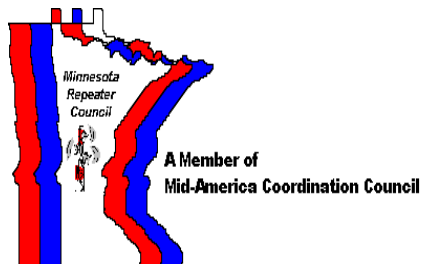


Minnesota Repeater Council



Spring 2002 Newsletter

Founding Member: National Frequency Coordination Council

MRC Officers:

Chair

Steve Glatzel, KØFHC
16200 62nd Street NE
Otsego MN 55330
sglatzel@aol.com
763-441-0985

Vice Chair

Dan Swee, NØFKM
4250 Tyler St NE
Columbia Heights MN 55421
n0fkm@amsat.org
612-363-5079

Secretary Treasurer

Jerry Dorf, NØFWG
1402 Pulaski Road
Buffalo MN 55313
jerryd@jerryd.net
763-682-2169
952-473-5819 Fax

Appointments

Frequency Coordinator

Paul Emeott, KØLAV
3960 Schuneman RD
White Bear Lake MN 55110
k0lav@arrl.net
651-429-5040

Technical Committee

TBD

User Liaison

TBD

THE SPRING MRC

**Meeting Will be
Saturday May 4, 2002
At The
Duluth Superior Hamfest
Registration at 11:00AM
Meeting at 12:00 Noon**

Agenda is listed on the last page

Hosted by the Arrowhead Radio Amateur
Radio Club, in the 4H building at:

Head Of The Lakes Fairgrounds
4700 South Tower Drive
Wisconsin Highway 35
Superior WI

The hamfest will be in the
Multipurpose building from
9 am to 2 PM

For more information on SWAPFEST '02
visit <http://www.qsl.net/w0gkp>

Directions:

Take Mn I-35 to Hiway 2 Bong Bridge
Exit. Go over the bridge and at next traffic
lights turn left. Go over viaduct to second
Traffic light (Tower Avenue) and take a
right. Go approximately 3 miles on Tower
Avenue and start looking to the left side of
the road. On the right side there will be a
truck dealership. Take a left hand turn at
truck dealership and look for the Swapfest
signs. We will be in the multipurpose
building (gold colored building) at the far
end of the dirt parking lot to the right.

Note from the chairman

The Minnesota Repeater Council was
formed years ago to provide a means by
which amateurs could communicate thru
repeaters without interference to others.
Now that we have moved into the 21st
century we must stay focused on this intent.

In the commercial field new technology is
using 12.5 and 6.25 khz channels yet some
ham repeaters may have trouble with 25/30
khz channels, we must keep up or be left
behind. In order to provide room for more
repeaters we are going to have to start using
more CTCSS encode and decode. The MRC
will be looking at changing some repeater's
status from class A to class B, closer spacing
on a volunteer basis. We are going to have
to start policing ourselves, looking at
"broadcasting", linking in-band, spurious
transmitters, repeaters that are no longer on
the air or underutilized. We are going back
to two meetings a year, the spring meeting
out-state and the fall meeting in the metro
area. We will be more attentive to user
problems.

Paul has been giving extra attention to the
ATV problem, having meetings in the
evening so it doesn't take up time at the
MRC meeting.

Jerry has been doing a super job at getting
the Sec/Tres position active again, moving
the bank account, getting records up to date,
mailing list's current, sending out
newsletters, setting up e-mail, increasing the
MRC's presence online.

Stay tuned, hope you can keep up with us;
this is going to be an active repeater
council.

Steve Glatzel, KØFHC

Secretary - Treasurers Notes:

Introduction: I'm not sure to thank those who voted me into office or view it as a sentence! It has been a busy month since I took over the job. I have spent a great deal of time getting the books and database organized.

I was first licensed in 1982 as KAØTMB, quickly upgraded to Technician with my primary interest in VHF and UHF repeaters. I have maintained the Robbinsdale ARC 147.000 repeater for some time along with my own UHF 444.375 system. Last fall I upgraded to Extra, at this time I was appointed trustee of KØLTC. I have served in the following office's within RARC: Secretary, Treasurer, President and currently serve as a board member and trustee.

My goals for MRC: Return the MRC to a viable and smoothly operating organization. This includes timely newsletters such as this one. Depositing funds and making timely regular reports is one of my priorities.

Events since I was elected:

Checkbook: I made approximately 6 phone calls to US Bank to find out what procedure I must follow to transfer the checking account. What I received was a corporate bureaucratic structure that finally told me to call the originating branch. After this I found out that the account is not transferable due to changes in the banking regulations and the way it setup. We also needed to get our own tax payer ID number or EIN. At this time I consulted with a friend who is an attorney and also a member of Robbinsdale ARC. He setup RARC as a non profit corporation, I consulted with the current MRC officers about this. We started the process for getting the MRC registered with the Secretary of State and IRS as a Minnesota nonprofit corporation for banking and liability reduction of the officers. After the lack of service from US Bank I have opened a new account at First Federal Savings and Loan where I have a good relationship with the employees. The old account will be closed in late April after all the stale checks have a chance to clear. Plan on seeing a different format for the reports in the future

Membership Database: I have gone through the membership database and application forms. Tracking trustee changes, callsign changes and address changes has been a challenge. Right now I feel that is as accurate as its going to get. As we proceed with transacting business we will see how well it works. All MRC members have been checked with the coordination database for a valid repeater. There are some outdated records that may need to be updated. If there is any question on a members record I will investigate and attempt to resolve the issue.

Please check your address label for your expiration date and status. If you have a problem please notify me ASAP and we can work on resolving the problem before the next meeting.

If you are expired, please renew your membership using the application form that is included in this newsletter.

I want to work with you the member!

Newsletter

This newsletter is probably larger than what I will normally produce however the size will depend on what content is available and required. The newsletter will be made available on-line via the webpage in Adobe Acrobat format (PDF). Those subscribing to the newsletter option may wish to consider simply downloading the newsletter.

