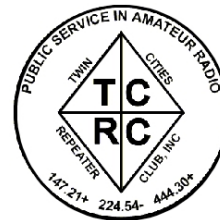


The Repeater



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.

Quarterly Membership Meeting

The regular quarterly TCRC membership meeting will occur on June 15th at 7:30 PM (right after the net). All current and prospective members are encouraged to attend. Come early (6:30 PM) for coffee and cookies. The official meeting begins at 7:30 PM. ***This meeting location is not at the usual (Burnsville City Hall) spot.*** The meeting will be at the Church of the Risen Savior, 1501 E. CR 42 (corner of CR 11), Burnsville. This change of location was due to the unavailability of meeting rooms at Burnsville City Hall. Please join us for this meeting.

~

Field Day with the TCRC June 24-26, 2004

Once again, it's that time of the year — time to gear up for Field Day! The ARRL has sponsored this operating event for many years now, under the guise of an "Emergency Preparedness Exercise". In that light, I have intentionally held off on any planning for the event until June, just to see if we can pull it off in only 4 weeks. Of course, in the event of an actual emergency, we wouldn't have even that much time, but the lessons learned would allow us to make due on short notice. If nothing else, this annual event makes sure we bring the equipment we need for effective communications to the top of our equipment pile!

This year, we will return to a 3A effort, adding an additional full-time HF station to our setup. I anticipate HF propagation to be sagging at this point in the solar cycle, so the additional station will allow full time operation on 40m to help offset the potential loss of the productive higher bands. We will, of course, also offer a full time VHF/UHF station, as well as a GOTA (Get On The Air) station for Novice/Technician class Hams, as well as inactive and non-licensed operators. There should be lots of chances to try out new bands/modes that you have wanted to experience, too.

This event is also the largest social event the club holds each year. More than half the club membership and their families have been known to attend! The Saturday night potluck BBQ is always a crowd pleaser, and socializing goes late into the night around the bonfire. This event is the perfect place to bring friends and relatives so they can learn you aren't the only radio-crazed person around. It is also a great first exposure for those you are trying to convince to get their license.

We plan on using our usual location at Jerry Stelzel's farm, located 3 miles South of County Road 42 on Highway 3. We set up on the West side of the road at the top of the hill. Look for the signs along the road or call for talk-in on the 147.21 repeater. We will have a remote receiver out at the Field Day site for excellent low power HT coverage.

(continued on Page 3)

Summer, 2004
Volume 27, Number 2

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Remember! TCRC Quarterly Membership Meeting

Tuesday, June 15th
Church of the Risen Savior
6:30 PM Coffee & Cookies
7:30 PM Meeting begins

Talk-in available during the TCRC
Info Exchange Net, 147.21 MHz

and...



June 24: Setup begins at 1 PM
June 25: Operation begins at 1 PM
June 26: Teardown begins at 1 PM

Please Join Us!

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: Steve Filek, NØOWL
Secretary: Jim Rice, NØOA
Treasurer: Pat Cain, KØPC

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.
Kevin Uhlir, NØBEL
John Toscano, WØJT
Janet Skovran, KBØZFB
Mark Neuman, KCØITP

Technical Committee (a/k/a Tech Team):

Kevin Uhlir, NØBEL, **Chair**
Phil Lefever, KBØNES, **Vice Chair**
Doug LaBore, NØBIS
Mike Ferguson, NØDGG
Rich Kenney, WØRFK
John Toscano, WØJT
John Phelps, KFØZM
Steve Filek, NØOWL

Field Day Committee:

Phil Lefever, KBØNES, **Chair**
Kevin Uhlir, NØBEL, **Site Setup Manager**
Monica Filek, KBØUWZ, **FOOD Station Manager**

Information Services Committee:

Kevin Uhlir, NØBEL, **Chair and Head Webmaster**
Phil Lefever, KBØNES, **Assistant Webmaster**
John Toscano, WØJT, **Assistant Webmaster**
Jeff Goodnuff, WØKF, **Web Calendar Maintainer**

Membership Committee:

Mark Neuman, KCØITP, **Co-Chair**
Pat Cain, KØPC, **Co-Chair**

Newsletter Committee:

John Toscano, WØJT, **Editor**

Net Control Operators:

Kevin Plummer, KBØUEU, **Chair**, 1st Tuesday
Ian Boje, KCØITQ, 2nd Tuesday
Thomas Gagnon, KBØDCO, 3rd Tuesday
Phil Lefever, KBØNES, 4th Tuesday
John Toscano, WØJT, 5th Tuesday

