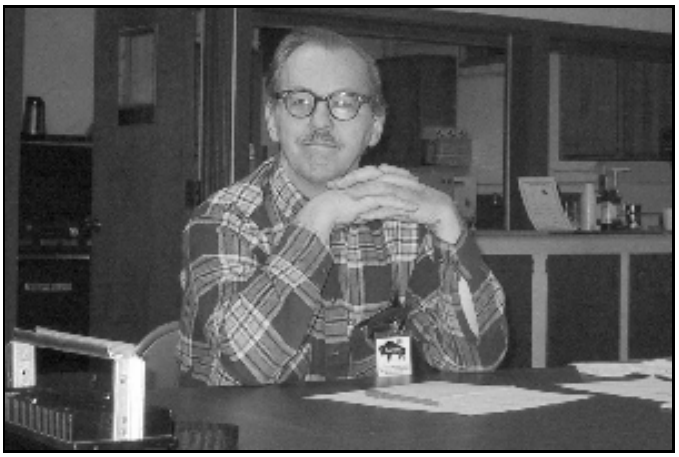
The Link

Official Journal of the Buffalo Amateur Radio Repeater Association, Inc.

June 2001



W2EUP at the January Tech Committee report meeting.
N2YDM photo

Gil Boelke, W2EUP BARRA Founder, Tech Committee Head is Silent Key

Words cannot begin to express the shock and sorrow felt by the family and friends of Gil Boelke, W2EUP, upon learning of his unexpected and untimely death in late April. Gil's loss to BARRA is already being felt.

A founding member of BARRA, Gil was one of the pioneers of VHF repeaters in the early 1960s, not only in Buffalo but the entire country as well. BARRA came about when Gil found lackluster support from the other existing local ham radio clubs at the time for this "new fangled" repeater "stuff." So, with a handful of other hams, some of whom still belong to BARRA, Gil struck out on his own and formed BARRA. As a result, not only was BARRA among the few pioneering clubs that put amateur radio repeaters on the air, but with Gil's knowledge and ingenuity BARRA was also among the very first groups to link repeaters together, provide autopatches, and other repeater functions viewed today as "givens."

In addition to the practical work with repeaters in BARRA, Gil wrote extensively for the various amateur radio magazines of the time, among them *CQ* and *FM Bulletin*.

In his day job, Gil was an electrical engineer, having received a degree in electrical engineering from the University of Buffalo and worked at Sylvania early in his career. When Sylvania closed its Buffalo operations Gil formed his own company, GLB Electronics, which manufactured both amateur radio and commercial radio equipment.

Always coming up with new ideas, Gil was among the very first hams to design and build a frequency synthesized two meter ham transceiver in the late 1960s, about which he published an article and the entire schematics of in *FM Bulletin*. Later, GLB Electronics would be one of first manufacturers -- if not the first -- to manufacture commercially-built synthesized amateur radio gear.

Branching out into the emerging world of microcomputers, Gil built his own home computer in the mid-1970s. This led to more work with microprocessors and resulted in the development of the BARRA repeater controller, which was a massive club project, and to this day operates the radio equipment at our Cole Road site.

Gil (and GLB) entered into the world of packet radio when it became a new amateur mode in the 1980s. Gil (and GLB) were the first to manufacture a stand-alone packet radio TNC for the amateur market, a product which would lead GLB Electronics into a whole new commercial radio field. Once again because of Gil, BARRA was among the first clubs to put up digital repeaters.

On the personal side, almost to a person people recall a gentle and unassuming yet brilliant man who could talk to anyone at any intellectual level, without ever coming across as superior or condescending. When tempers would flare, Gil could always be counted on to provide the sensible, middle-of-the-road approach to get everyone talking again.

Gil devoted countless amounts of time to BARRA, always tinkering with some project and/or thinking up new projects. There was never an end to his ideas.

The loss of W2EUP to BARRA, his family, and the amateur world has left a void that will not soon, if ever, be filled.

