Mhz. (Two 6BQ7A's, tubes, in cascade cascade was the hot thing at the time for front ends.) No one was ever on the same frequency, we were always tuning around to find the other person. Once I was trying to break into a QSO with 500 watts of AM, alas, they were only 5 Khz away but rock bound; just like me, VFO's at the time were very unstable.

I had been exposed to FM when I worked for the State Police at Pendleton, Indiana while attending college at the church school at Anderson. The chief engineer at the Post had installed a two-case Motorola base on 147.10 Mhz for Civil Defense communications. The antenna was mounted at the 300' level on a 400' tower. I worked the 12M to *A shift and to a guy who monitored the system in Seymour. He was in a round table on 75 SSB using VOX. He had the volume up quite a way on the FM rig so

when I came on I tripped the VOX no problem!

The ham in Seymour came on with a shaky voice and was curious to know who I was and where I was. When I told him he asked if I had receiving capabilities on 75 M. We had a long wire we used for State Police around 7Mhz and used an HRO-60 receiver. I dusted off the plug-in coil for the 75 Meter freq and was soon listening to the round table. The ham in Seymour set his FM speaker the same distance from the mike as he was, adjusted the volume on the FM receiver so I could key his rig via the two meter FM link. I told the chief the next day I had worked California on two meters the night before (some of the round table on 75 were from Calif.) I got his attention at least!

The police communications were clean on FM, both mobile and base and it had squelch; everyone was on the same freq.! So when I left Indiana in 1954 and came back to Lansing I was delighted to find out that WKAR did the FM two-way maintenance. We had a complete repair shop set up in Quonset 59 on the MSU campus, WKAR maintained the police and the grounds dept. FM radios. Clint Eaton, WD8MSD was the tech and John Blakeslee W8DXM was the chief engineer for WKAR radio. I ended up as assistant chief while at WKAR.

So, we had Motorola two-way FM gear all over the place. In 1964 Motorola had come out with the Twin V unit that would work on either 6 or 12 volts. That left the older 6v units like FMTRU5v's available. They were laying around in various states of repair and disrepair. But we had manuals! John, W8DXM had begun to convert one to AM, Clint had started to convert one to a small base station. I used these two units and made two working base stations on 146.94 Mhz, the national calling frequency for ham FM.

I used one of these mobile with a converter and it worked great in the mobile, no flutter

or ignition noise which plagued AM VHF mobile!

Once I got a base station working at the shop I took it home and hooked it up to my 32 element collinear beam I had for 2 meter AM. Keith Coates, a ham in Owosso heard me on .94 but thought sure I was a bootlegger with a call like W8BCI (Broadcast Interference); besides there was no one on FM in Lansing anyway! He laughed when he found out it was me. Keith and I had worked together at WKAR-TV years before.

I got serious about FM and switched the 32 elements from horizontal to vertical, but structurally it didn't like it so I ended up with two eight element yagis at 56' to use on FM simplex, 146.94 vertical polarization, 25 watts, WOW!

Jim Holcomb, Lansing's CD director, was motivating us (WA8KZY) to improve weather net communications, to better nets during storms. At one of the Sabin Oral Sunday activities, Jim needed a link from the Health Dept. downtown Lansing to the control center at Marble School. I used these two base stations for the link and they worked beautifully.

The Motorola Rep. at this time was Ken McKnutt and ken traded out five FMTRU-41V's that were used once on motorcycles! 6 volts! Vibrator units! \$25 each. At least they didn't use dynamotors. And we had manuals! Further investigation showed that they could be converted to 12 volts. Whoa, let me rephrase that, I was excited, no one else wanted to get on frequency where no one else was, right? Everyone else was at 145 something on AM. Who would we talk to? What fun would that be? The upper end of two meters was for the ghosts, right? (Next month the EVOLUTION continues and a bunch of ghosts emerge on 94 simplex FM!)