Metro Skywarn Liaison:

Jeff Goodnuff, WØKF

Minnesota Repeater Council Liaison:

Jeff Goodnuff, WØKF

President's Report

by Phil Lefever, KBØNES

While I might not quite feel like spring weather-wise, June is here and Field Day is just a few short weeks away. Lawn mowing season is in full swing and trees have their full foliage now. Along these lines some of you might notice that the 444.300 repeater seems to have a tad weaker signal then before. This is due to attenuation of this higher frequency signal as it tries to pass through moist foliage! Things will improve a bit as the dry part of summer arrives. Also remember that we have hit the 6-meter sporadic E season, I wonder who will be the first local to work a distant station on our 53.37 repeater?

I'd like to take a moment to thanks a few local hams for donations to the club. Michael and Patricia Slice, NØFSP/NØFOZ donated their tower, beam and rotator as well as several radios and miscellaneous equipment. They are residents of Apple Valley and moving out of state. Thanks to our vice president, Steve NØOWL, our resident tower "monkey", for helping Mike dismantle the tower as well as hauling it away. This equipment will be used first at field day and may also become part of our club station. Also thanks to Kent, KCØDGY for donating several older GE MastrExecutive II radios to the club that had become surplus to his needs. These will be modified and used as link radios for the 147.21 repeater, for upgrading the existing remotes as well as adding a spare that can be used for portable coverage for events.

I have noticed by watching the repeater statistics we have seen quite a growth in usage of the 147.21 system. It is great to see more drive-time operation once again! I have noticed that both the 220 and 444 repeaters have become a bit less active as of late though. Feel free to get on and use them up, that is why we have them. With the addition of our 4th repeater we can now have 4 completely separate drive-time conversations simultaneously. We don't have any usage monitoring capability on the 6-meter system at this time but hope to add this in the near future. Also the possibility of linking it to the 147.21 for the Tuesday Net has been discussed. Stay tuned.

Also am working on a club "field-trip" to visit the Pavek Museum of Broadcasting in St Louis Park. For those of you that haven't ever been there this place is a shrine to vintage radio and television. Where else in the area can you go to watch a vintage spark gap transmitter operate or try your hand on an RCA Thermin? Most likely our club tour will occur after Field Day, some time in July. You can visit the Pavek on the web at <http://www.pavekmuseum.org/>

As always remember that the TCRC is an organization that is created by the sum of our members. If you have any ideas for the club or would like to take on a more active role in club activities I encourage you to get in contact with me. You can reach me at kb0nes@tcrc.org .

