

"LET NO CALL GO UNANSWERED"

CLUB REPEATERS
146.940 (-) (94.8PL)
(Patch w/*key and end w/#)

444.55 (+) (94.8PL)

ARES/RACES
146.82 (-) (94.8PL)

Flashovers

Newsletter of the Muskegon Area Amateur Radio Council
Since 1941

PO Box 691 Muskegon, MI 49443
Club Station, W8ZHO
2888 Scenic Drive

www.qsl.net/w8zho
w8zho@arrl.net



Editor: Tom Porritt, N8YJT
Email: N8YJT@arrl.net

April 2009
Vol. 69 No. 4

2009 MAARC Leadership

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W8AMZ

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Bob, N9AUY

Dan, N8PPQ

Chuck, KC8MDL

PRESIDENT'S CORNER

Tom Nickisch, W8AMZ
w8amz@yahoo.com

Greetings to all. Another month down and many more to come. I saw quite a few members at the Marshall swap so I'm sure spring is right around the corner. That means antenna and tower projects can be started. Don't forget to ask your fellow ham for help with them, not only for safety reasons, but for the learning experience also. There's no better way for a newer ham to learn then hands on with an Elmer.

I want to say thanks to all that made it out to the planning seminar. All your help and suggestions will be very helpful and make my job a lot easier throughout the coming year.

In April we have a lot going on from a hamfest and V.E. testing on the 4th to the Michigan QSO party and a Steak Fry on the 18th. That's a New York Strip Steak, Baked Potato, Salad & Beverage for only \$7.50 a person. There will discounts for children. Feel free to bring a desert dish to pass but not required. I hope to see everyone there.

So long for now and have another great month of amateur radio.

MUSKEGON AREA AMATEUR RADIO COUNCIL GENERAL MEMBERSHIP MEETING

March 5, 2009

- I. Introductions and Pledge of Allegiance
- II. Program this evening by Larry, W8UJ. "QSL Cards, Sending and Receiving Paper Gems." Larry presented a well-produced power point slide show.
- III. Minutes from the last meeting were approved as proposed.
- IV. Treasurer's Report by Denny, N8CTT
- V. Old Business
 1. Status of Silversides call sign. Kirk, W8GXT, gave us an update. We have not secured a sequential call sign. Without this we cannot apply for a vanity call. (Editor's update: the sequential (KD8DDK) and vanity call sign (N8SUB) have been issued)
 2. Venturing Kick-Back Saturday. A good time was had by all. Amateur radio was demonstrated to a dozen teenagers with assistance from four club members.
 3. Venturing Crew 9050 has fulfilled the re-charter requirements. They are good for another year, but they still need additional adult leadership.
 4. The clubhouse is back to full strength after a water leak was discovered and repaired.
- VI New Business
 1. Ham in a Day (HIAD). There were ten students for the MCECS sponsored HIAD

AREA COFFEE BREAKS & BREAKFASTS

Pine Street Café
Spring Lake, 7AM Saturday

Whitlow's Restaurant,
8:30AM Saturday

Gary's Restaurant, White-
hall, 7AM Saturday

Fruitport Village Inn, 9:00AM
Monday

Russ' Restaurant, Grand
Haven, 8:30PM Tuesday

Samuel's Restaurant, Fre-
mont. First Saturday of
every month at 8AM

held at Muskegon Community College on February 28th. Nine of the ten passed the technician exam. There seems to be demand for additional such events. Will MAARC be there?

2. Board Leadership and Planning Retreat. Details were given.
3. The Venturing Crew Wilderness First Aid Training will be held in early April.
4. April 18 will find the club enjoying MIQP and a steak dinner.
5. Dan, N8PPQ related a few details regarding the club-

house's antennas. We may want to construct an EZO Antenna. The top section of the taller tower can use a new rotator and beam antenna.

6. Summer Dxpedition for W8ZHO? There has been some chatter on the subject of a summer activity along the lines of the Venturing Crew Expedition last year. Clarke, K8BP, and Linda, AB8QH, are collaborating on this idea.