Build A Field Strength Meter by Dan Harger

So you think you can't afford a Field Strength Meter. This is a basic piece of test equipment that every Ham should own or be able to borrow and for a few bucks a very adequate FSM can be constructed. This design is from Bill Vaughn, KC8TS, and was published in the TOMRAG (Top-Of-Michigan Radio Amateur Gazette) of Gaylord club.

In its simplest form, a FSM is nothing more than a piece of wire, a diode and a meter of some type. Basically, it is nothing more than a simple detector that gives some kind of reading relative to the strength of the RF field it's antenna is subjected to. Going beyond that, by adding a few buttons, switches, and a calibrating meter, you can have a very accurate measuring device.

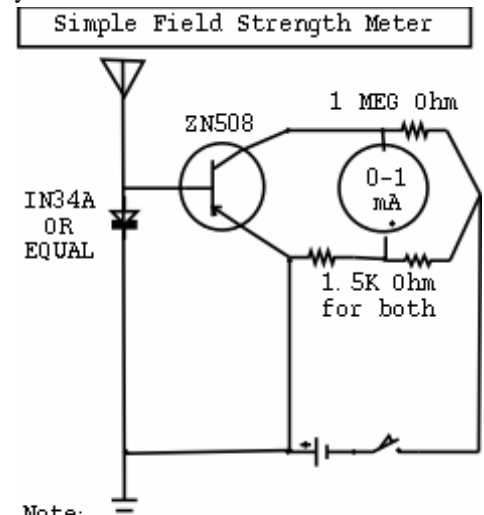
This unit consists of a meter, diode (signal type), 3 resistors, transistor, metal box, telescoping antenna and a 1.5 volt batter

with a switch. While it may not be laboratory grade, after a period of time you get to know what meter readings you can expect from an antenna at a certain frequency and power level at a given distance from the antenna. This is in addition to being extremely useful in tuning up mobile antennas as was mentioned in a previous article.

If you have a field strength meter and are happy with your antenna's performance, take some readings now and keep track of them for reference. Quite likely, if you start having degraded antenna performance, it will tell you before you find out with your SWR bridge.

On other job you can perform with a FSM is trouble shooting amplifier stages in a transmitter, especially in solid state rigs. By using a clip lead or probe hooked to your FSM antenna and going from base to collector down thru a chain, you can easily tell where your power disappears, and if a transistor is or isn't working. Be careful, you may have to attenuate your input as you go down the line towards the output stages to avoid damaging

your meter.



Note:
Any General purpose
PNP germanium transistor
can be used in place of 2N508

Visionary people are visionary partly because of the very great many things they don't see. — Berkley Rice

Knowledge is the only instrument of production that is not subject to diminishing returns. — J.M. Clark

ATX Computer Power Supplies In Amateur Radio Applications by John Hayes KC8RQV

I am very new to the hobby of amateur radio, having been licensed in June of this year. Although it seems like I have spent a fair amount of money on the "hobby" I have tried to economize wherever possible. One area of economization has been in antenna systems. I have elected to build some of the antennas I use. This has been a very educational process but maybe not as cost effective as I had hoped. I mean the MFJ Antenna Analyzer was not cheap, but I have learned a LOT.

Being the type that jumps in with both feet first and then thrashing around while learning how to swim (metaphorically speaking of course) I assimilate a lot usually at some initial expense. One place I was able to truly economize was with a power supply for my 50 watt amplifier for my ICOM W32A HT.

I had built my 2 meter J-Pole and tuned it up, then mounted it on the roof. After completing my setup I grabbed my 3 AMP 13.8 volt power supply (I'm sure everybody can see what is coming next) and connected my HT and amplifier to the antenna then powered up. I couldn't even hit the Okemos repeater with the thing on full power (this repeater is only about 10 miles from my

house). I couldn't figure out why I could hit the repeater with 5 watts but not 50 watts. I got a couple of other HAMS (Scott-KF4JPD being one) trying to help analyze the problem. They suggested that maybe the SWR had shifted on the antenna after I mounted it on the roof. It took a while for me to conclude that a 3 AMP power supply can not effectively drive an amplifier that needs 8 AMPS of power. I had failed to do the math before I jumped in with both feet.