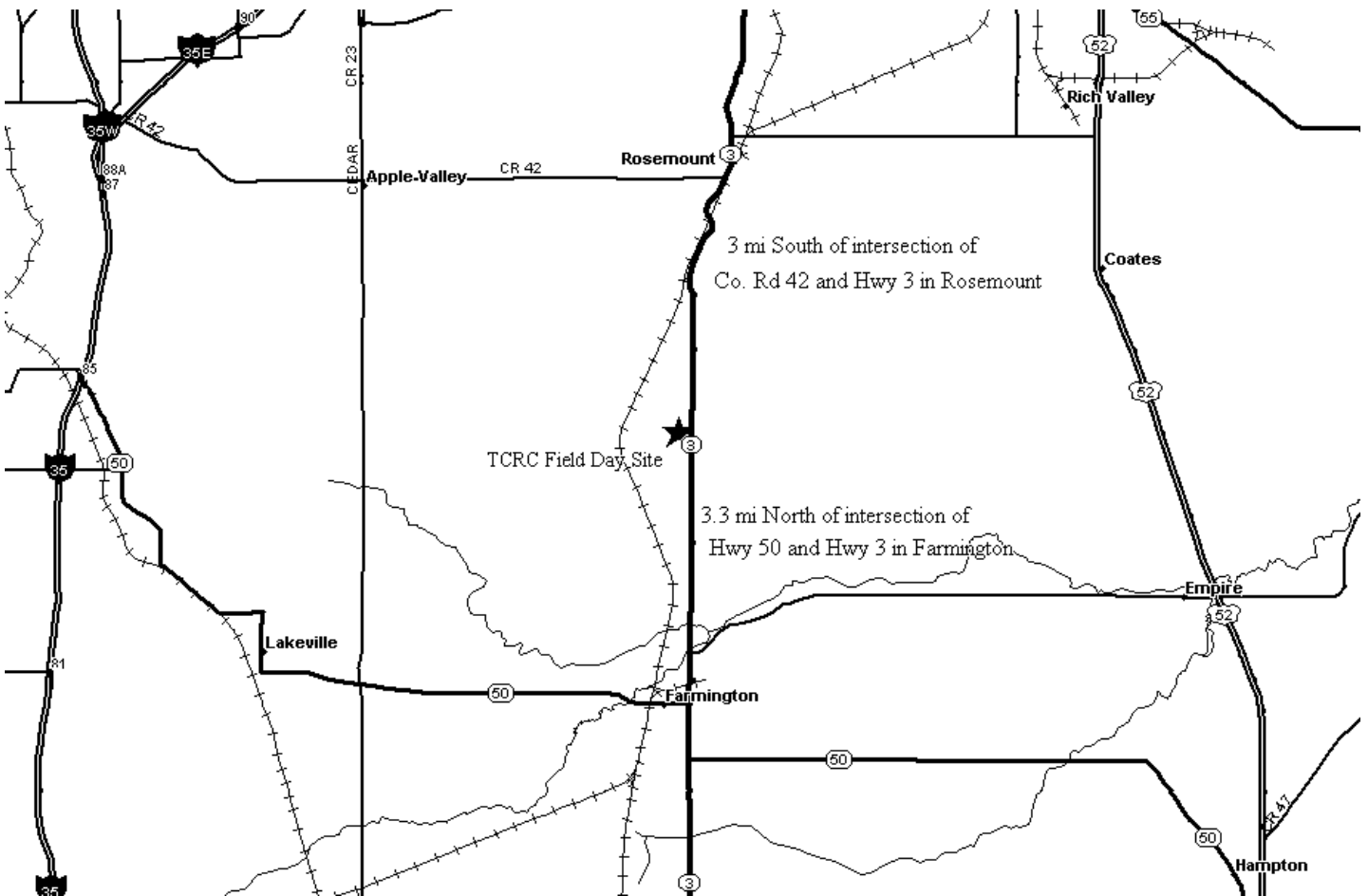
(Field Day with the TCRC, continued from Page 1)

There are a number of ways we could use your help for this year's effort. We could use a few volunteers to handle various tasks at the site. We will also need as many people as possible for setup starting Friday afternoon and again for teardown on Sunday after 1 PM. With five total stations, we will need a number of operators to keep them all on the air for the 24 hour period, especially during the night shift. I'd love to see everyone come out this year to help out at whatever level they can. If you would like to know more about what you can do to help out, or to schedule a specific time you can operate, shoot me an email! Also, if you would like to get involved with the pre-event planning, we have setup a Field Day specific Email reflector. You can join the list at:

<http://mailman.tcrc.org/mailman/listinfo/tcrc-fd>

Also, we will do a good bit of Field Day discussion and planning at our Tuesday night coffee gatherings. No matter whether this is your very first Field Day, or if you are an old hand, it promises to be the most fun event on the amateur radio calendar! Come join us for some great camaraderie, and fun radio operating. While we always attempt to offer a competitive effort, we always succeed at having a LOT of fun.

73 & see you out on the hill!
Phil, KBØNES (kb0nes@tcrc.org)



From the “Way Back Machine”

By Jim Rice, NØOA

I recently had the pleasure of discovering the “Secretary’s Box” for the TCRC. Among a variety of old versions of the charters, mission statements, and board meeting minutes, I found a number of back issues of “The Repeater”. Some of these items go back as far as 1977, at the founding of the club. One issue particularly caught my attention. It was the 1985 February issue of “The Repeater”. This particular issue is full of news about the “new” Mark 4-CR Repeater Controller that was being installed for the 147.21 repeater (the only TCRC machine at the time). The energy



level and excitement in the club membership was really evident in this issue. But it was apparent from at least one of the articles that not everything went perfectly during the installation of the “Star Wars” controller. Hi hi.

Fundamentals of Repeater Installation

By Russ Prince, N0DAI (Technical Advisor to the TCRC)

As expected, the new repeater installation is proceeding with so few problems that it's getting harder by the minute to remember some of the more difficult moments. But before time erases the memory of some of the more memorable ones, I'll share a few of them with those of you who love to see a plan come together without a hitch!

The fine art of installing a new repeater system is similar, I think, to making fine wine... time is the main ingredient. Here is a step-by-step guide to follow when installing your repeater system. The steps will help you avoid many pitfalls that less seasoned veterans might encounter!

