

The Repeater



The Official Publication of the Twin Cities Repeater Club, Inc.

Mission Statement of the Twin Cities Repeater Club, as Adopted on September 20, 1993

The purpose of the TCRC is to facilitate the local communication needs of its members by owning and operating a state of the art wide area coverage two meter repeater system. The club will further involve itself in secondary activities intended to (1) promote the exchange of ideas and information related to amateur radio, (2) strengthen the fellowship and camaraderie among the members, (3) serve the local amateur radio community, and (4) increase local public safety.

Field Day 2007 is Right Around the Corner!



See the articles inside for more information about what Field Day is all about, and the plans that the TCRC has made for this year's Field Day event! Be sure to check inside for maps and directions to the new location from which we will be operating. The old site that we've used for many years is no longer available to us, and we would hate to have you miss all the fun by going to the old site!



There's a lot more inside this issue of the Repeater. Take a few moments from your busy schedule to peruse it. And if there's something you *don't* see here, that you think ought to be in a future issue of the newsletter, we'd welcome your submission of those ideas!

73 de WØJT

Summer, 2007
Volume 30, Number 1

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*Please Join Us
for
Field Day 2007
At our New location*

*06/22/07 1:00 PM
Setup begins*

*06/23/07 1:00 PM
Operation begins*

*06/24/07 1:00 PM
Operation ends,
Teardown begins*

The Repeater is published quarterly by the Twin Cities Repeater Club, Inc. (the TCRC). The TCRC is organized as a nonprofit corporation in the State of Minnesota, with Articles of Incorporation and Bylaws. The club elects officers annually. These officers are simultaneously elected for a two-year term on the Board of Directors. The Repeater Trustee is a permanent member of the Board of Directors. Unlike the other Officers and Board Members, the Trustee may select a proxy to serve in his place at meetings of the Board. Membership in the TCRC is \$25 per year. The TCRC is an official ARRL affiliated society.

TCRC Officers:

President: Phil Lefever, KBØNES
Vice President: Mark Neuman, KCØITP
Secretary: Tanna Morse, KCØURO
Treasurer: Craig Larsen, KCØDMF

Board Members:

All of the above Officers, plus...
 Ivan Frantz, WØBU, **Repeater Trustee**
Ivan has currently appointed Mogens Dantoft, OZ9MD, as his proxy for Board Meetings.
 Jim Rice, NØOA, **Past Secretary**
 Jeff Goodnuff, WØKF
 Larry Jenkins, KØLEJ
 Artie Johnson, WBØJMG

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 Phil Lefever, KBØNES, **Vice Chair**
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 Mike Ferguson, NØDGG
 Rich Kenney, WØRFK
 Dave Kleindl, NØKP
 John Toscano, WØJT
 John Phelps, KFØZM
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Open, FØOD Station Manager

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 Phil Lefever, KBØNES, **Assistant Webmaster**
 John Toscano, WØJT, **Assistant Webmaster**
 Jeff Goodnuff, WØKF, **Web Calendar Maintainer**

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Doug Ayers, NAØVY, **Chair**
 Craig Larsen, KCØDMF
 Tanna Morse, KCØURO

Newsletter Committee:

John Toscano, WØJT, **Editor**

Net Control Operators:

Chair: Larry Jenkins, KØLEJ
 1st Tuesday: Jeff Goodnuff, WØKF
 2nd Tuesday: Doug Ayers, NAØVY
 3rd Tuesday: **Open**
 4th Tuesday: Phil Lefever, KBØNES
 5th Tuesday: John Toscano, WØJT
 Alternate: Mark Newman, KCØITP

Metro Skywarn Liaison:

Jeff Goodnuff, WØKF

Minnesota Repeater Council Liaison:

Jeff Goodnuff, WØKF

A Field Day Message

from Dan Henderson, N1ND, ARRL Field Day Manager

Amateur radio is about knowledge and growth. **It is a hobby and service that truly offers “something for everyone.”** It is a chance to learn and grow but above all **amateur radio is about FUN.** It is a hobby where we learn, share, and, well, just have a good time. And for many there is perhaps nothing more fun in the hobby than **ARRL Field Day.** Old friendships are renewed and new ones created. We become both teacher and student during that special fourth full weekend in June – sharing our experience while learning new things. Amateur Radio stands at a juncture where we can **embrace both the old and new.** While CW may no longer be a testing element, it is still a strong and favorite operating mode of tens of thousands of operators. Tens of thousands of operators are embracing digital technologies, from RTTY to newer digital modes like PSK31 and Olivia. Phone operation, probably the largest segment of our hobby, also has new frontiers to be explored with digitized voice, VOIP, and IRLP. And this is why Field Day – **the largest annual on-the-air operating event** – is so exciting. It gives all – the old timer and the newcomer, the brass-pounder and the computer assisted operator – the chance to share and teach the broad range of modes, skills and technologies we find in our hobby. Field Day is truly the time where we **bring amateur radio to Main Street USA.** By setting up in parking lots, malls, Emergency Operations Centers, parks and even at home, amateur operators learn skills that will allow them to better serve their communities. Setting up in these public venues gives added public relations value – their friends and neighbors can see and experience the fun and public service capability that their “ham radio” neighbors bring to their towns. **High visibility** helps get the amateur radio message out to the community. The buildings on Main Street in your town will be different from mine. Your Main Street may speak with a Southern drawl, a Texas twang, or a Yankee accent. But deep down – Main Street is Main Street. Use Field Day 2007 to open up our wonderful hobby to the next generation of amateur radio operators on YOUR Main Street! And don’t worry about insecticide. **Field Day 2007 is a great time for “the Bug”** to bite as many people as it can! **It’s up to you to make it happen...**



Welcome, New Members!

The following folks have recently joined the ranks of the Twin Cities Repeater Club, or have re-joined after a period of elapsed membership. Please welcome them the next time you hear them on one of our repeaters! The club thanks them for their willingness to participate in the club.

Callsign	Name
KD5GQU	Curtis Kooiman
WBØHFC	Lester Baechler
KCØZEC	John Dooley
KCØZMJ	Steven Nelson
NØSUO	Larry Larson
KCØEPR	Len Lewis
N5WVR	Catherine James
K5KKV	Jim Lee
KC2OCX	Matt Waters
KCØYWA	Niklas Ludwig

The Season of Changes

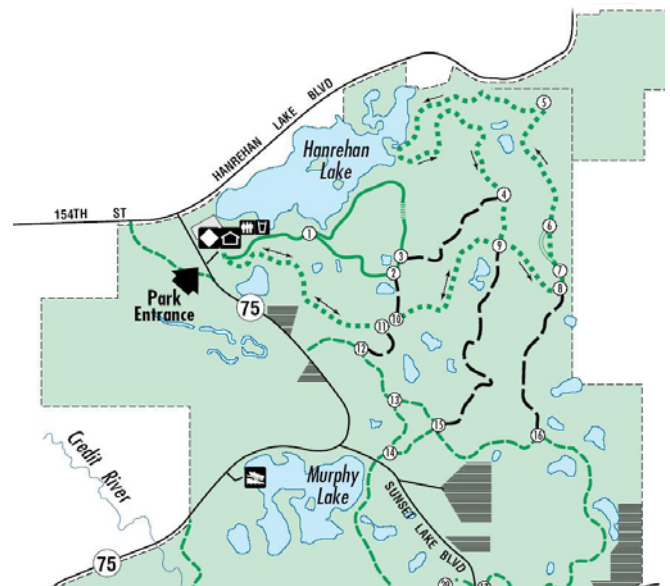
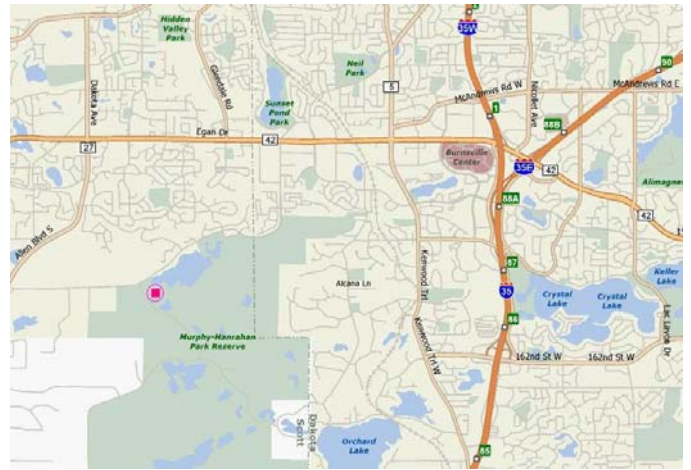
by Jeff Goodnuff, WØKF
and John Toscano, WØJT

Spring is the season of change, and your newsletter editor planned to use the theme of change for the Spring issue of the Repeater newsletter. Unfortunately, one thing that didn't change recently was how busy your newsletter editor has been at the beginning of this year, and so an Early Spring (March) issue never went to press. But even though it is now midway through June, there are a lot of changes to discuss, so let's press onward.