I called Radio Shack to see if they had a 10 AMP power supply. The one I called did not and I assumed that none of them would have one (I should have called some of the others). Then I recalled a recent web article I had read about using computer AT power supplies for HAM radio purposes. This is right up my alley being a computer technogeek (computers are my bread and butter). The article said that you needed to place a load of 10 to 20 watts at 1 ohm on the -5 volt line (don't hold me to any of this) to force the AT supply to provide current.

I have a problem with AT power supplies. They have a power switch outside of the power supply case making them appear a little unsafe to somebody having a 6 year old child around the house. On the other hand, an ATX supply sounded like it might do nicely having a physical switch inside the case. ATX based computers have a software switch on the front panel that straps a logical

"power on line" to ground. They have no need for a large load to force the supply to operate.

I went to DigiLink (a computer vendor in Okemos) and purchased a 250 watt ATX switching power supply for \$29.00 plus tax and went home to experiment. I told the folks at DigiLink what I was up to and they were nice enough to provide me with wiring diagrams for both the AT and ATX power supplies (they got'em off the web).

I took my nice shiny ATX power supply home and began to experiment. At first I tried placing a load on it the same way they suggested for the AT power supply, to no avail. Finally I began to think about the nature of the ATX based computer and reasoned that the green wire labeled "Power On" (or something to that effect) was a logic line that forced the supply to power up. I took a loading resistor and used it to strap this green wire to a black ground wire and I had power. The rest is history. I have been using my power supply to drive both the 50 watt amplifier for my HT and also to power my ICOM 706 Mark II G at 100 watts.

Jeff Piper, a coworker who recently became a licensed amateur radio operator decided to purchase a mobile 2 meter rig. He was interested in getting into the hobby economically and so decided to use a modified ATX supply for his rig. Between his radio, power supply and antenna I don't

think he has \$250 invested and has a pretty nice Yaesu to boot.

I have been told that the computer switching power supplies are too noisy for use with SSB. I have not found that to be the case. I have switched between my computer power supply and a battery to see if there were any increased or reduced noise levels but detected nothing of note. I read afterwards that the ATX power supply was not as noisy as the AT power supply so this may be a consideration. For the FM mode I have been told it would not be an issue and I have noticed nothing of note when using FM mode.

I am not going to provide any diagrams as I can not do color for the printed version of the scope. I will provide a host of web addresses that discuss various aspects of the ATX power supply and include color coded wiring diagrams. I will explicitly describe what I did to construct the final power supply that I am using to drive my ICOM HF rig.

The main connector on an ATX power supply is a 20 pin connector that plugs into the mother board. If you look at the side of the connector with the holes, you will notice that the holes are numbered (at least one will be numbered anyway). If they are all numbered then you will have no problem. If only one is numbered, note the number. It will be useful later. This connector has 2 rows of pin holes. The first row is labeled 1-10 (either explicitly or implied) and the second row is labeled 11-20. You must identify the wire associated with pin 14. Having said all this and making a big deal out of numbers, this is all very easy. It's the green wire folks. The only green wire coming out of the power supply! Easy, eh? Initially, all I did was to stick the end of a 10 watt, 1 OHM power resistor in the hole that the green wire was connected to. The other end of that resistor got plugged into a hole connected to a black electrical ground wire. I flipped the switch on and the cooling fan on the power supply came on. I read an article that said to test these power supplies just strap the green wire to a black ground wire using a paper clip. I would suggest a small load resistor (I'm still using my big power resistor).