The following baker's dozen points should be followed very carefully. Any variation from these tried-and-true methods can bring unpredictable results, and will shorten the amount of time you have to enjoy working on the project:

1. **Never wait for summer.** It'll be too hot. Besides, it's harder to round up help during nice weather.
2. **Choose the most inaccessible repeater site you can find.** This point will be appreciated most in January or February. Look for single lane access roads with a minimum of 30 degree inclines and hairpin turns.
3. **Pick your installation day based on the weather.** Below zero temperatures aren't really all that bad if you dress in layers...eight or ten of them. Avoid snowy days, however. You can't help but track the darn stuff into the blockhouse and it gets all over the carpet.
4. **Make the project complicated.** That way, you can't possibly accomplish everything on the first trip and you get to visit the site more often.
5. **Get the fancy bells, lights and whistles working first.** Forget the R.F. part of the repeater... that will take care of itself.
6. **Tune the duplexers ahead of time.** Do this at a site different from where they will be put into service. Don't worry about transporting them... they're tough, and hardly ever need retuning once they've been set right, even if you lay them on their side in the back of a pickup truck.
7. **Don't worry about having the right test equipment lined up ahead of time.** Guys will have just what you need exactly when you need it.
8. **The phone line doesn't have to work before the autopatch can be activated.** What could go wrong with just two wires, anyway?
9. **Don't buy many spare R.F. transistors.** They're a waste of money and you'll probably never need more than five or six of them.
10. **Don't bother to check if the hardline has an antenna connected at the other end.** The 50 ohm coax will be enough of a load to prevent R.F. transistors from blowing.
11. **Always have at least four or five people standing around in the shack at all times.** You never know when one of them will be needed.
12. **Never ask for a listener to give you weak signal check when Ron is listening at home.** He thinks that means he should use low power from two blocks away...
13. **Finally, don't get concerned when the alarm goes off as you enter the equipment block house.** Use the phone in item 8 above to call the PD and tell them it's just the Ham Radio Club and everything is OK. If the officers do come up the hill to see what's going on, just place your hands on the blockhouse wall and wait patiently while they pat you down.

~

Amateur Contact Log, Version 2.5 (N3FJP software)

A Review, by Larry Jenkins, KØLEJ

Introduction:

Back in January, I was planning on working the ARRL VHF contest. In looking at the rules, I figured I should use some type of logging software to keep track of the contacts, points, etc. Naturally, I turned to the Internet to see what was available.

My requirements were pretty simple. I wanted something low cost that would run on a modest notebook computer. I was not interested (at the time) in controlling the radio from the computer, just in recording contacts, checking for duplicates, figuring out the points and setting up the data to be sent to ARRL. I also needed software that I could download and learn in three days, as I came to the “revelation” on Wednesday that I should try the contest on Saturday. Clearly, not too much time to learn a complicated software application. I started looking for software by looking at the reviews on E-Ham. I wanted to see what others were using. There were several packages reviewed, so I began looking at the ones that had several reviews. I also looked at the price. If the price was over \$50 I skipped it. I also skipped over any program written for DOS.

Based on the perfect 5 score on E-Ham, I ended up at N3FJP.COM looking at the software they offered. On the Web site, I found both contest and general logging software. The contest software was only \$10 – clearly in line with my desired price range! As is common with a lot of cottage industry software, they offer a “trial” package you can play with to see if you like it, so I downloaded it. I was pretty impressed with the ease of use of the contest software. I noticed that the contest software could also be loaded into the general-purpose contact log. I decided to download Amateur Contact Log and give it a try. What follows are my observations of the Amateur Contact Log.

Installing and Configuring:

I obtained the program via the N3FJP Web site. The program is supplied in an executable file approximately three megabytes in size. Once the program is downloaded, you simply double click on the program's icon to start the install. I have installed the program on a Windows XP and Windows 98 machine. Both operating systems are supported. The program will even run on Windows 95 for those that still have older machines.

Upon first starting the program, you are asked to verify your local time settings in regards to UTC. The program also asks for your registration code; however, if you want to try out the software you will have 45 days to experiment. If you do decide to purchase the software simply enter your registration code and you are all set.