Meeting Minutes: I have typed up several years worth of minutes for the past several years from notes made by Doug Reed. The Winter 2002 meeting has been included in this newsletter. The others will be made available on the webpage or upon request.

Webpage: Steve Glatzel and I will be working with Erik to produce a informative and up to date webpage

Mail list: After many years and discussion its finally here! Currently this list is un-moderated and open to anyone, this can be changed if it becomes necessary with a few mouse clicks. Steve and I would like to thank Erik Jacobson and Doug Reed for offering to host a mail list, however we felt it was in our best interest to have it hosted by a neutral disinterested party To subscribe please visit the url listed below and follow the simple instructions. This is a opt in list, meaning you must make the effort to subscribe we will not place anyone on the list that does not want to be placed on this list. However we will be making announcements on the list and you may miss important and timely information. If the list activity becomes excessive we will explore a announcement only format. With discussion on a different list, this can be explored in the future if required.

We would like to add e-mail addresses to the membership data to allow for quick communications. I will not place you on the mailing list without your consent.

Forms: I have updated the membership form, simple address changes can be faxed to me, along with the proxy form. I will not accept changes via e-mail, I want paper backup.

Thanks for reading:

Jerry Dorf, NØFWG

MRC Resources on the Internet

MRC Webpage <http://www.mrc.gen.mn.us>

MRC Mailing list:

This mailing list is for announcements and general discussion of MRC events, policy and operations. Currently it is un-moderated and open to all. Sign up at:

<http://mailman.qth.net/mailman/listinfo/mrc>

Repeater Frequency Coordinator's report

General

Repeater frequency coordination is an ongoing process even between MRC meetings. I am currently still getting responses from my Nov 2001 mailing for updates, so the MRC database is getting more accurate every week. **So, if you have not returned your data it is still not too late.** I hope my time constraints (I just have so much spare time to do frequency coordination) have not put anyone too far behind in their repeater plans.

I have mailed out 3 two meter repeater de-coordination first notices, so we can maybe expect the affected trustees to attend our next meeting. Remember that only a vote by the entire MRC can de-coordinate a repeater. See the MRC Repeater Frequency Coordination guidelines for the procedure to be used for de-coordination.

ATV expansions

I have attended 2 of the 3 ATV meetings (4 hours each) this last month in the Twin Cities on proposed ATV expansion.

I am concerned on some parts of the ATV expansion efforts. ATV on 440 Mhz is already allocated 12 mhz (three 6 MHz wide channels) of this 30 MHz wide heavily used popular UHF band (420-450 MHz) and the ATV operators would like to have more. ATV also has to share some spectrum around the 439.25 MHz ATV input which they are not happy about. ATV is a WIDE bandwidth mode of operation and needs to be able to share spectrum in order to survive on 440 MHz .

Planned ATV operations, in the Twin Cities, seems to have outgrown the spectrum planning done in the 1990s and additional ATV spectrum space is desired in the 440, 900 and the 1200 MHz bands. There are also ATV signal bandwidth problems that need to be resolved. The current MRC bandplans show two 6 MHz wide ATV bands on the 902-928 band (12 MHz out of a total of 26 MHz band space) and four 6 MHz wide ATV bands on 1240-1300 (24 MHz out a total of 60 MHz of band space).

Planned FM ATV operations seem to be the real problem. Most of the 1200 MHz ATV equipment, that can be now purchased, is made by PC Electronics (one of the major manufacturers of ATV equipment). But PC Electronics identifies their FM ATV equipment as providing signals that are 12 MHz wide (they say that an FM ATV signal takes the same space as two 6 MHz AM ATV channels). The ARRL handbook says that an FM ATV signal is "17 to 21 MHz wide depending on deviation and sound subcarrier frequency". This type of signal will just not fit into a 6 MHz wide band segment designated for ATV. The Minnesota ATVers also seem to have some new modulation scheme that has an FM ATV signal only 8 MHz wide, but the commercial manufacturers of equipment have not discovered this yet. As long as some of the ATVers want to buy commercially made equipment, that is 12 MHz wide, the FM ATV channels must be at least 12 MHz wide.

Wisconsin (our adjacent state which we must coordinate with) has wisely set aside, in their 1200 MHz band plan, one FM ATV channel that is 15 MHz wide.(1240 to 1255 MHz) and two 6 MHz wide ATV channels at 1252-1258 (1253.25 carrier frequency) and 1276-1282 MHz (1277.25 carrier frequency). The Wisconsin FM ATV bandwidth is located near to (and slightly overlaps) the AM ATV channel on 1252 to 1258 MHz so operation with FM ATV will only interfere with AMATV if transmitter deviation gets too wide.

There is currently one AM ATV repeater coordinated in the Twin Cities on 1253.25 /1277.25 MHz so both of the two 6 MHz wide channels for an AM ATV repeater are already in use. Where are the two (2) proposed 12 to 17 MHz wide channels going to go on the 1200 MHz band for additional ATV bandwidth without causing frequency coordination problems with other modes or adjacent states ?

Until the 1200 MHz band plan settles down, these differences can be figured out and Wisconsin and our adjacent states agree to any modified band plans that Minnesota proposes for additional space for 24 MHz of ATV operation all 1200 MHz coordinations for any new Minnesota ATV repeaters have to be placed ON HOLD.

The future of coordination

Where will the "New" modes of operation that will be used in the next 10 years be put if we gobble up large portions of the UHF amateur bands for current technology? What new modes you ask; spread-spectrum, digital voice, digital ATV, software controlled radios, etc. Lets keep looking to the future, before we get ourselves in a corner and there is no room for new modes.

Frequency coordination IS NOT just identifying a frequency or pair of frequencies that you want to use to the MRC frequency coordinator and asking to be coordinated on it. The frequency coordinator must COORDINATE any proposed repeater use with our adjacent states. This is what the MRC has agreed to as a member of the "umbrella" groups MACC and the NFCC. This is how the MRC got recognized as the repeater frequency coordination group for Minnesota.