Here are the ratings for the various colors of wire used by the ATX power supply:
Black - GND -
Common Ground
White - -5V - Power

-5 volts		
Red	- +5V	- Power
+5 volts		
Blue	- -12V	- Power
-12 volts		
Yellow	- +12V	- Power
+12 volts		
Orange	- +3.3V	- Power
+3.3 volts		
Violet	- 5VSB	- +5
volts standby		
Gray	- PWROK	- Power
Good		
Green	- PS-ON	- Remote
power On/Off		

I have metered the power coming out of the 12 volt leads on my supply and they generally meter at 12.5 volts. According to the specifications for one manufacturer's 235 watt supply, a +12 volt lead can supply 8.0 AMPS. A 300 watt supply could supply 12.0 AMPS.

My ICOM 706 is the fussy radio, rated at 13.8 volts + or - 15%. I have done the math on this and minus 15% on the voltage is less than 12 volts. The 706 takes 20 AMPS. My final product was designed for this worst case scenario. I combined three of the yellow wires from three different peripheral connectors, from different leads out of the power supply to produce a higher amperage buss. I also selected 3 black wires matching the same description to complete the other pole of the buss. I connected the yellow buss to some 12 gauge red insulated wire and used some 12 gauge black insulated wire to connect to the black buss. These wires were connected to a cigarette lighter socket. One which I was assured could handle the load by a vendor at the Fort Wayne Ham Fair. The power supply appears to have an internal circuit breaker so I put my fuses on the end of the wiring that connects to the radio. Of course I also picked up a cigarette lighter plug that could handle the load my 706 could put on it at 100 watts. At 12.5 volts and 20 AMPS things should just hit 250 watts of power. The only time the circuit breaker gets tripped on the power supply is when I forget (heaven forbid) to connect the ground wire on the radio. Then I just turn the power supply off for a minute or so and then turn it back on.

I trimmed all the extra wires coming from the peripheral interface wiring and taped the ends with electrical tape. This does not need to be done but I was trying to tidy things up a bit. I did not mess with the wiring on the motherboard connector other than to strap

the green wire to ground with a pull up resistor.

There are several ways you can go about connecting the resistor between the black ground and the green wire on the motherboard connector. I found that 14 gauge wire fits snugly into the connector holes, so my first pass at this was to make a couple of 14 gauge connectors by striping the insulation off of both ends of 2 short pieces of wire. I then soldered the ends of the resistors to connectors. Finally I plugged the free ends of the home made connectors into the proper holes of the motherboard connector and taped the resistor to the side of the connector with electrical tape making a nice package. This worked great.

I had a dead ATX motherboard laying around so for my second pass I pulled the reciprocating connector off the motherboard, soldered my resistor to the proper places on that connector and plugged it into the male connector on the power supply. This worked great also.

To complete the power supply modifications, loosen a screw on the supply and connect an RF ground wire. This type of supply has a 3 prong plug so should provide a proper electrical ground if your house wiring is good.

I make no guarantees but this modified power supply works fine for me. I dropped my SWR/watt meter once too often and can not provide a report on power out but I have the same performance with my mobile both at home and in the car. It actually performs somewhat better at home due to a better antenna system.

The following is a list of web addresses which discuss various aspects of ATX power supplies include, wiring definitions, specifications and some schematics:
<http://www.compute-aid.com/atxspec.html>
<http://wired.hard.ru/data/atxpower.shtml>
<http://www.hardwarebook.net/connector/power/atxpower.html>
<http://www.cablexpress.com/specification/atx.html>
http://pcpowerandcooling.com/support/index_ATX.htm
http://www.ee.ualberta.ca/~elliott/ee552/studentAppNotes/1999f/atx_pwr_supply/
http://www.pavouk.comp.cz/hw/en_atxps.html