Board Meetings: Your Board of Directors meets the second Monday of each month at 7:00 PM to discuss issues of interest to the TCRC. TCRC members are always welcome at these meetings. About three months ago, we moved the meeting place from Denny's Restaurant on Cliff Road and Highway 13 in Burnsville, to the Perkins Restaurant located on the West frontage road of Interstate Highway 35W, just North of the Burnsville Parkway and South of Highway 13.

Tuesday Night Coffee Gathering: As many of you know, each Tuesday evening, starting shortly after 7:00 PM, a group of TCRC members has met informally at Caribou Coffee to discuss topics of mutual interest. The discussion tends to revolve around topics of interest to Hams, but anything goes. For years, we met at the Caribou Coffee shop at 147th and Cedar Avenue in Apple Valley. Unfortunately, the parking there was difficult and the establishment was small and crowded. So, we have moved to the Caribou Coffee located at Cliff Road and Highway 13 in Burnsville (located right behind Walgreen's). This new location has worked out well so far. It isn't as crowded, and the parking is plentiful. Stop on by and meet the folks you talk to on the TCRC repeaters.

Field Day Site: For years, the TCRC has been very fortunate to use a beautiful Field Day location on Highway 3 in Empire township, just South of downtown Rosemount. A number of years ago, Jerry Stenzel, the farmer that owned the land and so generously allowed us to have our Field Day located there, passed away. His heirs let us continue to use the site for a few more years, but they have now sold the land to a developer who will be building a housing development on that land. Consequently, we have relocated to a new Field Day site, which we anticipate will work out nicely for us. It is Murphy-Hanrehan Park Reserve located in the Southeast corner of Savage, right on the Burnsville line. Since it is a public park, we will be eligible for the 100-point bonus for operating in a public place. A map showing the exact location may be viewed on www.tcrc.org; look under Field Day on the calendar. There are also directions in this issue of the Repeater. The small maps below should help you visualize where the Park Reserve is located in relation to other major landmarks, such as County Road 42, Interstate 35W, and Interstate 35E. The second map is part of an official flyer about the Park Reserve, and shows a little more detail on the corner of the park where we will be setting up shop.



Field Day Operating Class: In most (or all) of the past years, we have operated in the 3A class, which means that we set up and operated 3 HF stations, plus the VHF+ station and the Novice/Tech or GOTA station. This year, we have elected to operate in the 2A class, due to difficulty in keeping operators in 3 HF stations for a substantial portion of the 24 hours of operating time available. We figured that if we aren't going to use 3 HF stations, we shouldn't knock ourselves out by setting up 3 HF stations. Of course, if there is a surge of interest in operating the radios during Field Day, we would certainly reconsider changing back to Class 3A in future years.

Newsletters: At a recent Board of Directors meeting, we discussed the need to control our expenses, so as to be good stewards of the dues payments that our shrinking membership has entrusted to us for the operation of the Club and the maintenance and operation of its four repeaters. One change we decided to try was to have issues 1 and 3 of the Repeater (this club newsletter) distributed electronically, via the club's web site, and only distribute printed copies of issues 2 and 4. The rationale for the selection of issues 2 and 4 for hardcopy distribution was the desire to make sure that all club members were adequately informed about Field Day (June issue) and about the annual club meeting at which elections are held

(November issue). This will cut down on printing expense and postage expense significantly, but most members have Internet access and will still be able to obtain all issues of the Repeater that are published. Since the March 2007 issue was never prepared, this June issue has become issue #1 of the year, but we are still sending it out in printed form for the reasons described above. If I can get enough material submitted for future issues, I will attempt to squeeze in two electronic issues before the final (November), printed issue of the year. All issues, whether released in printed form or electronically, are going to be posted on the TCRC web site, so you can get access to back issues or any issues that you may have missed (or misplaced).