W2EUP at his bench at GLB, working on yet another BARRA project.
K2DSN photo

Buffalo Amateur Radio Repeater Association, Inc.

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Activities List	Ed Swan W2EAS
ID Badges	W2EAS
Erie County Emer. Coord.	Karl Weir N2NJH

Voice Repeaters

WB2JQK		29.68 -	Buffalo
K2ISO		145.17 -	Wethersfield
K2GUG	PL 107.2	146.73 -	Niagara Falls
W2EUP		146.91 -	Boston
W2OXB		147.00 +	Kenmore
W2EUP		224.82 -	Boston
WR2AHL	PL 110.9	442.00 +	Wethersfield
WA2HKS		444.00 +	Buffalo
WB2DSS	PL 151.4	444.75 +	Kenmore

RACES Net

Stop by Sunday evenings at 7:00 pm and join the Erie County ARES/RACES net which meets on the 146.91 and 444.00 repeaters. N2NJH is net control.

BARRA Home Page

http://barra.hamgate.net

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The *Link* is published eight times a year by BARRA, the Buffalo Amateur Radio Repeater Association, Inc. The opinions expressed herein, however, are not necessarily those of the Board of Directors, nor of BARRA. Letters to the editor are solicited and must be signed. Names and addresses will be withheld if requested. Material for the *Link* should be sent to the Editor:

Buffalo Amateur Radio Repeater Ass'n
P.O. Box 507
N. Tonawanda, NY 14120-0507

or may be submitted electronically to the editor's CompuServe address: 73323,672. If submitting through the Internet, the full address is 73323.672@compuserve.com The editor may be reached by telephone in the evenings at (716) 834-2664.

ARTICLES

Articles for the *Link* on any subject, technical or general interest, are always welcome and encouraged. When submitting material to the *Link*, please type it or submit it electronically, if possible. Remember that the editor reserves the right to make necessary changes including reformatting and condensing for space and that Full Membership may be obtained by writing articles.

***LINK* DEADLINES**

All material must be submitted to the Editor by the end of the month previous to the issue (e.g. December 31st for the January issue). Of course, if the material is received earlier than that date, you will have a better chance of getting your article in the next issue. All advertising is subject to the same deadline.

ADVERTISING

Want-Ads are free to BARRA members and are published in the next available issue. Ads from other hams are accepted free on a space-available basis. Ads appearing in other club newsletters with which BARRA has an exchange agreement are reprinted on a space-available basis.

Display advertising is available at the prevailing rates. Business card size is currently $2.00/mo; full page is $16.00/mo. Contact the editor for rates for other sizes.

DUES

Basic membership rate $20.00
Family member in the same household as first member 3.00
Discounts from basic rate
Senior Citizen (65+) . . . . . -5.00
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Each new member recommended . . . . . -1.00

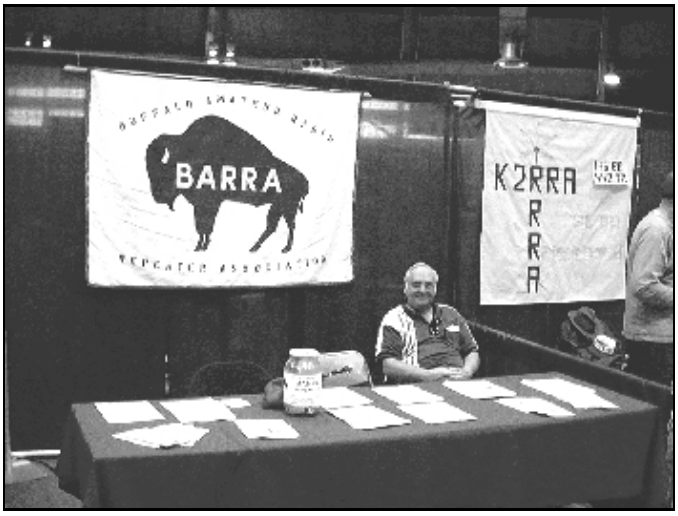
Note: A voting member is a member who has performed a service for BARRA (e.g. helped out at an activity, written a *Link* article, etc.).