73 de KC8RQV

Announcements

Recent Silent Keys	Birthdays	For Sale	
<p>Rick Hayner WA8JQV (Ex-K9RH) Passed away on Sunday, December 23, 2001. The elder hams may remember Rick; he was very active in the past. Dan, W8MMQ, had spoken to him in the past few months and was informed by Rick that he had some recent health problems. The notice from the Lansing State Journal (12/27/2001) reads as follows: "Hayner, Rick L., 53, died Sunday. Services 11 a.m. Thursday at Schrauben-Lehman Funeral Home, Portland."</p> <p><small>*If I have not mentioned some recent passage please provide a notice so that I may include it next month.</small></p>	Normally birthdays would go here. When I figure out who is having them I'll put 'em here. Just let me know.	– Realistic 10 Meter ssb/cw Transceiver. EXCELLENT condition. Hardly used. \$100.00 – a Bay Networks, Bay Stack Access Node Hub. \$50.00 Contact Clint Hannahs KC8EHR (517)882-1799 kc8ehr@arrl.net	
	Anniversaries	Normally anniversaries would go here. When I figure out who is having them I'll put 'em here. Just let me know.	Contact John Hayes as soon as possible to post notices. (517)393-27897 kc8rqv@arrl.net
	Cheap Batteries	Kendoo Technology has CHEAP batteries for HT's – \$29 for a NiMh 1000 ma battery. 1950 N.W. 94th Ave, Miami, FL 33172 Tel:305-592-9688 Fax:305-592-4562 Toll free order line: 800-691-5540 Email: sales@kendoo.com	
	Births		
Birth announcements will go here when we have them!			

Laughing At Ourselves

**You Know You Have Done Too Much Contesting When ...
 from the Kansas City DX Club Newsletter, April 1995**

... you carefully ponder whether to buy braces for your daughter or buy that second Alpha!
 ... on Monday morning after a contest you tell your secretary "Roger, QSL! QSL!"
 ... you climb a 100' tower in the middle of a thunderstorm in the dark to get a stuck rotator off Japan"
 ... the kids are fighting and you yell for them to stop all that QRM!
 ... you send the XYL and kids to a motel the weekend of the CQWW Contest.
 ... your personal calendar has all the major contests on it, but you forget your anniversary nearly every year!
 ... you train your XYL to say you're out of town when the neighbors complain about RFI.
 ... you convince your wife that a vacation to zone 2 during November would be fun!

The material contained herein may be reproduced by any other amateur radio publication, provided full credit is given the author (AB0X) and this publication (Kansas City DX Club Newsletter).

Weekly Local Area FM Information Nets						Assorted Information And Traffic SSB Nets				
Name	Band	Freq.	Day	Time	PL	Name	Band	Approx Freq	Days	Time
Mid Michigan Info	2	145.390	Sunday	08:30	100hz	Intercon	20	14.300	Su – St	07:00–12:00 EST
QCWA	2	146.7	Tuesday	20:30	100hz	Maritime Mobile	20	14.300	Su – St	12:00–22:00 EST
ARPSC – Simplex	2	146.58	Monday	19:30		GLETN	75	3.932	Su –St?	20:30 EST
DTACS	2	146.940	Tuesday	21:00	100hz	SWOTM	2	144.155	S	21:00 EST
6 Meter – Simplex	6	52.530	Sunday	20:00		E. Mich. SSB	2	144.250	M	20:00 EST
		147.28				PLC	40	7.262	Su – St	10:00 EST
						Breakfast Club	75	3.973	Su – St	6:00 EST

*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

Local And Area VE Testing Schedule For 2002

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

The 2002 CMARC BOARD

The 2001 LCDRA Board

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

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Meeting: 1st Friday of every month at the Red Cross, Lansing Chapter, 1800 E. Grand River (upstairs) at 7:30 PM
Club Calls: W8MMA & W8PLP

LCDRA Call: WB8CQM

Meetings: Quarterly on the 3rd Thursday at 7:30 PM at Lansing Fire Dept., Station #8, on marshall St. at Grand River, just west of the Red Cross.

For continued membership annual dues must be paid by March 1st. Fill in the membership form on the back of *The Scope* 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.