Field Day is Here Again

by Mark Neuman, KCØITP

That's right! Field Day is now on top of us: June 23-24 this year, which is later *this week!* And the TCRC is getting ready to party, contest, and have a good time. As outlined on Page 2 in the brief article by N1ND, Field Day was originally started in the name of training amateur radio operators how to operate using temporary stations, in less-than-ideal conditions. The lessons learned by those that operate Field Day are invaluable when large-scale disasters occur. Within hours, we could have several stations on the air, using temporary equipment, to provide wide-area communications. All this is accomplished without using any permanent equipment, and using only emergency power. Field Day helps us to keep our skills sharp, and teaches us how to pull together and work as a team. It was noted in the government reports that the only method of reliable and interoperable communications that continued to operate in the aftermath of hurricane Katrina last year was that which was provided by ham radio operators. Field Day is a chance to brush up on those skills, not only in being able to pass messages in potentially difficult conditions, but also in being able to set up a station under less-than-ideal conditions. For us to pull off a successful effort, we need the help of as many people as possible! So far this year, it seems that enthusiasm for the event is down compared to years past. We do normally see interest build as the event approaches. While the world events of the past years have changed people's lives, the need for emergency Amateur Radio communications has only increased. It is my hope that as many TCRC members as possible, as well as their friends, can come out to join us for the event this year.

The TCRC Field Day location *has changed this year!!!* Thanks to the suburbanization of Empire Township (i.e., the invasion by housing developments), we lost our old Field Day site of many years. Thanks to Jim (NØOA), we have a new Field Day site for this year, and hopefully for the coming years. The site is on Murphy Lake Boulevard (Scott County Road 75), just south of the intersection of Scott County Road 74 and Scott County Road 75, which is also known as Hanrehan Lake Boulevard, in Savage. For those of you with GPS, the coordinates are (N 044 43.456, W 093 20.820). For the rest of you, the best way to reach the site is to go south on

Burnsville Parkway from County Road 42, then follow it around the bend (to the west, where its name changes to Hanrehan Lake Boulevard.) Watch for the red barn on the right, and a lake on the left, because just past those landmarks is the turn-off (a left) onto Murphy Lake Boulevard. Travel another 100 meters or so, and the park, and the TCRC, will be on the left. Note that the area is also the parking lot and trailhead for the mountain bike trails, so we will have some company, but the parking lot is *big*, and there should be no problems holding all of us.

Also, as in past years, the TCRC is looking for a number of hardy souls to help put up the antennas on Friday evening June 22nd. If you are free, please stop by the Field Day site, and help pull the towers into the sky. Unlike past years, when we operated in Class 3A, we will be operating as a 2A station. This means that we plan to have 2 HF radios (a CW station, and a general voice station) along with a "Get On The Air" (GOTA) station, and a VHF/UHF/Satellite station. All of them, except for GOTA, will operate under the call sign of WØBU. As always, the TCRC hosts a pot luck picnic on the Field Day site on Saturday, starting at about 5:00 PM, so bring your family and friends (along with a dish to share), to meet and greet and put a face to those voices you have heard on the best repeaters in the Twin Cities area. And, as always, visitors are very welcome.

Remember, Field Day is an event that happens only once a year. Be sure to mark the fourth weekend in June (23-24) on your calendars, so you are sure to have the weekend free. If you miss it, you will have to endure hearing others talk about how great it was, for an entire year afterwards. Come out and join in the fun, and try your hand at some of the bands or modes you don't normally operate. I guarantee you will have a great time.

All Field Day questions, comments, and offers to help should be directed at Mark Neuman KCØITP. I look forward to seeing you all at Field Day this year.



TCRC Meeting Schedule for the Remainder of 2007

There will be a regular quarterly membership meeting at 7:30 PM, on September 25th, in the small meeting room in the basement of Burnsville City Hall. All members and anyone with an interest in the TCRC or in amateur radio in general, is encouraged to attend.

The final meeting of the year will be a combination of a quarterly membership meeting and the annual membership meeting. Elections for club officers will be held, and the membership will vote for the recipient of the Arnie Pung Award. This meeting will be held at 7:30 PM on November 27th, 2007, in the large basement meeting room of Burnsville City Hall. Because of the elections, it is particularly important that all members attend.