The Amateur radio spectrum is a limited natural resource which is getting congested especially in the 2 meter and 440 MHz bands. This means the radio spectrum must be recognized as a SHARED RESOURCE. No one has ever had a sole-ownership claim to any part of it. It is important that all users recognize this. Frequency coordination, therefore, is a process of recommending frequency(ies) which will limit, to the maximum extent possible, harmful interference to new and existing systems while at the same time providing useable channels for all eligible licensees. The FCC does recognize the need for frequency coordination in Part 97 of its rules and does put some importance on coordination in regards to interference complaints..

Paul KOLAV
MRC Repeater Frequency Coordinator

Minutes of the Minnesota Repeater Council

Winter meeting in St. Cloud MN On February 9, 2002

Call to order by Art Londroche, KA0JLB at 11:52 am:

Due to the passing of chairman: Jim Person WD0GUX and the vice chair absent due to business commitments the meeting will be conducted by the previous chairman.

Secretaries report:

Minutes read, moved and seconded. Passed.

Treasurers report:

Beginning balance of \$2698.08 with \$1372.00 deposit to be made, with a ending balance of \$4070.08.

There is approximately \$600 in old checks dating back prior to 1998. Suggest mailing them back to the submitter. Moved and seconded – passed.

Frequency coordinator: Paul Emeott, K0LAV

There has been a large number of updates to the database resulting from area code changes, trustee changes and other general activities. Still working on ARRL repeater directory updates. 5 repeaters have been removed from the database. Still has auxiliary link forms to send to trustee's.

Paul asked all trustee's to list repeaters that are known to be on the air.

Repeater distribution:

Band	Metro	Out state	Possible
440 Mhz	47	49	
220 Mhz	14	2	
ATV	4	0	
900 Mhz	1	0	
1.2 Ghz	2	0	240
144 Mhz	33	108	
54 Mhz			
29 Mhz			

Wisconsin wants to use 12 simplex frequencies as repair pairs with 1 Mhz spacing.

Webpage updates have been made in December – January timeframe, Paul has retyped documents for the web.

Paul also pointed out the chairman is our representative to NFCC and MACC.

Several people have passed away and several have moved and left no forwarding address. Those repeaters will not be listed in the ARRL repeater directory.

Paul asked if we want to issue repeater coordination certificates? Possibly on a 2 year cycle.

Need help with coordination, will look for helpers, but keep a single coordinator.

How to handle de-coordination? Repeater not on the air but will not return frequency, cannot contact the trustee etc. Bylaws call for de-coordination to be done by the full MRC body, do we want to change it?

There are several un-coordinated repeaters on the air in the Rochester, Duluth and other areas in the state.

What do we do with them? Some trustee's do want to coordinate. Some others are upside down or on bad spaced channels.

Frequency coordinators report accepted.

New Business:

Motion to place repeater information on the web page with contact information for the repeater, discussion followed. Motion was amended to “publish the same information that is sent to the ARRL repeater directory on the web page and add a contact call sign. Motion passed 15 to 13.

Motion to create an Internet re-mailer, with twinslan or QSL.net was made. Motion passed.

A 5-minute break was made at 1:05

Election of Officers:

Summery presented below:

Motion made for a secret ballot was made and seconded: Passed

Nomination for Chair:	Steve Glatzel, K0FHC	22 votes
	Dan McNulty, KA0SDU	13 votes
Nomination for vice-chair:	Dan Swee, N0FKM	23 votes
	Erik Osterberg, N0NKI	12 votes
Nomination for Sec-Tres:	Doug Reed, N0NAS	13 votes
	Jerry Dorf, N0FWG	22 votes

Motion made and seconded to accept the vote tally: passed.

Motion made and seconded to dispose of ballots: passed.

Steve Glatzel took over the meeting from Art as the new chair.

Motion to thank Art for acting as chair for the meeting, seconded and passed.

Motion to have secretary invite a un-coordinated repeater owner that left the meeting with a misunderstanding to the next meeting. Seconded and passed.

Motion made to allow board officers to spend money in a wise and appropriate manner and account for funds. Amended to set a maximum of \$2000 per year. Motion was seconded and passed with a voice vote.

Motion from Dan Swee: to have a spring meeting at the May 4, 2002 Duluth MN hamfest. Greg Kitchak, N0GEF will contact the Duluth club to make arrangements and report back to the board. Motion passed.

A request to place repeater de-coordination on the agenda was made.

A discussion of getting more representation for the other spectrum users on the council was made with the interest of ATV, weak signal, satellite, simplex operations was made. These users are represented by the user liaison.

K0GTT made a quorum call, we fail the quorum.

Meeting Adjourned at 2:23pm

Minutes made by Jerry Dorf, from notes made by Doug Reed.