Events For January 2002

Local Area				Contests	
Date	Time	Event	Location	Date	Event
1/4/02	08:00 AM	Rod's Ham Breakfast	Flap Jack Shack in Dewitt; everybody is welcome	1/1/02	Straight Key Night; ARRL
1/4/02	07:30 PM	CMARC	Lansing American Red Cross; E. Grand River Ave.	1/5/02	Kids Day Phone; Boring ARC
1/5/02	07:30 AM	5.39 Breakfast	Flap Jack Shack; (6927 S. Cedar)	1/5/02	RTTY Round Up; ARRL
1/9/02	01:00 PM	OOTC Lunch	Contact Jerry Maslowski or Irv Graham for location	1/11/02	North American CW QSO Party; ARRL
1/4/02	08:00 AM	Rod's Ham Breakfast	Flap Jack Shack in Dewitt; everybody is welcome	1/11/02	Japan International DX; Five Nine Magazine
1/12/02	09:30 AM	VE Testing	Lansing American Red Cross; E. Grand River Ave.	1/12/02	Hunting Lions in Air, CW & Phone; Lions
1/17/02	07:30 PM	LCDRA Quarterly Meeting	Lansing Fire Station #8; E. Grand River Ave.	1/19/02	VHF Sweepstakes; ARRL
1/18/02	08:00 AM	Rod's Ham Breakfast	Flap Jack Shack in Dewitt; everybody is welcome	1/19/02	Club PSK; Penn-Ohio DX Society
1/21/02	07:00 PM	Ingham ARPCS Meeting	Ingham County Sheriff Dept.	1/25/02	CQ WW 160-Meter Contest; CQ Magazine
1/25/02	08:00 AM	Rod's Ham Breakfast	Flap Jack Shack in Dewitt; everybody is welcome	1/26/02	Kansas QSO Party;
1/26/02	08:00:00	QCWA	Flap Kack Shack; (6927 S. Cedar)	1/26/02	REF French Contest

Newsletter Deadlines		Special Events
Deadline	Submission Type	
1/10/02	Hard copies, scannable submissions	Clarksburg, WV: Stonewall Jackson Amateur Radio Association, K8DF. 1300Z to 2200Z Jan 19. Celebrating General Thomas (Stonewall) Jackson's 174th Birthday. 28.425 14.280 7.250. QSL. SJARA, PO Box 752, Clarksburg, WV 26302.
1/15/02	Computer editable submissions	Pasco, WA: Pasco WA Olympic Torch Committee, W7P. 1200Z Jan 24 to 1200Z Jan 26. Commemorating Day 51 of the Olympic Torch Relay. 21.040 14.040 7.040 3.540. Certificate. WA7CS, 4102 Meadowsweet St, Pasco, WA 99301.
ASAP	Event schedules, notices, wanted to sell/buy, birthdays, anniversaries, obituaries	Boise, ID: Voice of Idaho, W7BOI. 1600Z Jan 25 to 2400Z Jan 26. Olympic Torch Relay through Boise. 28.380 14.293 7.225. QSL. Richard Dees, 22765 W Sandalwood Dr, Meridian, ID 83642.
		Dade City, FL: East Pasco Amateur Radio Society, K4EX. 1300Z to 2200Z Jan 26. Commemorating the kumquat from the Kumquat Capital. 28.450 21.340 14.250 7.245. Certificate. EPARS Special Event, PO Box 942, Dade City, FL 33526.
		San Diego, CA: Challenger Middle School ARC, KI6YG. 1500Z to 2400Z Jan 28. Commemorating the 16th anniversary of the Challenger tragedy. 146.52 28.350 21.350 14.250. QSL. Frank Forrester, KI6YG, Challenger Middle School, 10810 Parkdale Ave, San Diego, CA 92126.

All non-local events are described on the ARRL web site: <http://www.arrl.org>