Come early to both meetings, socialize, and have some coffee and cookies.

Our Trip to the Dayton Hamvention

by Artie Johnson, WBØJMG

On May 18th 19th and 20th, the Dayton (Ohio) Hamvention was held. This was the 55th annual event.

On May 16th 2007, Craig Larson (KCØDMF), and I (WBØJMG) started the trip to the Dayton Hamvention. The route planned was a bit out of the way. We planned to go to Iowa, and meet up with some of Craig's friends in the Des Moines area. Craig was "late" as usual. He was supposed to arrive at noon. I said that 1 PM was OK. He arrived after 2. We had a schedule for arrival at Frank Baldwin's (NØSFF) place in Madrid, IA for a barbecue.

We left some time for connecting up radios and such. We found that there is a compartment on the center of the dashboard that was perfect for the installation of the radios. After about an hour of installation, we were underway. I had a trailer hitch mount that I built and installed into the hitch receiver of the car. (See sidebar.) After the installation, we took off and headed for the Great State of Iowa. We arrived just in time (Miracle?), and met with the majority of the group. We had a great picnic, and slept over for an early start in the morning. Others in the company were Frank's father LeRoy "Baldey" Baldwin (WØOFY), Mike (AEØMW), Kevin (NØXWJ), and Neil (NØSFH).



Mike, "Baldy" (who took the picture and was added in later), Neil, Artie, Kevin, Craig, and Frank

We drove most of Thursday and arrived in Dayton before dark. After checking into the hotel, we made an early night of it, to arrive at the Hamvention in the early morning.

The Hamvention is held in the Hara Arena complex. It is based on a hockey arena that had several extra buildings, meeting rooms and convention facilities attached to it at odd angles, in a seemingly haphazard fashion. (It even has a section that is a roller rink with wood floors.) Many vendors were indoors. It seemed like everyone who ever made anything to be sold to radio amateurs had a booth inside. Yaesu, Kenwood, Icom and several others had large displays. Even Buddipole Antennas had a booth. Also, there were many programs being presented throughout the Hamvention. Topics included contesting strategy, bicycle mobile operation (by the Buddipole people) and of course, the ARRL had a huge pavilion.

The entire parking lot was set up as a huge flea market. Unlike many local hamfests, the Hamvention has a large percentage of real amateur and amateur radio related equipment. Several large purchases were made. I bought an HF linear amplifier for mobile operation. But the big spender was Craig, who purchased several radios and lots of portable antennas and antenna accessories, until he finally became best buddies with the Buddipole people.



Craig with his new Buddies

The group was invited to the Quarter Century Wireless Association banquet by LeRoy Baldwin. We had a good meal, and met a lot of Old Timers. I joined the QCWA, having been licensed the first time as WNØZIP back in 1969. The program consisted of a fellow who coordinated all of the frequencies for Monday Night Football and the Super Bowl. Very interesting what it takes to produce some of these shows. Interestingly, Pro Golf is even more complex due to the golfers being spread out and the action taking place in so many places. Another banquet we attended was the QRP/ARCI. The QRP (Low Power) Amateur Radio Club, International.

Our luck held out again this year, with one of our group winning a grand prize on the Sunday drawing. Kevin won a newly introduced Kenwood TH-V71A dual band mobile. I won an antenna for portable operation at the QRP banquet.



Kevin was the Grand Prize winner this year.

We had a wonderful time. I recommend a pilgrimage to the Dayton Hamvention at least once in every Ham's lifetime.

Sidebar: the Mobile Trailer Hitch antenna mount. Last year, I devised a mount for the HF antenna consisting of a trailer hitch without the ball, but with a special adapter. I used a 3/4 inch bolt with a hole drilled through it. On the top was a standard antenna thread, and the bottom was a connection for the center wire of the feedline. I insulated this bolt with a piece of black rubber hose. I was not happy with the results. Just before this year's Hamvention, I decided to check it out, and found a low resistance across the feed point of the antenna. Further testing revealed that the rubber hose was not a very good insulator. I think it was rated for gasoline, so it conducted static charges to reduce sparks. This was surprising, but it revealed why the mobile installation was so poor last year. The rubber hose (conductor) was replaced with a fiberglass tube (insulator) and the results were much better.