7. Membership cards will be produced and distributed in the near future.

8. Tom, N8YJT, wants to hear about your likes and dislikes regarding the Wednesday evening two-meter net. He wants to encourage Board members to participate even if it is only to pass greetings along to net participants as this helps to demonstrate leadership. Other opportunities include making announcements, listing membership changes, reading ARRL bulletins, notifying of new licenses and license changes or anything of interest to the members and general ham radio community.

9. Two-meter net drawing results. Les, W8QAY, won a model rocket kit. Jeff, W8SWX, won a model rocket kit.

10. The March Board meeting will be at Uncle Mark's Restaurant on March 23.

HAMFEST CALENDAR

4 April 2009

[ARGYL Hamfest](#)
Lowell High School
[11700 Vergennes Street](#)
Lowell, MI
www.argyl.org

Talk-in: 146.62 (CTCSS 94.8)

Contact:

Al Eckman, WW8WW
725 Bowes Road, Apt. K6
Lowell, MI 49331
Phone: 616-450-4332
Email: al.eckman@sbcglobal.net

2 May 2009

Wexauke Amateur Radio Club
Cadillac Junior High School
500 South Chestnut Street
Cadillac, MI
www.wexaukeearc.org
Talk-in: 146.98 (CTCSS none)

Contact:

Alton McConnell, NU8L
4189 48th Road West
Cadillac, MI 49601
Phone: 231-862-3774
Fax: 231-775-8731
Email: nu8l@yahoo.com

**NEXT MAARC MEETING
THURSDAY
April 2, 2009
7PM**

**Program by W8UJ
"Is Your Shack Wiring Up To
Code'?"**

THE AH0A/7J1AAA CYROGENIC ANTENNA

Editor's Note: Dear readers, as you know I spare not any effort to bring you articles of leading edge interest. Through the contacts I have made, the following letter was sent to me from a ham living and working in Japan. I think it will be of interest to all members.

Dear Tom:

I had promised a series of articles on Japanese amateur radio, but there is something so exciting I just have to take a break and tell you about it.

It all started with the work that Ed Coan (AH6MI/7J1AAE) did on antenna pattern plotting using his personal computer. The circular, and even backward antenna patterns of some of our local TIARA (Tokyo International Amateur Radio Association) club embers brought home the point

VHF NETS

Sunday:

MCECS Net:
146.82—7:30PM

West MI Traffic
145.33 – 9 PM

Monday:

IRA
145.33 – 8 PM

West MI Traffic
145.33 – 9 PM

Tuesday:

NOARC
145.49 – 8 PM

Wednesday:

MAARC 2 Meter
Net
146.94—7PM

West MI Traffic
145.33 – 9 PM

Friday:

West MI Traffic
145.33 – 9 PM

STATEWIDE ARPSC NET

Sunday 5 PM
3932 MHZ Isb

TEENAGE NET

M – F 6:00 PM
3.945 MHZ Isb

BATHROBE NET

Daily 9AM
14.235.5 MHZ usb

MITN

Daily 7PM
3.952 MHZ Isb

HAIRNET

Sunday morn-
ings, 8:00AM
3945 +/- QRM.

that a good station needs is a good antenna. Ed's antenna looks great and the results verify it. He works regular schedules into Colorado and Maine, just like sunspots don't mean anything. My mini-beam just could not compare.

Well, I got to thinking about what we apartment dwellers could do and realized that space is THE problem. How do you fit a full-sized beam on a balcony? Loading coils are the answer and the problem at the same time -- the antenna radiation resistance drops as reactance is substituted for length. High current loops develop and the power is dissipated in the antenna instead of being radiated. If only the antenna didn't dissipate the power. Hmmmmmm....let's see, $P=E^2R$; if R were zero then.....???

