



## INFO PACK

If you are contemplating joining the Chicago FM Club (CFMC), as a member, you probably would like to know something about the organization. What follows is a brief description of the make-up of the Club and some of its activities.

CFMC is chartered by the State of Illinois as a "NOT-FOR-PROFIT" corporation dedicated to technical improvement and public service within our community. The club is guided by four officers and five directors who are elected by the general membership for two year terms.

Club activity is reported in "SQUELCH TALE" our monthly newsletter which is sent to all members, and includes information on CFMC activities, local happenings, articles, hamfests, etc.

General meetings are held on the third Wednesday of each month at various Chicago area locations; attendance is optional. Usually an informative program is presented preceding the handling of club business. Locations are changed each month to allow everyone the opportunity to attend a meeting without driving long distances.

RADIO EXPO, a nationally recognized radio exposition, is sponsored by CFMC. This hamfest offers commercial exhibits, seminars and a large flea market.

The Chicago FM Club has a web site that contains the latest Club information. It can be viewed at [www.chicagofmclub.org](http://www.chicagofmclub.org) The site has among other information, the past issues of the Club newsletter.

CFMC sponsors a monthly Fox Hunt held the third Saturday of each month. It is held on the input of the 2 Meter repeater. The Hunt starts about 8:00pm.

The Club participates in the annual Field Day at a location to be announced as the event date gets closer. Members are invited to set up the site and operate using a "Extra" class callsign.

A system to handle information about training and classes, called "HAM HELP", is operated by CFMC. You may call Ham Help. (773) 262-6773, for any information that you might request.

As you can see, we are much more than just a "REPEATER" club. Now that you know more about CFMC, hopefully you would like to become part of our organization

To become a member, you must be sponsored by two current members. Originally the process of being sponsored was used to keep the club membership limited to a small group. But as the years went by and the club grew in size, the sponsoring process has evolved into a means of your finding someone who can answer, hopefully in detail, any questions you have about the Club. Sponsors may easily be obtained by striking up a conversation with a current member, either at a general club meeting or on one of the repeater systems. Don't let this be a barrier to your becoming an active member of the Chicago FM Club.

CFMC also offers a Family Membership Plan. One membership fee covers all Hams in the family residing at the same address, but only the original applicant has voting privileges and receives the club newspaper, *Squelch Tale*. Family members wishing to have voting privileges must become full members.

A Club Membership form can be found towards the end of this publication. To become a member, supply all requested information on the form and either bring it to a club meeting or mail it to the club P.O. box. A return envelope is included for your convenience.

## *Repeaters*

The Chicago FM Club currently operates four repeater systems; a two meter multi-receiver system, two on-site 220 Mhz systems and one on-site 440 Mhz repeater.

The PL (107.2 HZ - 1B) access Two meter system operates on 146.16/76 MHz. From atop the Aon Center in Downtown Chicago. The transmitting antenna is at a height of 1300 feet. Multiple satellite receivers, located at various sites throughout the Northeast area of Illinois feed received audio to a General Electric Voting Selector system located at the transmitter site. Audio signals from the receiver sites are relayed downtown over 440 mhz radio links. The voter compares the audio signals, selects the best and routes it to the transmitter. With a 250 WATT ERP signal, this system is one of the best wide access machines in the city. With the addition of a state of the art ACC controller, Auto-Patch has been added to the Two meter repeater and is available to members in good standing.

Another popular CFMC repeater operates on 222.50/224.10 Mhz. It too is a wide coverage machine, feeding a 10 Watt ERP (Effective Radiated Power) signal to an antenna with a 500 foot height. Located on Chicago's near-north side at North Avenue and LaSalle Street, it's coverage is nearly as good as that of the 2 meter repeater. A spotty average area however exists in a 20 degree arc due south of Chicago's downtown.

Auto-Patch is also a feature of this machine.

A second 220 Mhz repeater operates on 222.58/224.18 Mhz. Situated in Hazelcrest, Illinois. at the South Suburban Hospital. This location affords an operational area limited to the south side of Chicago and nearby suburbs. A 30 Watt ERP signal feeds an antenna at a height of 188 feet.

Finally, our 440 MHz repeater operates from the same location as our 2 Meter repeater on 448.75/443.75 MHz. A sub-audible tone (PL) of 114.8 HZ (tone 2A) is required to access this machine. This tone is used to prevent the high amount of RF present in the area from false-keying the repeater. This system has generally good city-wide coverage with its 80 Watt ERP signal. Auto-Patch is also a feature of this repeater.

## *FM History*

If you are a newcomer to VHF-FM, and particularly if you have just arrived from one of Amateur Radio's other bands or modes, you are probably somewhat curious about the high degree of organization that has come about on our VHF bands. While space doesn't permit a complete history of Amateur FM, here is a brief explanation of the Amateur FM structure and how it came to be.