Skywarn Season is Here! Have you Completed your Re-Training?

By Jeff Goodnuff, WØKF
TCRC Skywarn Liaison

The severe weather season for 2007 is here. As usual, the TCRC sponsored the first class of this season (on March 3, 2007) at Burnsville City Hall. There were 31 persons in attendance at that session. If you missed that class, and you last updated your Skywarn Certification two or more years ago, there still is another chance to do it.

You can find the complete Skywarn Training Class schedule on the web at:

www.metrokywarn.org/sked.html

The TCRC will offer another class at the end of the 2007 training season. It will be held on June 30, 2007 at 9:00 AM in the Council Chambers at Burnsville City Hall. All Skywarn storm spotters must retrain every two years, so if you didn't take a class last year this is your last chance to remain current.

The class is free, and you need not be a TCRC member or even an amateur radio operator to attend. If you have any questions about the Metro Skywarn program, please feel free to contact Jeff, WØKF, your TCRC Skywarn Liaison, at 952-927-0201.

Getting Myself Back Onto HF

Part 1, Getting the Existing Gear Working Again
by Kevin Uhlir, NØBEL

I decided to get back onto the HF bands, after about 5 years away from them. Let me tell you a little bit about how it went.

First, I had to retrieve my Icom IC-736 radio from Phil, who borrowed it a few years ago. After a Tuesday night coffee, some pleasantries, and a handoff of a radio, I was ready to get started. Now, of course, I had to figure out which run of coax went to the DX-77 antenna that was planted in my back yard. After a little bit of guessing, that problem was solved.

I tuned the radio to the 20M band, and started listening around the band, and actually heard some signals. This was a positive development. Strangely enough, however, none of the signals moved the S-meter. Oh well, I figured it must be poor band conditions. But as I tried to work a station or two, I didn't get anywhere. And I needed to use the tuner in the radio on 20M to get it to work, which is something I never had to do before. So I shut it off and decided to figure it out later. ☺

On Saturday afternoon, I put the analyzer on the antenna. It was worse than I thought: basically, the antenna did not tune anywhere! There were a few dips in SWR to 2:1 at around 8 MHz, and things worked somewhat on 10M. I found a broken connection on one of the coax capacitors, and repaired that, but that didn't cause any discernable improvement.

Since the SWR was basically bad everywhere, I decided to take off the matching network (the white box mounted on the antenna) and clean it up. I took it all apart, shined up the connections (which had lots of corrosion), replaced some lugs, and re-soldered every connection on the PC board. I had always wondered if there was a need to coil the coax below the antenna connection, but when I took the antenna apart, I could see that included in the matching network was about 20 turns of 1/4-inch Teflon coax wound around a large toroid core. One end was connected to the SO-239, and the other end was connected to the actual matching network. So, as it turns out, it already has a current balun in there.

Once I reattached everything, things were better. I actually saw dips in the SWR. The frequencies were all off, but at least there were better dips than before. Still, I couldn't get down below 2:1 on the SWR meter on 40M, 20M, or 15M, but 10M started working a bit better. While I was checking 40M, I noticed that the SWR changed as the antenna moved in the breeze. I figured something was loose, so I dropped the antenna again, and started looking at it. I quickly saw that most of the hardware was not very tight, and a lot of the joints moved. I took off all the small coils, cleaned their connections, and put them back on. Now, the upper part of the antenna was very solid. I then looked at how loose the larger coils were. The lower coils are covered, and at first I didn't see how to get in to them, so I just tightened down the nuts and bolts, but they still moved a lot more than I thought they should. After that, I decided to see what the ohm meter said about the larger coils, by simply putting the meter across the coil on the antenna itself. The lowest coil sometimes read 600 ohms, sometimes read 1K ohms, and sometimes read 400 ohms. It was obviously very intermittent.

I then figured out what I had to do in order to remove the covering sleeve from that intermittent coil. I did this, and as I slipped the sleeve off, a nut fell out. Hmmmm... Sure enough, there were two more nuts and bolts inside the covering sleeve. One of the bolts was now missing a nut. The coil itself was wound around the inner plastic, and connected to the antenna through these inside bolts. So I cleaned up these connections, tightened the inside bolts, and the coil didn't move anymore. Also, the resistance was now 0.1 ohm. Even though the other two coils were already reading 0.1 - 0.2 ohms, I decided to take them apart, clean them up, and tighten them up. And, after seeing how many problems I already found, while I was at it, I decided to also take apart the remaining joints, and clean them (the various parts of the antenna assembly where one tube went into another with a hose clamp to tighten down to keep it in place).