From my work, I have some contacts in research groups over at Tokyo University. Better yet, I knew a Japanese ham who is a graduate student there. The thought running through my head was to build a super-conducting antenna. This requires cryogenics, i.e. temperatures around minus 279 degrees Centigrade. I was able get the university folks interested in the project and we built a 10 meter dipole test silicon wafer. They put together a lot of serial coils on the wafer and by "re-work" on the wafer, they were able to connect them so we had a super-conducting dipole. I took my TS-930 transceiver down to the lab for the first tests, but before we could test it, actual measurements showed it was resonant on 3126 KHz. It seems that the normal equations for inductance don't work with super-conducting materials -- you need a lot fewer turns to get the same results than at normal temperatures. Many measurements and trials later, we had a ten meter resonant wafer. This time we put a pair of 40 element beams on each wafer and stacked 4 wafers in the same as-

sembly. That made a 320 element array on 10 meters in less than a half-foot (15 cm) cube.

The first test didn't go too well. I connected the TS-930 to the super-conducting wafer antenna and tuned it for 10 meters. At room temperature, we couldn't hear anything. Using a heat pump, the lab technicians started lowering the antenna's temperature toward the super-conducting region. I was really impressed by how small the equipment is, and started thinking it might all fit in the shack. Just then, the TS-930 froze solid at the antenna connection, which had a negative effect on its operating characteristics. This wouldn't be so easy after all, the coax connection would need some study!

We reworked the wafers to put inductive coupling on them, but I could find no way to efficiently couple to it from the conducting ceramic material that passed RF but not heat. Probably, something that Kyocera invented just for this use. I sent the TS-930 to the ham shop in Akihabara and asked them to touch it up for me. Suzuki-san (service manager at the ham shop) asked exactly how the paint had been peeled off around the coax connector -- lightning maybe? No, I assured him -- just low temperature exposure, without saying how low the temperatures were. The project had to stay secret and besides, Suzuki-san can repair anything!

Since it looked like it might be a while before the TS-930 would be repaired, I brought out my TS-940. I had already placed an order for the Yaesu FT-1000 anyway. After verifying that in the super-conducting range the antenna was resonant on 10 meters, we connected the TS-940. The ceramic material worked and the rig operated well even as we began the cooling cycle. The band seemed dead even with the antenna at -150 degrees C. It took another 10 minutes to get to the super-conducting range -- then the TS-940 blew up. It seems our antenna had a bit more gain than the TS-940 front-end could take. Later, with 100 dB of attenuation, measurements showed 5 volts coming out of the coax. A little hard to believe, but then what do I know about cryogenic LSI antenna technology?!

The TS-940 was also returned to Suzuki-san, but this time he frowned a bit -- the front-end board did look like it had been hit by lightning. Not to worry, Suzuki-san can repair anything!

The FT-1000 arrived just in time to be able to continue the experiments. We built a QSK attenuator to protect the receiver and with the LSI wafer antenna still inside the lab, decided to try to make a contact

on 10 meters. Boy, what a shock when we got it working. The first thing we heard was a couple of W2's talking locally on 10 meters and that was with 80 dB of attenuation. We had the antenna array on a rotatable mount; I moved it about 1 degree and the W2's disappeared. What beam width! We tuned them in again, and they were just about to sign off, so we thought we would try to work them. The rig was tuned up at 50 watts on a dummy load; we switched in the wafer antenna and gave N2BA a call. The noise was unbelievable -- an ionized ray shot out from the antenna and hit the wall of the building. Before we knocked a hole in the band, we took out a piece of the lab wall! Ever wonder what an antenna pattern looks like in three dimensions? There was a small round hole in the wall of the lab -- about 1 cm in circumference. We cut power quickly. N2BA came back on frequency a few minutes later and said he was using his back-up rig; something had taken his main rig off the air. For some reason, the station he was talking to never came back, and so we decided not to transmit again until we knew for sure what was going on.

As near as we can tell, the antenna array has 120 dB gain over a dipole, but with a beamwidth of 0.75 degrees using the 60 dB points. With 50 watts output, the effective radiated power is 55 quadrillion watts at the center of the beam (5.5 with 13 zeroes). As soon as the University realized what we had built, the entire project was taken away from us and turned over to the Japanese Self-Defense Forces. Amateur radio "tinkering" has contribute to something, but I am not exactly sure what. I haven't the slightest idea what was in those wafers or how to explain how to build another set. But what I'd give to use a smaller set in the next CQ World Wide Contest! Do you think someone may be interested in this idea for Star Wars/SDI??