Financial Report

Checking Account Balance From Previous sheet

\$2,815.19

Deposit 2/8/2002 Name	By Doug Reed Call				
PAUL EMEOTT	KOLAV	146.850	CASH	\$20.00	
HR CLOUGH	KOGTT	444.700	CHK	\$10.00	
	WBOYTX	443.950	CHK	\$10.00	
RICK DONLON	KORMR	53.130	CASH	\$20.00	
ERIC OSTERBERG	NONKI	443.300	CASH	\$20.00	
DON HENGENUBHLE	NOJDH	443.600	CHK	\$30.00	
GREG CARLSON	NOWEM	145.470	CHK	\$30.00	
	NORPP	146.895	CHK	\$30.00	
	AA0TR	146.775	CHK	\$30.00	
JANET ROBIDONIX	K0JE	147.390	CASH	\$20.00	
DAVE KELLNER	KG0CV	443.650	CHK	\$20.00	
JOHN CZECH	KA0KMJ	443.000	CHK	\$20.00	
JERRY DORF	NOFWG	444.375	CASH	\$40.00	
TOM CARLSON	NOQNY	53.030	CHK	\$10.00	
RICHARD KOLTER	NOVV	146.640	CHK 564	\$30.00	
DON HEINERL	KOKLN	147.975	CHK 5619	\$20.00	
ROBERT J STARK	NOPDD	147.285	CHK 2337	\$10.00	
SCOTT A HOWARD	WDOELS	444.975	CHK 10804	\$10.00	
ROGER JOHNSON	WA0VLL		CHK 12733	\$10.00	
MARSHALL RADIO CLUB	WD0BEJ	147.195	CHK 559	\$10.00	
BOB FEVER (WADENA ARC)	KB0ZPR	147.330	CHK 119	\$20.00	
STEVE GLATZEL	K0FHC	442.900	CHK 7673	\$30.00	
JOHN PHELPS	KF0ZM	447.050	CHK 5198	\$20.00	
ROBERT J STARK	NOPDD		CHK 2841	\$10.00	
SMARTS		147.165	CHK	\$20.00	
WALLY ERICKSON	KOWE	146.880	CHK 13332	\$10.00	
JIM BABCOCK	WD0BEJ	147.195	Chk 1012	\$10.00	
RUENESTONE, NORM YEATTER	W0K0CJ	147.255	CHK 644	\$10.00	
MARVIN K?	KB0RRS	147.105	244873	\$10.00	
BROTHERLAKES BLAKE RICHBEIL	N0WSH	444.550	CHK 1577	\$10.00	
ARRL RD 97			35007	\$266.00	
ARRL RD 98			39993	\$278.00	
ARRL RD 99			45430	\$278.00	
					\$1,372.00
					\$4,187.19

1997					
Nov 5, returned check/fee				\$13.00	
nov 5, service fee				\$4.50	

Kinko's	9/12/1997	Paid	Chk # 1077	\$1.02	
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Oct 4 Service fee				\$4.50	
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1998					
Office Max	4/24/1998	Paid	Chk #1078	\$18.09	
postmaster	4/29/1998	Paid	chk #1079	\$40.00	

1999					
Postmaster			Chk #1080	\$36.00	\$117.11
					\$4,070.08

Deposit FEB 17, 2002	By Doug Reed		Current activity		
Jay Maynard	K5ZC	ASSOC	CASH	\$5.00	
HARROLD CLOUGH	KOLTT	443.950	7262	\$10.00	
MARGARET JORDAN	WBOYTX	444.700	7262	\$10.00	
DOUG REED	NONAS	442.600	CASH	\$10.00	
GEOFF ERNST	WBOOND	146.985	5425	\$40.00	
REUBEN RUEN	WBOBWL	145.210	4446	\$10.00	
MICHAEL GRENIER	KC0IOC	ASSOC	CASH	\$20.00	
BRAD ORNES	KA0SQO	146.640	2035	\$20.00	
IVAN FRANTZ	W0BU	147.210	2775	\$10.00	
DAN KARG	WR0DK	145.150	8389	\$20.00	
DAVE HOUSTON	WD8RSS	147.240	CASH	\$10.00	
ART LONDROCHE	KA0JLB	145.170	CASH	\$10.00	
RON KITTLESON	K00S	224.800	CASH	\$20.00	
ERIK JACOBSON	N0SVX	224.380	5786	\$10.00	
DAVE KLEINDL	NOKP	444.600	3066	\$10.00	
CHARLE ESCH	W0CE	145.370	6413	\$10.00	
DAN SWEE	N0FKM	145.290	6450	\$10.00	
DAN MCNULTY	KA0SDU	224.960	MO	\$20.00	
PAUL EMEOTT	KOLAV	146.850	6363	\$10.00	
ROBERT STONE	KC0GYF	147.900	1003	\$30.00	
ROBERT FEUER	W0ZPE	147.330	14493	\$20.00	
DAVE SCHULTZ	KB0SEA	145.230	CASH	\$10.00	
DAVE KELLNER	KG0CV	443.650	CASH	\$10.00	
ANDERS JOHANSON	KB0PJV	443.425	CASH	\$10.00	
ROBERT CORDELL	KB0GIP	146.670	CASH	\$10.00	
ROGER VACEK	W0DEU	147.375	CASH	\$10.00	
RICHARD POLLOCK	K0CRB	147.240	7353	\$10.00	
LION TEMPLIN	KB9ENE	147.150	31799	\$10.00	
ALLEN KNUTSON	WBOZKB	147.270	CASH	\$10.00	
SMARTS	KL7MR	147.165	2380	\$10.00	
TOM CARLSON	NOQNY	53.030	1007	\$10.00	
					\$415.00
					\$4,485.08

Kinko's	Copies of forms	Chk #1081	\$10.48	\$4,474.60
Paul Emeott	Co-ordination expense	Chk #1082	\$226.52	\$4,248.08
MRC	Transfer to New account	Chk #1083	\$3,000.00	\$1,248.08
Returned Items + Bank Service Charges			\$26.00	\$1,222.08

Stale Checks

If you or organization has a check listed below please contact the treasurer for its return or you may authorize its destruction and then please reissue it in order to maintain your good standings with the MRC.

The term stale check is from the banking industry for a check older than 6 months, they may be refused by the issuing institution or the payee without recourse..