The opening screen is shown below in **Figure 1**:

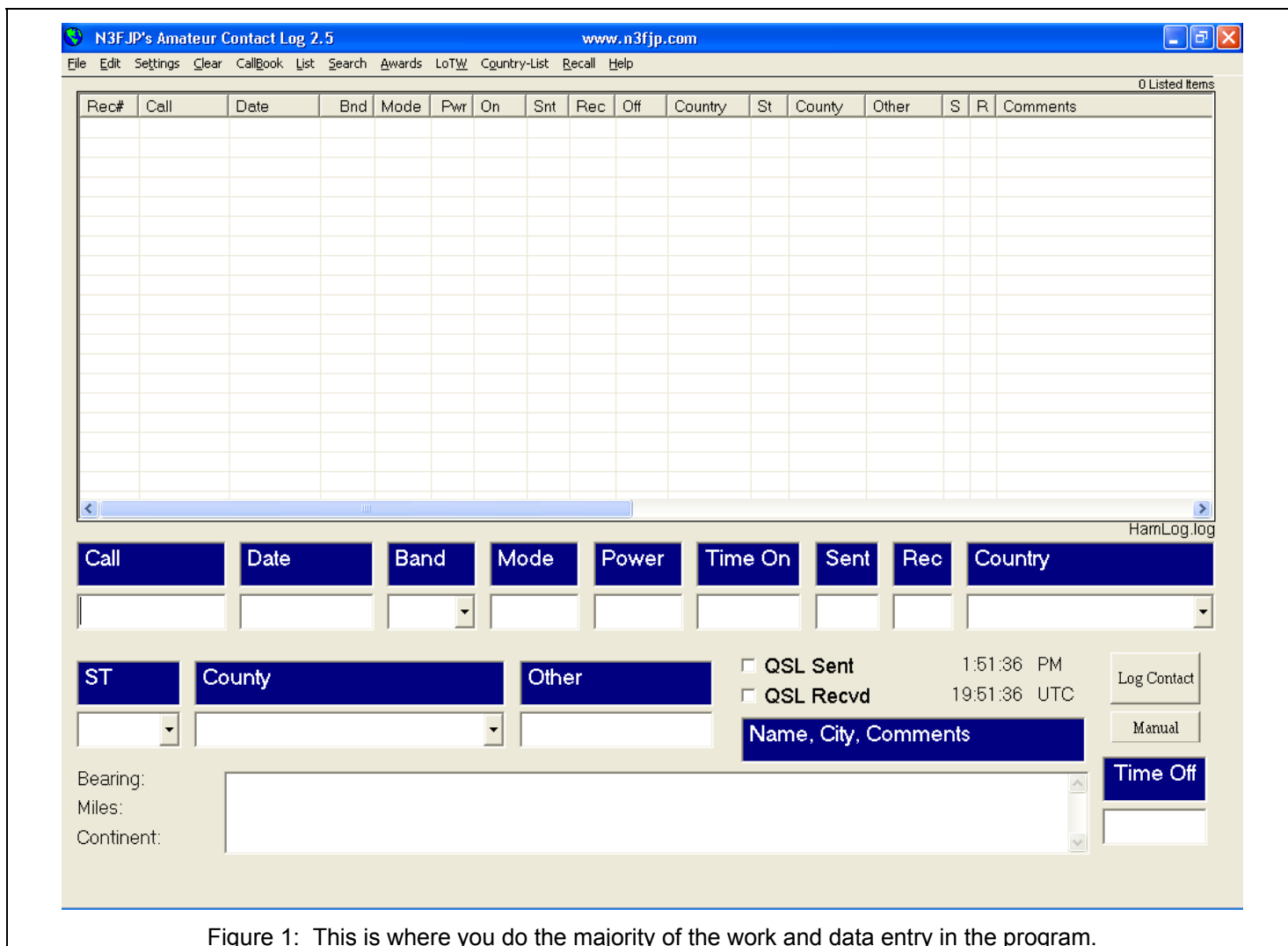


Figure 1: This is where you do the majority of the work and data entry in the program.

The window is broken into three sections. The top section displays the entries in your log. The log can be sorted by any of the columns simply by clicking the title of the column. To reverse the sort order, click on the column title a second time. By default, the display is sorted by the Record Number, which is the numerical order in which you entered the contacts.

The middle section is where you enter your contact information. The default entries are the station's call sign, the date of the QSO, the band, communication mode, your transmitted power, the start and end time of the QSO, the signal report sent and received, country, state, county, a user defined "Other" field, and QSL information. The very bottom is a free form area where you can enter pretty much anything you want. Anything entered in the bottom box is entered into the "Comments" column in the upper section.