FM had always been available as an operating mode, but few amateurs used it due to the lack of readily available equipment. However, in the early 1960's the FCC required all commercial users of FM to switch to a new FM modulation technique. As a result, thousands of "obsolete" 150 MHz police, taxi, etc, radios appeared on the used equipment market, just begging for conversion to the Amateur two meter band. Over the course of time, many hams became active on two meter FM. Compared to today's synthesized radios, their equipment was very limited; crystal control of transmit and receive Frequencies was the order of the day, and lucky was the ham that had a radio capable of multiple frequency operation

Channelization (the setting aside of common frequencies upon which a station could communicate with another station) made the limitations of the early surplus FM equipment non-existent. A certain spacing was needed between channels to avoid adjacent channel interference, so at first a 60 Khz spacing was used (a practice borrowed from the nearby commercial band). Improvements in FM techniques eventually allowed this spacing to be reduced to 30 Khz, which allowed more channels in a given portion of the spectrum. And, in some areas of the country, this spacing is being reduced again to 15 Khz.

The channel concept was found to have some advantages. many FM'ers began listening on the popular channels with squelched receivers (known as monitoring) and a brief call was all that was needed to establish contact. Long CQ calls and tedious "tuning the band" was now an HF-only operation. Also, manufacturers of commercial radio equipment began to produce crystal controlled Amateur FM units, encouraged by the success of the channelization effort.

Today, versatile synthesized radios (From mobiles to that contain functions undreamed of 15 years ago) are a common sight. There are VHF repeaters operating from coast to coast in the United States, and many more throughout the world. VHF-FM is one of the most popular operating modes in Amateur radio .

## *TIPS*

Every repeater system in operation, whether it be operated by CFMC or not, is operated according to a style peculiar to that system and its operators. Generally, before you begin to use an unfamiliar repeater you should listen to it for a short time before transmitting. This will give you time to figure out what peculiarities are in vogue on the repeater. Also, this allows you to ascertain whether or not the repeater system is being used (for example, an Emergency could be in progress, with the repeater being temporarily silent). On the CFMC systems in particular, the following tips will ensure smooth operation.

**1 LISTEN FIRST:** Always do this before beginning a call, mainly to determine whether or not the system is in use. This will save you the embarrassment of interrupting a QSO already in progress (or even worse, an Emergency situation).

**2 SHORT CALLS:** In VHF (and especially repeater) operation, short calls to make initial contact between stations are much preferred to long calls (such as in HF operation). The reason for this is that no "tuning the band" is necessary for the stations to agree on a common frequency. The usual attempt, if ABC wishes to contact XYZ, would go something like this: "N9XYZ N9XYZ this is KA9ABC calling" Two short attempts, using the preceding as an example with pauses between each attempt, are better than one long call.

**3 PAUSE BETWEEN TRANSMISSIONS:** When In QSO, it's a good idea to leave a short pause (of about two seconds) between the ending of one station's transmission and when you are about to begin a transmission. This pause will allow stations that have a need (such as an Emergency) to "break in" to your QSO.

4 ALLOW "BREAKING" STATIONS IMMEDIATE ACCESS: Because a breaking station could have an Emergency, always allow the "breaker" immediate access (even if it inconveniently interrupts your QSO). It is considered bad procedure to "recognize" a breaker (acknowledge his break attempt and then continue in your conversation as if nothing had happened).

5 NEVER BREAK IN UNLESS NECESSARY: Unless you have an Emergency, or something relevant to contribute to the QSO in progress, or wish to make a short call to contact another station, please refrain from interrupting a QSO in progress, if you don't needlessly interrupt others, they (hopefully) won't interrupt you.

6 DON'T OVER-IDENTIFY: Current FCC regulations require that you give the call of the station you are in contact with followed by your call at the beginning of your QSO, along with giving your call only at ten minute intervals during and at the end of the QSO. Consequently, there is no need to give both station calls at the beginning of each transmission (as is often heard). This over-identification was time during which you could be conversing instead of identifying.

7 ROUND TABLE DISCUSSIONS: A "round table" is a QSO where three or more stations are participating. If you ever get into one, make it a practice to specifically state who should transmit next. Merely mentioning the name of the next operator, such as "Go ahead, Greg", should suffice. This simple step will prevent "doubling" (when two stations transmit simultaneously) during round table discussions.

8 PRIME TIME OPERATION Weekdays, from 7:00 to 9:00 AM and 4:00 to 6:00 PM, the repeater systems are used the most. For the good of all, it is requested that QSO's be as short as possible. This is a good time to use the repeater to make an initial contact and then move to a simplex channel for the balance of the QSO.

9 UNCOVERED SITUATIONS: Common sense, coupled with good judgment, should cover anything not specifically mentioned. Remember that courtesy and consideration of your fellow operators is usually all that is required for repeater operation to be a pleasure for all concerned.