UNDEPOSITED STALE CHECKS 03/02/2002

Name	Chk #	Date	Amount	Call
THOMAS OR PATRICIA CARLSON	6409	9/13/1997	\$10.00	NOQNY
H R CLOUGH	10323	9/13/1997	\$20.00	WB0YTX
H R CLOUGH	10324	9/13/1997	\$10.00	K0EF
CARL ESTEY	5449	9/13/1997	\$20.00	KB0UPY
G E MCDONALD	3279	5/25/1997	\$100.00	NOABR
REUBEN RUEN	3795	9/13/1997	\$10.00	WB0BWL
MICHAEL A OR DONNA L LEWIS	19531	9/13/1997	\$10.00	KBORRU
RICHARD DONLON	6571	9/13/1997	\$10.00	KB0VAD
DAVID P OR DEBRA S KLEINDL	1954	9/13/1997	\$10.00	KA0BFP
JOHN JOHNSON	10211	9/9/1997	\$10.00	KB0RW
WORTHINGTON ARC	778	9/10/1997	\$10.00	WA0LUT
MEREDITH LINDRUD	5531	10/15/1997	\$10.00	WB0TDN
DALLAS OR PAUL BUCHHOLZ	13251	2/17/1998	\$10.00	KC0AIW
JANET V ROBIDOUX	8397	9/13/1997	\$20.00	K0JE
PAUL THOMPSON	7306	9/13/1997	\$20.00	K0AGF
CHRISTOPHER M OR JO A PETERSON	3230	9/13/1997	\$10.00	KF0FX
DAVID J KELLNER	6180	9/13/1997	\$10.00	KV0CV
SMARTS RADIO CLUB	2112	3/25/1996	\$4.00	AA0EA
TERRY LONDROCHE	1001	5/10/1998	\$30.00	N0WSW
RICHARD DONLON	7452	5/9/1998	\$10.00	KB0VAD
SHERBURNE COUNTY REPEATER GUILD	231	5/9/1998	\$80.00	NOJDH
DAVID KELLNER	6418	5/9/1998	\$10.00	KG0CV
MEREDITH LINDRUD	5702	5/9/1998	\$30.00	WB0TDN
SMARTS RADIO CLUB	2222	5/4/1998	\$20.00	AA0EA
WELDON I HOGIE	3172	5/9/1998	\$30.00	W0IHI
THOMAS OR CHRISTINE TETZLAFF	3454	3/18/1998	\$10.00	WL7AEC
ANOKA COUNTY RADIO CLUB	2153	2/26/1998	\$20.00	KB0VYD
WALLACE J ERIKSON	12246	1/1/1998	\$5.00	K0WE
DONALD HOUCK	6175	1/16/1998	\$10.00	KG0QR
K MICHAEL SCHWENDEMAN	4385	1/9/1997	\$20.00	K0JTA
CLETUS MAKOWSKI	7929	1/14/1998	\$30.00	KB0LBS
FARIBAULT AREA RADIO CLUB	399	12/5/1997	\$10.00	WB0NKX
DONALD A OR CHERYL HEIMERL	4749	11/24/1997	\$10.00	WA0GMY
BRUCE W OR KATHLEEN A ELLIS	12917	10/14/1997	\$10.00	W0BF
MICHAEL OR MARILYN LANGER	4283	9/11/1997	\$10.00	WQ0A
LEROY HOIKKALA	9574	9/21/1997	\$20.00	NOEUR
NORTHERN LAKES AMATEUR RADIO CLUB	1572	9/29/1997	\$10.00	WD0AAF
VIKING AMATEUR RADIO SOCIETY	1100	9/10/1997	\$30.00	WA0CJU
DEAN BOELTER	7079	9/25/1997	\$20.00	WD0HAD
JOHN S HILL	5925	9/13/1997	\$50.00	NJOM
			\$709.00	
Returned Items				
MATTHEW E GENELIN (NOYNT)	4660	12/8/96	\$10.00	
Stearns County	244873	2/11/1998	\$10.00	
Scott Howard (WD0ELS)	10804	10/10/1997	\$10.00	

CONSTITUTION OF THE MINNESOTA REPEATER COUNCIL

PREAMBLE

We, having mutual interests in the media of Amateur Radio communications, do hereby associate ourselves to form a council for our stated purposes.

ARTICLE I. NAME

The name of the organization shall be as established in the By-Laws.

ARTICLE II. PURPOSES

- A. To foster interest in Amateur Repeater communications and to improve the state of the art.
- B. To coordinate Amateur Radio Repeater activities and frequencies in the State of Minnesota.
- C. To determine and recommend technical and operational standards and policies.
- D. To provide other assistance and services as may be within the scope of the Council.

ARTICLE III. MEMBERSHIP

- A. Application for membership in the Council shall be open to all organizations or individuals (hereafter referred to as organizations), who operate a licensed repeating installation or have an interest in Amateur repeater operation and are in accordance with the purposes of the Council as set forth in Article II.
- B. Representation and obligation of members shall be as established in the By-Laws.

ARTICLE IV. OFFICERS

- A. The officers of the Council shall be:

Chairman
Vice Chairman
Secretary/Treasurer

- B. The Officers of the Council shall be elected from within the membership and shall be responsible to the membership for the faithful performance of their office.
- C. Election procedures, duties and terms of office shall be as established in the By-Laws.

ARTICLE V. MEETINGS

- A. At least an annual meeting of the Council shall be held during each year.
- B. Other subsequent meetings shall be as provided in the By-Laws.
- C. Requirements for quorums shall be as provided for in the By-Laws.

ARTICLE VI. INITIATION FEES, DUES AND ASSESSMENTS

- A. Initiation fees, dues and assessments for membership in the Council shall be as established in the By-Laws.

ARTICLE VII. REAL PROPERTY

- A. The Council may not acquire real property, by purchase or trade, without the approval of a simple majority at a Council meeting. Real property thus acquired must be listed and accountability maintained.

ARTICLE VIII. BY-LAWS

- A. The Constitution of the Council shall be supplemented by BY-LAWS containing procedures, responsibilities and definitions within the framework of the Constitution. However, the By-Laws shall not serve to contravene, modify or have the effect of amending the Constitution.
- B. Amendments to the By-Laws shall require approval of a simple majority of votes cast by member organizations at a Council meeting.
- C. Each member organization must be notified that a specific article and paragraph of the By-Laws is under consideration before such action may become an order of business at a Council meeting.

ARTICLE IX. AMENDMENTS TO THE CONSTITUTION

- A. Amendments to the Constitution shall require the approval of a two thirds (2/3) majority of votes cast by the total membership in good standing at a Council meeting.
- B. Each member organization must be notified that a specific article and paragraph of the Constitution is under consideration before such action may become an order of business at a Council meeting.