A few months later, the University contacted all of us and asked just how close we had been to the antenna when operating. As best as I can figure, we were in the null behind the array. From what has been said so far, it looks like a secondary use for our antenna may be as a mass sterilizer, but confirmation will have to await the results of the medical tests. If our antenna ever hits the market, it looks like remote operation would be desirable.

As I am writing this, I have been informed that Suzuki-san can't fix everything after all. He's written off the 930 and 940, and I just found out that before the university terminated the project, they tried one more time with my FT-1000, but without the 100 dB attenuator to protect the receiver. It's front-end now

matches the 940's and it looks like it will be awhile before I am on the air again. Maybe Yaesu will announce some new models soon.

73, Joe Speroni AH0A/7J1AAA, ex-Chief Engineer - TIARA. (Editors note: this letter first appeared in the TIARA Newsletter prior to being received here via snail mail).

The ARRL Letter
Vol. 28, No. 12
March 27, 2009

FCC CLARIFIES WHAT CONSTITUTES AN AMATEUR RADIO REPEATER

In December 2007, Gary Mitchell, WB6YRU, President of the Northern California Packet Association (NCPA), filed a Petition with the FCC, asking for the Commission to clarify the definition of a repeater. According to Part 97, Section 3(a)(39), a repeater in the amateur service is "[a]n amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels."

Mitchell sought clarification on the word "simultaneously," asking if it referred to the signal information being retransmitted, or to the fact that the receiver and transmitter must both be active at the same time while acting on the same signal information. On March 23, 2009, the Commission clarified that even if there is a slight delay between what is received and what it transmits (as in the case of D-STAR and other digital repeaters), it is considered simultaneous if the receiver and transmitter are both active at the same time.

Mitchell pointed out in his petition that while the Commission's Rules specify on which bands amateur repeaters may operate, "some amateur repeaters are operating on bands other than set forth in Section 97.205(b) with systems that are essentially voice repeater stations, but that digitize and retransmit the user's voice, on the theory that because there is a small delay in retransmitting the signal of another amateur station, the signal is not 'simultaneously' retransmitted and, therefore, the system is not a repeater."

In its reply, the Commission pointed out that prior to 1994, a repeater was defined as "[a]n amateur station that automatically retransmits the signals of

other stations." This, the Commission told Mitchell, was revised to clarify "that certain accommodations for message forwarding systems do not apply to other operating activities such as repeaters and auxiliary stations." The Commission proposed to define a repeater as "[a]n amateur station that instantaneously retransmits the transmission of another amateur station on a different channel or channels," but ultimately replaced "instantaneously" with "simultaneously" because commenters noted that there is always a small propagation delay through a repeater. As one commenter explained, "The word 'simultaneously' in this case means that the repeater is receiving and transmitting concurrently, whereas each signal might be slightly displaced in time between receive and transmit."

To be able to repeat another station's transmission, the Commission said that a repeater "must be able to receive a transmission from another station and retransmit it. Because the word 'simultaneously' in the definition is used to modify 'retransmit,' we believe it refers to a repeater station's transmitter being active when retransmitting the signal received by the repeater station's receiver from another amateur station. We conclude, therefore, that 'simultaneously' as used in the definition of a repeater refers to the receiver and transmitter both being active at the same time."

FIELD DAY CORNER

By Bill, NA8M
 Field Day Chairman
 bill_fries@ncats.net

Thank you to all who visited the website where you can sign up for various aspects of our Field Day operation. There will be a special email contact list created so we can coordinate and cooperate on the best Field Day yet. You should know that there are still opportunities available. Please visit: <http://www.n8ppq.net/FieldDay/FDSchedule.aspx> and lend a helping hand (see the table to the right). You might also email me with your request to help.

We are close to securing a Field Day site. The Sheridan Drive Baptist Church is almost ready to grant our request to have Field Day in their field at the intersection of Hall and Sheridan Roads. Drop by there some time and get a feel for the site. You will surely find it in a good location, comfortable, and big enough for our event.