Once I installed the program, I noticed that the frequency was not part of the entry section. I thought it a bit unusual that the author left it out. After poking around the menus a bit and reading the documentation (yes, I'm one of those who reads the instructions), I found that virtually every option you would want to log is available, but only the most common are displayed. For those that want to track a unique piece of information, the author has even supplied four user-definable fields.

Using the window shown below in **Figure 2**, you can TOTALLY change the layout of the entry section. You can change the size of the entry area; select the fields to display in the entry section; and set the tab order. Once you select the items you want in the entry section, click on the Update Tabs button to return to the main window where you can use the mouse and arrow keys to place the fields where you want them.

The program has the ability to link to QRZ and Hamcall Internet sites, as well as the QRZ and Hamcall Buckmaster CDs, to automatically look up contact information. For those of us who are budget conscious, N3FJP also supplies a free lookup database. The database is updated twice a year, and includes the call database for the USA and Canada. The database can be downloaded free of charge from the company's Web site or ordered on CD. For those who need the most up-to-date information, the author has included a utility to convert the FCC call database for use with the program. You download the database from the FCC, select the appropriate section and run the "Convert FCC database" from the file menu. There is also an option to convert the Canadian call database. For those that have a broadband Internet connection it's fairly painless.

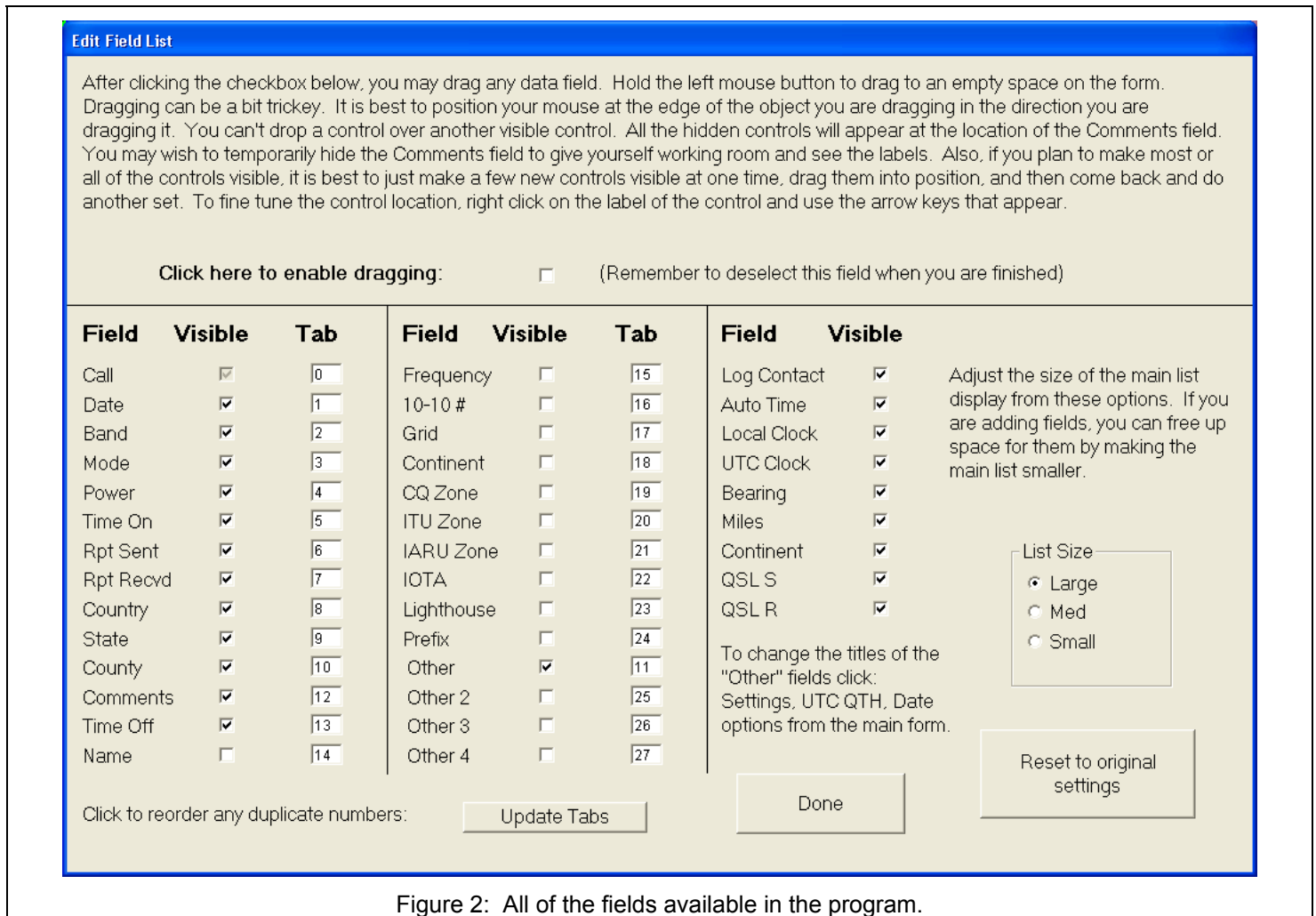


Figure 2: All of the fields available in the program.

Many of the popular logging programs interface with your radio. Amateur Contact Log also provides this feature; however, this program is not a full-featured rig control package, it's a log. The program can read the frequency and mode from the radio, as well as send prerecorded messages stored as wave files. You can also send preset CW messages, as well as send CW from the keyboard.