ARTICLE X. AUTONOMY

- A. Any actions or recommendations, made by the Council, shall be considered as advisory in nature and are not binding on member organizations. However, members shall attempt to abide by the group philosophy in operation.
- B. Members shall keep the frequency and technical committees informed of all proposed and actual changes in their systems.

BY-LAWS OF THE MINNESOTA REPEATER COUNCIL

ARTICLE I. NAME

The name of the organization shall be:

MINNESOTA REPEATER COUNCIL

ARTICLE II. MEMBERSHIP

- A. A Regular Member shall be any organization or individual operating at least one repeating system according to the Technical Standards as outlined in Article XI and has the required MRC membership dues currently paid in full.
- B. An Associate Member shall be any organization or individual holding an Amateur Radio license and displaying an interest in constructing or operating a Amateur Radio repeater station and has the required MRC membership dues currently paid in full.
- C. One User Liaison Member shall be selected, by simple majority of the regular member organizations, to represent the FCC licensed Amateur Radio operators that use repeater stations.]
- D. The repeater trustee of each Regular Member shall submit, on an approved Delegate Registration Form, the name of the primary delegate and , optionally, the names of no more than two (2) alternate delegates who shall speak and/or vote on behalf of the Regular Member at the next regular meeting. Delegate Registration Forms will be sent with each meeting notice.

A primary or alternate delegate shall represent no more than two (2) Regular Members.

Regular Members who are not represented by a primary delegate at a regularly scheduled meeting shall have no vote at that meeting.

- E. Applications for membership should be made through the Secretary/Treasurer and shall be presented to the Council at the next regular meeting following receipt of the application. It shall be approved by a simple majority vote of the Council members. Upon approval of a new member they shall be seated on the Council as a member in good standing. Applications rejected by the Council shall be so notified.

ARTICLE III. RIGHTS OF MEMBERSHIP

- A. Regular Membership in the Council entitles the member to a voice in the structure, policies, actions and recommendations of the Council and to a vote on such actions that may come before the Council through their delegate appointed by the member.
- B. An Associate membership shall be limited only by the deletion of voting privileges.
- C. The User Liaison shall have a vote, representing the user's voice in Council matters.

ARTICLE IV. (Deleted)

ARTICLE V. OFFICERS

- A. The officers of the Council shall be:

Chairman

Vice Chairman

Secretary/Treasurer

- B. Officers of the Council shall be selected from the membership and shall be voted on by the Regular Members of the Council at the Annual meeting.
- C. The terms of office of all elected Officers shall be one year or until replaced.
- D. The first order of business, upon adoption of this Constitution and By-Laws, shall be an election of officers, commencing with that of Chairman.

ARTICLE VI. DUTIES OF OFFICERS

- A. Chairman – Preside at all meetings. Administer the affairs of the Council. Appoint all committees.
- B. Vice Chairman – Assist the Chairman in the discharge of his duties and assume the duties of the Chairman in his absence.
- A. Secretary/Treasurer – Maintain the records of the Council. Maintain a file of all official Council correspondence. Prepare necessary meeting notices. Distribute written minutes of the Council meetings to all Council members. Maintain the financial records of the Council. Collect all fees, dues and assessments of the Council. Distribute all monies, as required, retaining copies of all bills, vouchers and receipts to substantiate such distributions.

ARTICLE VII. COMMITTEES

- A. Committees, as required, shall be appointed by the Chairman.

ARTICLE VIII. MEETINGS

- A. The election of Officers shall be held at the Annual meeting (normally the Fall meeting).
- B. Special meetings shall be called as directed by the Chairman.
- C. Meeting notifications shall be mailed to all Council members.
- D. Roberts Rules of Order shall determine conduct of all meetings.
- E. Balloting shall be taken on the basis of one vote for each Regular Member.

ARTICLE IX. FEES, DUES AND ASSESSMENTS

- A. Fees, dues, assessments and disbursements shall be as directed by the Council.

ARTICLE X. QUORUM

A quorum shall consist of twenty five (25) percent (%) of the Regular Members of record at the start of the meeting. Forty percent (40%) of these members must represent an organization outside the Metro Zone. (The Metro Zone is defined as the following seven counties in Minnesota: Ramsey, Anoka, Hennepin, Dakota, Carver, Scott and Washington).

ARTICLE XI. TECHNICAL STANDARDS

(See the MRC Technical Standards)

ARTICLE XII. FREQUENCY COORDINATOR

- A. The Frequency Coordinator is appointed by the Officers of the MRC and is approved by the MRC and should be selected according to the following guidelines:
 - 1. Have been a member of the MRC as a Regular or Associate Member for at least three (3) years prior to the day of his or her appointment.
 - 2. Have demonstrated administrative skills in some capacity.
 - 3. Be able to express himself or herself clearly in verbal and written form.
 - 4. Be capable of being impartial in administering the Frequency Coordination Policies established by the MRC.
 - 5. Be a licensed Amateur Radio Operator with at least a Technician class license for a minimum of five (5) years.

Adopted 11/78

Re-typed in Microsoft Word 12/01

Proposal to Change MRC 902 and 1240MHz Band Plans. Submitted March 24, 2002

Partly in response to the ATV discussion at the February MRC meeting, but primarily in response to new interference problems in the 1240 MHz band, there was a need to discuss ATV operations and the MRC band plans. A small group of hams representing the MRC, NBFM voice repeaters, and the ATV community in the Twin Cities met in Shoreview to discuss the issues. We met on three Friday evenings for a total of about 11 hours. The first night there were about 15 attendees, the second night about 13 attendees, and the third night there were about 10 attendees. Only Dan Swee, N0FKM, and Doug Reed, N0NAS, attended all three meetings. K0LAV, the MRC Frequency Coordinator, and quite a few other people attended two out of three meetings. Two thirds of the attendee's were representing ATV operations in the metro area.

The primary goal for the meetings was to suggest changes to the MRC band plans for 902 and 1240 MHz. Discussion was restricted to the bands above 450 MHz so we could get something accomplished. One minor change to the 420 MHz band plan did creep into the discussion and is presented here as well. I must remind everyone that even if the changes are accepted by MRC, they must also be acceptable to our adjacent states (especially Wisconsin) before the changes can be implemented.