I raised the antenna back into the air, and what do you know? It actually had less than 1.1:1 SWR on all bands. It was officially unbroke. I then did an analysis of the 2:1 bandwidth of all the bands, and decided that the 40M band was tuned too low in frequency. The changes I had made the day before to 40 meters, without the help of a meter, needed to be undone. So I fixed that, and now it works. I guess antenna maintenance once every 10 years or so is a good idea. ☺

So, now, on the Icom IC-736, I actually hear signals which are strong enough to actually move the S-meter, unlike the situation before these repairs. But it's not all rosy. I now hear lots of noise (including computer noise). But I am back onto the HF bands.

(... to be continued in future issues...)



(Expired) Members, Please Renew!

Please look carefully at the mailing label on your copy of this newsletter. If the label shows that your membership dues are "in grace" or "expired", it is time for you to pay your \$25 annual membership fee. Please take a moment to renew now!

You can mail us a check, send us a payment via PayPal on the Internet, or even give the payment to a club officer or committee chair at a club gathering of any sort.

Because of the demise of most Hamfests in the Twin Cities area (which often prompted some folks to renew each year), and our difficulty in publishing four full newsletters each year (volunteers/articles always welcomed!), it seems to be easier for people to forget when their club dues come due. (We've even had club officers and committee chairs forget!)

We really do hope you will consider renewing your TCRC membership, and help us keep our four repeaters on the air.



Newsletter Articles Wanted

by John Toscano, WØJT, your Newsletter Editor

Do you have anything interesting to share with the members of the TCRC? We would welcome your contributions to the newsletter. You don't have to be a terrific writer; you just have to have an idea that you want to contribute. Send me an entire "polished" article, a rough draft, an outline, or even an idea. As editor, I will be happy to do my best to take your submissions and turn them into a finished product as part of a future newsletter.

As you can see from the current issue, articles don't need to be exclusively related to FM repeater operation, although such articles are certainly welcome. But Amateur Radio has so many diverse niches that are fascinating to explore that we'd love to expose more of them to the members of the TCRC.

You can send your submissions to me via email, addressed to my callsign @ tcrc.org if you wish.

What have you done for your club lately?



Twin Cities Repeater Club, Inc.
P.O. Box 11534
St. Paul, MN 55111-0534

**Place
Stamp
Here**

Your Membership Dues Have Expired.
 Please Renew your Membership Today!

Join the Twin Cities Repeater Club!

P.O. Box 11534, St. Paul, MN 55111-0534

<http://www.tcrc.org>

Fill out this Membership Application Form, and mail it with your check for \$25.00 payable to the Twin Cities Repeater Club, to the mailing address listed above. You can also fill out this form electronically at the web address listed above, and either send us a check, or pay online using the PayPal system.

Name _____ Callsign _____ License Class _____

Address _____ City _____ State _____ Zip _____

Home Phone _____ Work Phone _____ Computer Phone _____

Ok to list your address in club publications? ___No ___Yes

Ok to list your phone in club publications? ___No ___Yes

Are you available for Emergency Service? ___No ___Yes

Are you a member of the ARRL? ___No ___Yes

Are you a member of Metro Skywarn? ___No ___Yes, spotter ID: _____

Are you a member of ARES? ___No ___Yes

Would you like an autodial speed dial number? ___No ___Yes, to phone # _____

Would you like a club ID badge? ___No ___Yes (free to new members, otherwise \$5.00)

What is your internet e-mail address, if any? ___None

Would you like an e-mail alias set up, so that mail sent to **yourcallsign@tcrc.org** gets redirected to the e-mail address you listed above? This can be handy on the air! ___No ___Yes

Do you want a copy of the TCRC Handbook? ___No ___Yes (add \$9.50, which includes postage)

Do you want a TCRC binder to hold it? ___No ___Yes (Add \$5.50 to the above)

This is ___New Application ___Renewal ___Other Change ___Callsign update, old call was _____