June Meeting Program: A Visit from the FCC

The program featured at June's meeting will be a visit from the FCC's own Dave Viglione. Dave will be talking about a variety of topics and issues facing the FCC these days and will have a video to share as well.

Monday, June 18th is the date. Stop by for our last meeting at the church before the summer!

BARRA Table at Rochester



K2DSN staffs the BARRA table. *KA2WFT Photo*

The 2001 edition of the Rochester Hamfest saw the return of the BARRA information table to active duty. Updated versions of the *BARRA Facts* flyer and repeater maps were distributed along with membership applications and a new brochure on operating the UO14 satellite through WA2HKS's Space Link.

The table was staffed throughout the day by Keith Laudenslager, K2DSN/KC2HXJ, and Doug Alderdice, KA2WFT. Many BARRA members stopped by throughout the day to say hello or to catch up on activities in the club. Look for the BARRA table at other local hamfests this season.

The BARRA E-Mail List Serve

To join, send an e-mail message to:
majordomo@hamgate.net
with the message: subscribe barra in the main body of the note.
To send a message to the list subscribers, address your e-mail to:
barra@hamgate.net

Some Thoughts on PL

Ben Bass, N2YDM

You're gonna PL the repeater?

I was having a QSO with Mike, W2HYP, about the progress on the K2ISO and WR2AHL repeaters. One of the users raised the question of whether we would be putting PL in these repeaters. When Mike responded that we probably would in the future, this user responded that PL will keep "a lot of people" from using the repeaters. We hear this argument frequently. It's a sore subject with me.

What is it?

PL or "Private Line" is the Motorola trademark for Continuous Tone Coded Squelch System or CTCSS for short. GE called it "Channel Guard." Other trade names are "Quiet Channel" or "Call Guard." Motorola developed this technology more than 40 years ago. It has been common in the amateur community for at least the last 20 years.

The system is based on a "subaudible" tone injected after the audio stages into the transmitter during encode and the tone is detected before the audio circuits in the receiver. The decoder circuit is then used to perform some function, usually to unmute the receiver when the tone is decoded. The original purpose of CTCSS was to allow multiple users on a business channel or repeater. With CTCSS implemented, each user only had to listen to calls intended for them, no matter how busy the other users on the channel might be. On a repeater output, it also keeps you from having to listen to distant repeaters during periods of inversion or ducting. It also keeps interfering signals (like the microprocessors in ATMs and gas pumps) from locking up your receiver. On a repeater input, it allows users to key the transmitter and use the repeater while not allowing unwanted signals, such as intermod, to bring up the repeater.

What it isn't?

It is absurd to even think that a repeater operator requiring CTCSS, is intending to prevent anybody from using the repeater. CTCSS tones are standard from one manufacturer to another and are easily "discovered" if unknown.

CTCSS does not alleviate RF interference. If two FM signals are on the same frequency at the same time, there will still be a heterodyne or beat note (unless one is 6 dB stronger than the other). But if CTCSS is being utilized and both systems use different CTCSS tones, they will not have to listen to the other system's traffic.

In most commercial installations, the microphone hanger is grounded and when the microphone is hung up, the decoder is turned on, thus muting the receiver. When the operator picks up the microphone, the decoder is disabled and the receiver becomes "carrier squelch," hearing everything within range. If nothing is heard, the call is made. If another user is heard, they are supposed to monitor until the traffic clears and then make their call. Base station mics have a "monitor" button next to the PTT button to disable the decoder, allowing the operator to check for traffic.

Most amateur radios do not have this automatic feature since the CTCSS system is used to allow users to restrict what they want to listen to, not to allow several fleets of radios to operate on the same frequency. Many handheld radios that can be factory equipped for full CTCSS encode and decode have a monitor button, usually around the PTT bar. Unfortunately, on most amateur mobiles, you have to manually turn off the tone to monitor the channel in the carrier squelch mode.