It is my belief that the changes presented here will have little or no impact on other existing users of the 902 and 1240 MHz bands. I am still in the process of investigating the issues of occupied bandwidth and potential ATV interference in the satellite uplink allocation. To create the band plans we have been relying on operator knowledge, MRC records and other published information during our discussions. If anyone has information that indicates adverse interference is likely, please advise us as soon as possible before the May 4 meeting.

A. Proposed changes to the 420-450 MHz band plan are:

1. Remove the word "simplex" from the ATV allocation at 426-432 MHz.
This will allow the Frequency Coordinator to accept ATV repeater coordination requests that use 427.250 as an input or output frequency. A VSB filter will be required to prevent interference to the adjacent ATV allocation. This proposal was made by the ATV representatives and they do not consider sharing this frequency with simplex ATV to be a significant problem. Digital links in the 430 MHz range may be a problem and is under discussion.

B. Proposed changes to the 902-928 MHz band plan are:

1. 60 mile protection radius for all coordinated systems in this band, except 30 miles for ATV systems.
2. The existing ATV allocation at 921-927 MHz to be "Shared Non-Protected ATV."
This is similar to SNP for NBFM voice repeaters except PL is not required.
3. Both existing ATV allocations are for AM ATV due to restricted bandwidth.
4. No FM ATV repeater operation on this band but FM ATV may be used for local/portable simplex operations.
5. AM ATV carrier frequencies are 910.250 and 922.250 MHz.
6. A VSB filter is required on 921-927 MHz repeater outputs to protect NBFM voice repeater inputs below 921 MHz. Use of a VSB filter at 909-915 MHz is recommended to reduce interference to and from any NBFM voice repeaters below 909 MHz and from the existing Part 15 devices in the band.
7. ATV repeater operators are encouraged to share frequencies at less than 30 miles.

C. Proposed changes to the 1240-1300 MHz band plan are:

1. 60 mile protection radius for all coordinated systems in this band, except 30 miles for ATV systems.

2. Remove the word "simplex" in the description at 1260-1270 and 1288-1294 MHz.
This will allow the Frequency Coordinator to accept ATV repeater coordination requests that use these allocations as an input or output frequency. This proposal was made by the ATV representatives and they do not consider sharing these frequencies with simplex ATV, digital communications, or wideband experimental users to be a significant problem. The FM ATV allocation at 1260-1270 MHz is shared with satellite uplinks and we are seeking more information to determine the interference potential. If you have information, please notify us as soon as possible before the May 4 MRC meeting.
3. Specify AM ATV carrier frequencies 1241.250, 1253.250, 1277.250 MHz, and 1289.250 MHz. Establish FM ATV recommended carrier frequencies at 1245, 1255, 1265, and 1290 MHz.
These are standard frequencies provided by various ATV equipment manufacturers.
4. A VSB filter is required for AM ATV at 1240-1246 and 1276-1282 MHz due to the band edge and to protect NBFM voice repeater inputs below 1276 MHz.
5. Digital communications, wideband experimental and satellite uplinks share several allocations equally with ATV. Interference with coordinated ATV operations must be accepted.
6. Recognize FM ATV bandwidth will exceed current allocations at 1240-1258 and 1288-1294 MHz.
The Wisconsin band plan uses 1240-1250 MHz as AM or FM ATV frequencies and eliminated the NBFM point-to-point link frequencies at 1246-1248 MHz and 1258-1260 MHz..
7. Reduce NBFM voice repeater outputs allocation to 1282 to 1286 MHz. This reduces the NBFM voice repeater output allocation to 159 channels rather than 239 channels and extends the wideband experimental and ATV allocation from 1286 to 1294 MHz. This allows either 1290 MHz FM ATV or 1289.250 MHz AM ATV operation in this allocation.
8. MRC will use the 1274-1276 MHz segment for NBFM voice links.
This segment was previously used for NBFM voice repeater inputs paired with the 1286 to 1288 repeater output segment. If the upper segment is not used for NBFM voice repeaters, the bottom segment becomes available for NBFM point-to-point links.
9. ATV repeater operators are encouraged to share frequencies at less than 30 miles.

Understanding these changes is easiest using a simple chart to show the original band plan and then add the changes on a second row. Such a chart will be included with the newsletter or you can easily make your own from the information in the current ARRL Repeater Directory. I will try to have a better chart added to the MRC web page at <http://www.mrc.gen.mn.us/>

73, Doug Reed, N0NAS.

NOTE: The following bandwidth estimates apply to various modes discussed:

NBFM voice - +-5 KHz deviation, 10 KHz occupied bandwidth.
FM ATV - +-4 MHz deviation, 8 MHz occupied bandwidth.
AM ATV with VSB filter - 6 MHz occupied bandwidth.
AM ATV without VSB filter - 10 MHz occupied bandwidth.
These figures DO NOT include typical receiver IF bandwidth.

Proposed MRC band plan changes for 902 and 1240 MHz bands to be presented at May 4 MRC meeting.