## *Priorities*

Due to the large number of people using the CFMC repeaters, it is desirable to establish priorities for the various types of communications heard. This is to allow the best service for the greatest number of users. It is recognized that Amateur Radio is a hobby, and as such should not be burdened with too many rules and regulations. But since the primary purpose of the CFMC (and many other) repeaters is emergency and priority traffic, some rules and regulations are necessary.

The following priorities have been established for the CFMC repeaters:

1 EMERGENCY TRAFFIC: Activity relating to the immediate safety of life of individuals or the immediate protection of property. Emergencies have absolute priority over all other types of traffic. It is for this reason that breaking stations are to be allowed to enter a QSO immediately. All stations should keep the repeater clear until the Emergency traffic has been completed.

2 PRIORITY TRAFFIC: Activity having to do with urgent situations where life and property are not immediately endangered. can include many situations such as stalled cars that are off the highway and not blocking traffic, but need road assistance. As with Emergencies, keep the repeater clear until the Priority activity has ceased.

3 NET TRAFFIC: Communications under the direct supervision of a Net Control. At times, a controlled net will be held on the repeater systems, such as the annual Simulated Emergency Test or the weekly information Net. Each net has a specific purpose and relinquishes control of the repeater when that purpose has been accomplished.

4 PERSONAL ASSISTANCE TRAFFIC: Assisting lost travelers, giving club information etc. If you can be of help in these situations, do so. If, however, you have nothing to contribute please don't add confusion.

5 TESTING AND MAINTENANCE: During repeater maintenance periods, only Emergency and Priority traffic is allowed. All stations are otherwise requested to refrain from transmitting unless requested to do so by the people performing the maintenance.

61 NORMAL QSO'S: Situations not mentioned above fall into this category. This is the normal operating mode for all CFMC repeater systems.

## *QRM & QRN*

Interference, whether it be man-made (QRM) or natural (QRN), is always frustrating and, at times, downright irritating. On an open system such as our repeaters, some QRM is unavoidable; your only recourse being to tolerate it. An example is distant stations working another repeater on the same frequency pair.

If however, the QRM is intentional (you can always tell when it is), we ask that you DO NOT acknowledge it. Experience has shown that if the troublemaking station is totally ignored, its operator will eventually get bored and go away. Acknowledging attempts to disrupt the normal activity on the repeater only ensures that the disruptions will continue. Trust us! Ignored and left alone, the QRMer will go away. So, ignore the QRM as best you can (turn off your radio, switch to another channel, etc.) but never, EVER, admit to being interfered with on the air.

One major source of QRM is stolen equipment. Operators of stolen rigs are often characterized by "CB.Lingo", the use of profanity or other dis-allowed activities. Should you run across a station operating in such a questionable manner, do not enter into a QSO. Once again, ignoring the QRMer is the best course of action. The prevention of this particular problem is easy to put into action: never leave your rigs in places where they can easily be stolen such as unattended automobiles.

# CHICAGO FM CLUB

P.O. BOX 47648 • CHICAGO, ILLINOIS 60647-0648



Ham-Help (773) 262-6773

## MEMBERSHIP APPLICATION

CALLSIGN \_\_\_\_\_

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY / STATE / ZIP CODE \_\_\_\_\_

EMPLOYER / OCCUPATION \_\_\_\_\_

e-mail address \_\_\_\_\_

HOME PHONE \_\_\_\_\_ WORK PHONE \_\_\_\_\_

Do you want these phone numbers listed in the membership roster?

Home Phone? Yes  No  Business Phone? Yes  No

Would you like the Auto-Patch Codes? Yes  No

Date of Birth \_\_\_\_\_

Class of License \_\_\_\_\_ Expiration Date \_\_\_\_\_

**Please include a photocopy  
of your license.**

### Available Memberships

- Full Membership \$25.00
- Senior Membership \$15.00 (65 years of age or older)
- Student Membership \$15.00 (18 years and under and a full time student)

Calls of two current CFMC members who are sponsoring your membership.

Sponsor #1 \_\_\_\_\_ Sponsor #2 \_\_\_\_\_

Are you a member of ARRL? Yes  No

Which bands do you operate? HF  VHF  UHF and UP

Which Modes do you operate? Phone  CW  RTTY  ATV  PACKET

Would you like to help at Radio Expo? Yes  No

I agree to support the Constitution, By-Laws and Operating Principles of the Chicago FM Club

SIGNED \_\_\_\_\_

Submitted \_\_\_\_\_ Dues \_\_\_\_\_ Dues \_\_\_\_\_ Dues \_\_\_\_\_ Dues \_\_\_\_\_

1<sup>st</sup> \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_ Date \_\_\_\_\_

2<sup>nd</sup> \_\_\_\_\_ # \_\_\_\_\_ # \_\_\_\_\_ # \_\_\_\_\_ # \_\_\_\_\_

EXPIRES LAST DAY OF \_\_\_\_\_