Shack managers will be encouraged to have a minimum of assets at their Field Day shack. Unfortu-

nately we will not be able to accommodate the "walk-in" shack manager. Everyone will be encouraged to operate the various bands and modes at the numerous shacks at Field Day. This "walk-in" constraint is a direct result of the power and computer requirements to avoid the problems that were experienced last year. For example, this year Jason, KI4VUO, will set up a network. All our QSOs will be securely stored on a single computer at the site.

FIELD DAY '09 POSITION ASSIGNMENTS – As of 3/28/09 (subject to change)	
Position	Organizer
10 Meter Shack Manager	
15 Meter Shack Manager	
20 Meter CW	
20 Meter Phone	W8AMZ
40 Meter CW	W8GXT
40 Meter Phone	KI4VUO
80 Meter CW	N8PPQ
80 Meter Phone	K8BP
160 Meter CW	
160 Meter Phone	
Satellite	KC8PCJ
ATV	
6 Meters	
2 Meters	
UHF	
Packet	N8YJT
GOTA	
Media	
W1AW Bulletin	
Info Booth	
Power Plant	W8AMZ
LAN	KI4VUO
Food Services	Venturing Crew 9050
Alternative Energy	
NTS Messages	N8YJT
Photographer	Venturing Crew 9050

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Venturing Crew 9050 will host the food services at Field Day. Expect the best potluck ever on Saturday evening. We are going to have opportunities to socialize over a cup of Joe or a wonderful casserole. We enjoy seeing our ham friends who show up for Field Day and then retire to quieter venues during the year.

At the Michigan QSO party on April 18th we will initially test the network. Perhaps you would enjoy dropping into our clubhouse early that Saturday to see the software? We hope so.

MAARC 12 MONTH CALENDAR

APRIL 2009 Contesting

- Club Meeting 2nd
- ARGYL Hamfest 4th
- V.E. Testing at Red Cross 4th
- Open Shack 4th
- Wilderness First Aid 4th & 11th
- QCWA 9th
- Steak Fry 18th
- Michigan QSO party 18th
- Board Meeting at Club House 27th
- Grounding Seminar ??

May 2009 Antenna Building

- Cadillac Hamfest 2nd
- Club Meeting 7th
- Antenna Building Seminar 9th
- Dinner Pot Luck 9th
- QCWA 14th
- Dayton Hamfest 15, 16, 17th
- Mayfest 16th
- CQ CW WPX 25th
- Geocache 30th

June 2009 Field Day

- Club Meeting 4th
- Hudsonville Hamfest 6th
- Field Day preview ?
- QCWA 11th
- V.E. Testing at Red Cross 13th
- Open Shack 13th
- Ham In A Day 20th
- Board Meeting 22nd
- FIELD DAY 26-28th

July 2009 Museum Ships

- Club Meeting 2nd
- Field Day Pow-Wow 2nd
- QCWA 9th
- Fox Hunt 18th

Dinner (Fish Fry) 24th

- Teenage Picnic 25th
- Board Meeting 27th
- Proposed Museum Ship Event ??
- Test Equipment Seminar ??
- August 2009 Heritage Old Time Radio (Spark Gap)
- Dxpedition 1st
- V.E. Testing 1st
- Open Shack 1st
- Club Meeting 6th
- Founders Day Picnic 22nd
- Fox Hunt 22nd
- Board Meeting 24th

September 2009 Marine Mobile

- Club Meeting 3rd
- GRARA Hamfest 5th
- QCWA 10th
- Marine Mobile Seminar ??
- Fox Hunt Joint w/NOARC & Picnic 19th
- Board Meeting 21st