Most repeaters that require CTCSS tones to access them, welcome any and all users regardless of membership status. They have CTCSS access for some other reason, usually to cut down the needless traffic and static caused when a distant station working another repeater keys up two or three repeaters at the same time. CTCSS may also be used to keep interfering signals from keying the repeater. Any known CTCSS tones, for repeaters in our area, are listed in the "notes" section of WNYSORC repeater list. Tones may also be found in the ARRL Repeater Directory.

Some repeaters have part time CTCSS access turned on by the Control Operator only when he or she gets tired of listening to interference keying up their repeater. They usually encode CTCSS on a full time basis so that those of us who are equipped with CTCSS decode can mute our receivers and not have to listen to distant repeaters or other interference.

Almost every HT and mobile on the market today now includes, at least, the CTCSS encode function. Most include encode and decode. Hams are notorious for being cheapskates, but new radios are relatively inexpensive. High cost is no longer an excuse for not having a CTCSS capable radio. It's time to spend some of the Communion or Bar Mitzvah money you've been saving all these years for a new radio and stop complaining about PL on your local repeater.

147.00 Repeater Moved Back to Elmwood Site

On Wednesday, June 6, the W2OXB 147.00 repeater was moved from the GLB shop to its more permanent home at the Elmwood site in Kenmore. During its absence from Elmwood the repeater has been modified for the addition linking capabilities.

The repeater, while now at the Elmwood site, is having a few "moving in" problems. Upon getting the machine to the site on Wednesday, it was discovered that the adaptor needed to connect the VHF antenna to the duplexer was missing, as well as one of the RF units in the repeater case itself had to be relocated since the internal jumpers didn't quite reach. Once those issues were taken care of it was thought all was well. However, once away from the site it was discovered that the repeater is a bit deaf, so a return trip is needed to solve that problem.

It is hoped by the Technical Committee that sometime this summer the replacement of the VHF antenna at the Elmwood site can be effected.

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Calendar of Events

GENERAL MEETINGS

General meetings are held at St. Bartholomews Episcopal Church, Brighton & Fries Roads, Tonawanda, across from Kenmore East HS. Doors open at 7:00 pm for rag chew, business meeting at 7:30, with program following.

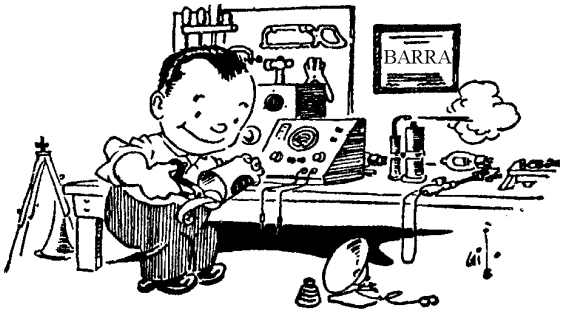
Monday, June 18, 2001 - Dave Viglione of the FCC will give a presentation on chasing down interference complaints and other FCC activities along with a video.

Monday, July 16, 2001 - Annual BARRA Mobile Clinic and Picnic at the Cole Road repeater site in Boston, NY.

NO GENERAL MEETINGS IN MARCH, MAY, AUGUST OR NOVEMBER
The *Link* is not published in those months

BOARD MEETINGS

Board Meetings are held the second Monday of every month at Crest A/V Electronics, 1570 Main Street, Buffalo. The meetings begin at 7:30 pm and members are always welcome to sit in on a meeting or bring concerns to the board.

TECHNICAL COMMITTEE

The Technical Committee has formal meetings the first Friday of each month around 7:00 pm at the Cole Road repeater site in the good weather months. Come on out to BARRA's own CCITT (**C**offee & **C**rumpets **I**nterrupted by **T**echnical **T**alk), where progress of current projects is evaluated and new projects are planned. The meetings usually conclude with munchies at a nearby restaurant.