Current MRC/ARRL Band Plan	Proposed MRC Band Plan	Current MRC/ARRL Band Plan	Proposed MRC Band Plan
902 Weak Signal	902 Weak Signal	1240 AM ATV1	1240 AM ATV1 SNP
903 Digital Communications	928 Digital Communications	1242 1241.250 Carrier	1242 1241.250 Carrier
904 Communications	929 Communications	1244	1244 FM ATV1 SNP & FM ATV1 SNP 1245 Carrier
905 NBFM Repeater Inputs	930 NBFM Repeater Inputs	1246 NBFM links & digital	1246 Digital Communications & FM ATV2
906 NBFM Repeater Inputs	931 NBFM Repeater Inputs	1248 Digital Communications	1248 1255 Carrier & AM ATV2
908	933	1250	1250 1253.250 Carrier
909 910.250 carrier	934 910.250 carrier	1252 AM ATV2	1252 1253.250 Carrier
910 AM ATV1	935 AM ATV1	1254 NBFM links	1254 Satellite Uplinks & Wideband Experimental & Simplex ATV
911	936	1256	1256 NBFM Repeater Inputs
912 Digital Communications	937 Digital Communications	1258	1258 NBFM Repeater Inputs
913 NBFM Repeater Outputs	941 NBFM Repeater Outputs	1260	1260 NBFM Links
914	942	1262	1262 AM ATV3
915	943	1264	1264 1277.250 Carrier
916	944	1266	1266 NBFM Repeater Outputs
917	945	1268	1268 NBFM Repeater Outputs
918	946	1270	1270 Wideband Experimental & Simplex ATV
919	947	1272	1272 AM ATV1
920	948	1274	1274 NBFM Simplex & Links
921	949	1276	1276 NBFM Simplex & Links
922	950	1278	1278 NBFM Simplex & Links
923	951	1280	1280 NBFM Simplex & Links
924	952	1282	1282 NBFM Simplex & Links
925		1284	1284 NBFM Simplex & Links
926		1286	1286 NBFM Simplex & Links
927		1288	1288 NBFM Simplex & Links

Add detail from ARRL band plan to Weak Signal area.

120 mile protection radius for coordinated systems.

Add detail from ARRL band plan to Weak Signal area.

60 mile protection radius for coordinated systems except 30 mile protection for ATV systems.

No FM ATV repeaters coordinated. FM ATV simplex is allowed.

1240 band before changes: 2 channels, 12 MHz dedicated ATV.

1240 band after changes: 3 repeater ATV, 2 simplex ATV. 30 MHz total, 18 MHz shared.

902 band before changes: 2 channels, 12 MHz dedicated ATV. One channel is SNP.

902 band after changes: 5 ATV allocations, 1 is SNP. 44 MHz total, 30 MHz shared.

Minnesota Repeater Council

Membership and Renewal application form

Name of organization or individual sponsor: _____

Repeater Call: _____ Frequency(s): _____

Repeater Location(s): _____

Trustee information (MRC Main Contact).

Trustee Callsign: _____ Name: _____

Phone: _____ Address: _____

Email: _____ City: _____

Other: _____ State: _____ Zip: _____

Club or alternate contact/mailing address.

Callsign: _____ Name: _____

Phone: _____ Address: _____

City: _____ State: _____ Zip: _____

Type of Application: Renewal New membership Trustee Change Database Update

- Regular Membership
Dues \$10.00 year
Organization or individual who is operating a FCC licensed Amateur Repeater station on a frequency coordinated by the MRC. Has one vote at all meetings. Receives all mailings.
- Associate Member
Dues \$ 5.00 year
Organization or individual with a active interest in constructing an Amateur Radio Repeater station or in the activities of the MRC. Can participate in the activities of the MRC but has no vote.
- Newsletter
Receives one copy of MRC newsletter for 1 year. Dues \$ 5.00
Or download for free from the MRC webpage

Signed: Repeater Trustee/Regular Member

Date: _____

Mail all Applications and dues to:
Minnesota Repeater Council
Jerry Dorf, N0FWG Secretary/Treasurer
1402 Pulaski Road
Buffalo MN 55313
763-682-2169 Voice 952-473-5819 Fax
jerryd@jerryd.net

of years Paid: _____
Total Amount: _____
Check #: _____
Name on Check: _____

Other Info: _____

Membership Approval Granted: _____ Date: _____

Dues Paid for: 2002 2003 2004 2005 2006 2007 2008 2009 2010

Revised 03/2002 jkd

Agenda
Minnesota Repeater Council General meeting
Spring 2002

- I. Call to order 12:00 Noon**
 - A. Welcome
 - B. Introduction of officers and members
 - C. Review Agenda
 - D. Re adopt bylaws and constitution for legal reasons
- II. Reports**
 - A. Secretary & treasurer report, N0FWG
 - B. Frequency coordinators report, K0LAV
- III. Applications for membership**
- IV. Old business**
 - A. Internet re-mailer
 - B. De-coordination of repeaters
 - C. Band plan committee
 - D. Other old business
- V. New business**
 - A. Appointments
 - 1. User Liaison
 - 2. Technical committee
 - 3. Others
 - B. Possible Bylaw changes / review committee
 - C. Other New business
- VI. Next Meeting location**
- VII. Adjournment**

The MRC will have a table at

Midwinter Madness Hobby Electronics show.

We will be able to answer your general questions and work with you to resolve any issues you may have before the May meeting.

Stop by and say Hello.

MIDWINTER MADNESS®
HOBBY ELECTRONICS SHOW

Saturday April 13, 2002 7:30AM - 1:00PM
Gangelhoff Center, Concordia University, St. Paul MN
★Commercial Exhibitors★Large Indoor Swap Meet★
Featuring new and used:
★Computers★Software★Hardware★Electronics★Amateur Radios★
For more info call 763.537.1722
Email: k0ltc@visi.com <http://www.visi.com/~k0ltc>
Sponsored by the Robbinsdale Amateur Radio Club, Inc

Delegate Registration (Proxy) Form

Regular member.

Repeater Call: _____ Frequency: _____

Trustee: Call: _____ Name: _____

A regular member is an organization or individual that is the Trustee of record for an operating repeater in the MRC frequency coordination database with MRC membership dues paid in full at the start of the meeting.

Primary Delegate Call: _____ Name: _____

Alternate Delegate #1 Call: _____ Name: _____

Alternate Delegate #2 Call: _____ Name: _____

Restrict voting privileges: If you wish to be registered for purposes if counting attendance, but do not want your assigned delegate to have voting privileges, check here

Duration of Proxy: Check here to allow this proxy to be used at future MRC meetings. This proxy may be altered or revoked at any time by the regular member.

Signed: _____ Date: _____

Regular Member (Trustee)

Please mail this proxy to the Secretary at least one week prior to the meeting. Advance registration is appreciated.