**NEW HAMS, UPGRADES, RENEWALS,
CALL SIGN CHANGES From FCC Web Site
For Muskegon County Area Through March
28, 2009**

**Please congratulate these Hams when you
hear them**

KC8MDD	COLE, JAMES B
KC8MDF	GROTELER, RONALD D
KC8MEX	GROTELER, SHARON M
KD8HSC	PHILLIPS, PAUL
KD8KGO	ZAHNISER, TERRY L
KD8KGQ	MACK, SELENE A
KD8KGR	DURAM, BETHANY A
KD8KGT	ZULAUF, BARBARA A
KD8KGU	FLEET, ERIC L
KD8KGV	COOPER, KELLY K
KD8KGW	SCHRADER, STEVEN E
NA8M	FRIES JR, WILLIAM
N8SUB	USS Silversides
KD8KLG	WEILAND, SPENCER D
KD8KLR	BRANDT, CHERYL A
KD8KMU	HOLMAN, GREGORY M
KD8KMV	STEVENS, BRIAN T
W8TBP	SKEELS, ROBERT B

“Let No Call Go Unanswered”

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October 2009 Digital
Club Meeting 1st
Steak Fry 2nd
V.E. Testing 3rd
Open Shack 3rd
QCWA 8th
Holland Hamfest 17th
Jota 17th
Board Meeting 26th
Digital Seminar ??
Ham In A Day ??

November 2009 Contesting
Club Meeting 5th
QCWA 12th
CW Sweeps 7th
Harvest Dinner 7th
Leadership & Planning Workshop 14th
SSB Sweeps 21-22nd
Board Meeting 23rd

December 2009 NTS
Club Meeting 3rd
Soup Supper 5th
V.E. Testing 5th
Open Shack 5th
QCWA 10th
NTS Seminar 5th
Board Meeting 28th

January 2010 Mobile Installation
Club Meeting 7th
QCWA 14th
Winter Field Day 16th
Mobile Installation Seminar 16th
Spaghetti Dinner 16th
Board Tech Class ??

February 2010 Antennas
Club Meeting 4th
V.E. Testing 6th
Open Shack 6th
QCWA 11th
Cherryland Hamfest 13th
Kickback Weekend 20th
Board Meeting 22nd
Antennas / Measurement Seminar ??

March 2010 Test Equipment
Club Meeting 4th
QCWA 11th
Marshal Hamfest 13th
Test Equipment Seminar 20th
Board meeting 22nd



EDITOR'S CORNER

Be sure to check out the 12 month calendar. It is still under development, but should give a framework for the 12 month period. It will also serve as a guide for the current Board and the 2010 Board. The success of the calendar will depend on it's implementation. Implementation will depend on the people who step forward to lead the various activities and take the various responsibilities.

Also check out the MAARC website. A set of membership pages should be added by the time you receive this. These will offer the capability of renewing your annual membership and updating the club roster. Here's the URL - <https://www.n8ppq.net/W8ZHO/Application.aspx>

Tom, N8YJT



ASK ELMER (Advice for the Ham)

Dear Long in the Tooth,

I find it difficult to actually get out to the clubhouse on a meeting night so I am always late with my membership dues. What can I do to prevent this from happening in the future?

Sincerely, Just Wondering

Dear Glad You Asked,

Check out the new membership page on the Club Website. Your membership and roster information will be updated automatically.

Sincerely, Elmer

Elmer would like to hear from you too. Write to him at: *Flashovers*, PO Box 691, Muskegon, MI 49443-0691 or contact him through the editor, n8yjt@arrl.net



M.C.E.C.S. Inc
 (Muskegon County Emergency
 Communication Services, Inc.)
 1611 E. Oak Avenue
 Muskegon



Meeting Second Monday of Each Month at 7:00 PM
Everyone Welcome

K8WNJ 146.82 (94.8 PL)

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 Muskegon, MI 49444

Tom VanderMel, KB8VEE
 General Manager

Ph 231 798-7898
 Fax 231 798-7770
 Cell 231 206-0422

This Space Available

This Space Available

This Space Available

Help Needed - The club house could use your donations of time and money towards maintenance and improvements. Please consider what you may be able to do to help
 Contact N8PPQ

MUSKEGON AREA AMATEUR RADIO COUNCIL
 PO BOX 691
 MUSKEGON, MI 49443-0691
 POSTMASTER: RETURN WITH ADDRESS
 CORRECTION REQUESTED IF UNDELIVERABLE



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