There are a variety of other features you can setup in the program such as voice navigation, DX spotting, alert options, etc. I don't want to give it all away for those who want to explore on their own....

Using the program:

When you start the program, your cursor is automatically located in the "Call" field. If you have the auto lookup feature turned on, you simply enter the person's call, and the program will enter the name and address information in the comments section. Press the Tab or Space Bar to move to the next field (the tab order is changeable in the setup section). The program will automatically enter the band, mode and power settings from the previous record as you tab to them. This is a great help if you are working a band and don't want to have to enter "40 Meter, CW, 100 Watts" for each record. Once you change one of the fields the program will then use the new settings for each subsequent record.

If you have your radio interfaced, the program will also load the frequency and mode for you. The author explains that he is working on adding functionality to the rig interface. I expect that there will be additional features added in the later versions, for which you will automatically be licensed if you purchase a license for the current version.

The program can be configured to alert you if the contact is new in the log, new on the band, or a new contact for the communication mode. It's a great feature for knowing if you have worked the individual before. The program can also be configured to alert you if you need to collect a QSL from the contact.

Once you have entered a contact, you can perform additional functions for the record(s), such as editing the record to change or add information. Clicking on a record in the top section of the window brings up the button bar shown below in **Figure 3**: Using the buttons, you can print mailing labels, and upload your contacts to the popular electronic QSL services. The program also supports the new ARRL Logbook of the World.

Nice little extras:

In addition to the standard logging features the program also keeps track of various awards. Using the database created, the program can track the countries worked, states worked, counties, grid squares, etc. You can also search within the award areas to help you identify contacts or needed contacts.

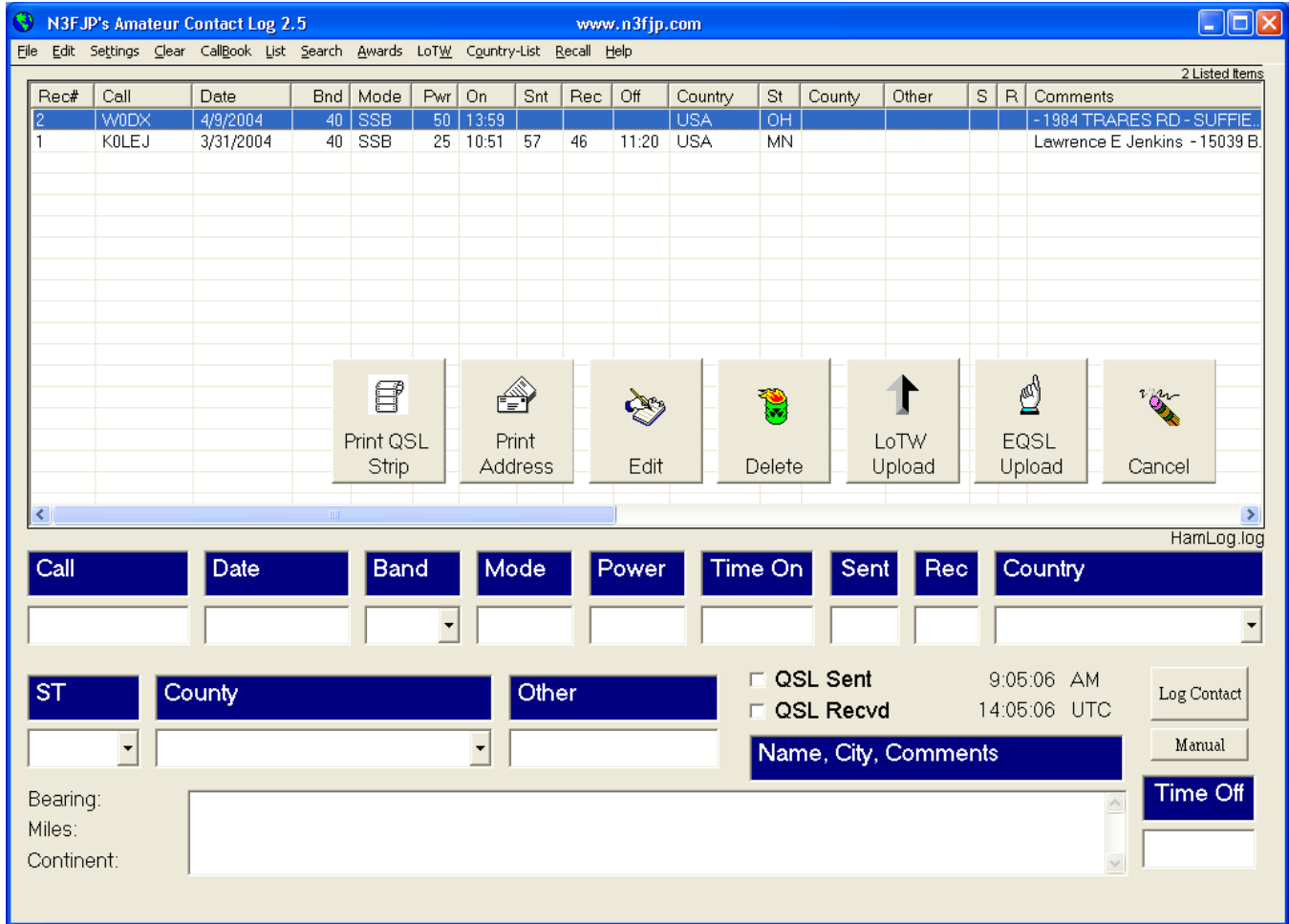


Figure 3: Additional function buttons.

A feature I really like is the “Bearing, Miles and Continent” calculation that automatically computes the contact’s location from your QTH and shows it on the lower left of the screen. There is one down side however, and that is the information is only displayed when you enter the contact. I can find no way to redisplay it once the contact is saved to the database. Maybe it will be added in a future version.

Several reference tools are provided in the software to reduce the papers needed in the shack. For example, the frequency privileges for each class of license, lists of counties in the US, and countries are a click away.

For those who want to migrate from another logging program to the Amateur Contact Log, there is an import feature that allows you import data in the Amateur Data Interchange Format (ADIF). There is also an option to allow you export all or a portion of your database into an ADIF formatted file.

One of the greatest features of the software is that once you purchase it, you are entitled to future upgrades. While this may change in the future the author has stated that there are no plans to charge for upgrades.

Things I would like to see added:

While the Amateur Contact Log has a great deal of features, there are a few things I would like to see added. First are more robust printing options. As the program is now, you can print QSL strips, address labels and the contacts in the database. It would be nice to have options to print sections of the log based on search criteria such as contacts in a state, contacts on 40 meters, etc. With the current version, you have to search the database (easy to do), then save the results to the Windows Clipboard, and then paste them into a spreadsheet or word processor for printing.

I would also like to see a more robust rig interface. I understand that Amateur Contact Log is a logging program, but having additional control over the radio and additional information from the radio would be a nice extra.

Final thoughts:

You can purchase a license along with a CD that contains the call databases and trial versions of all of N3FJP’s software for only \$32. If you only want the license and are willing to download the program from N3FJP’s Web site the cost is only \$19. I suggest purchasing the entire software suite that N3FJP offers. For only \$49 (\$39 if you download) you get all of the logging software they offer. That’s the Amateur Contact Log AND all of the contest software. You also get future upgrades at no cost.

The author offers top-shelf support for the software. You can e-mail them directly with questions. All of my questions have been answered the same day, with most being answered within the hour. N3FJP also has a Yahoo group where they promptly reply to questions and suggestions.

Are there more feature rich packages available? Yes there are, BUT be prepared to spend a lot more than N3FJP charges for Amateur Contact Log. This is one nice program! It’s easy to set up, easy to use and extremely flexible in design. You simply can’t beat it for the price.



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

**Place
Stamp
Here**

Your Membership Dues Have Expired.
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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 _____