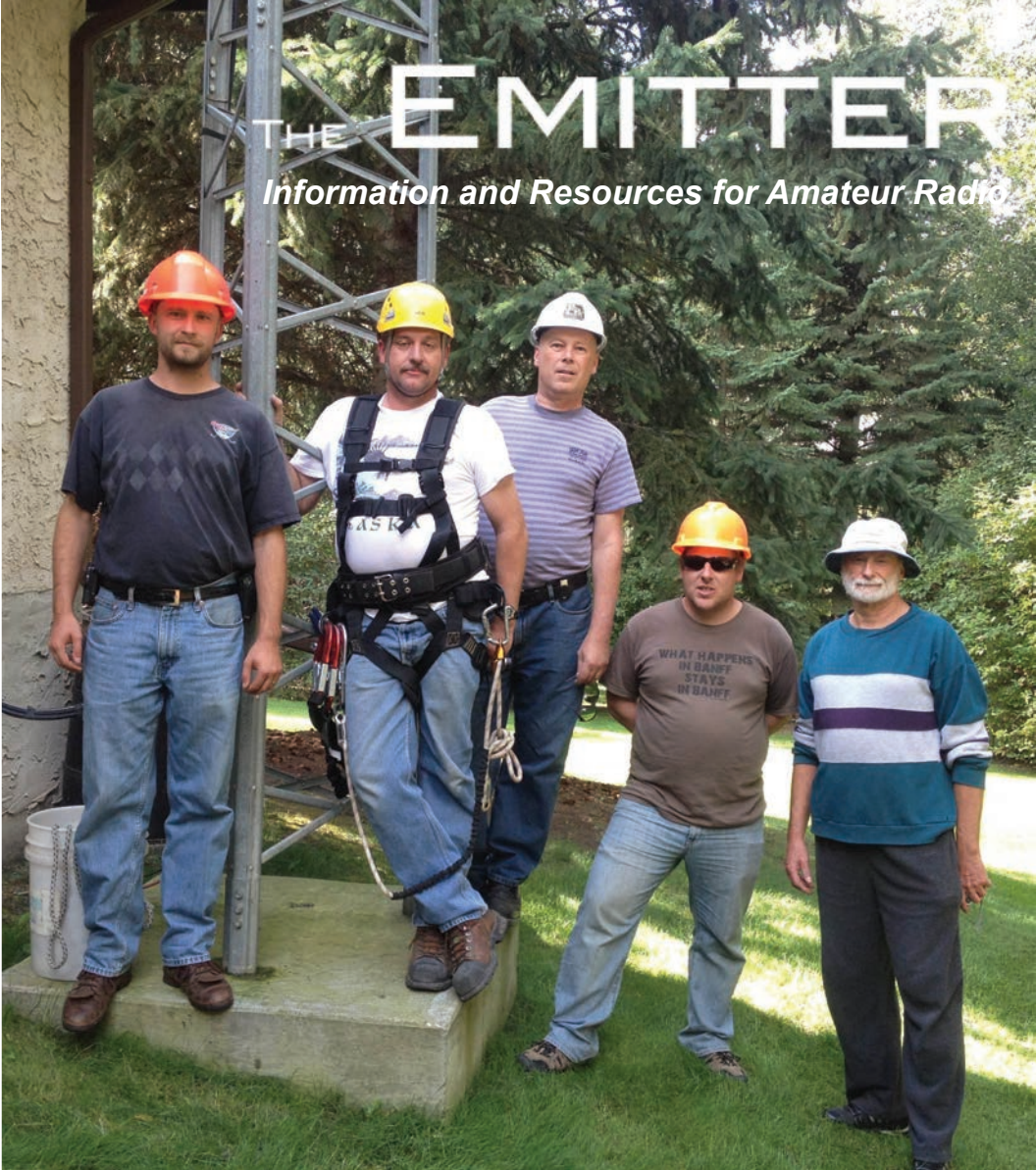


THE EMITTER

Information and Resources for Amateur Radio



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Northern Alberta Radio Club
200 92 Ave NW
Edmonton, AB T5J 2J1

Northern Alberta Radio Club

President:

Keehan VE6XVK
president@narc.net

Vice-President:

Kiernan VA6IP
vice-president@narc.net

Secretary:

Susan VE6SUS
secretary@narc.net

Treasurer

Glen VA6GC
treasurer@narc.net

Operations Director

Ray VE6RHS
operations@narc.net

Public Service Director

Patrick VE6PY
public-service@narc.net

Public Relations Director

Mike VE6XZM
public-relations@narc.net

Activities Director

Bill VA6GRZ
activities@narc.net

Emergency Comm's Director

David VE6DXX
emergencycoordinator@narc.net

Training Director

Neil VA6NF
training@narc.net

Webmaster

Todd VE6TWS
webmaster@narc.net

Director at Large

Gern VE6KG
ve6kg@narc.net

Programs Director

Melanie VE6MSH
programs@narc.net

Past President

Ties VE6TVN
past-president@narc.net

NARC Site Information**Website:**

<http://www.narc.net>

Telephone:

780-467-1333

Street Address:

200 92 Ave NW
Strathcona County, AB

Access via 17th Street NW, then eastbound on 92 Avenue. There is no access via Highway 216.

Mailing Address:

PO Box 163
Edmonton, AB T5J 2J1

NARC Activities**Club Nets****NARC VHF Net**

Tuesdays@19:30 on VE6HM-147.060MHz

New Hams Net

Thursdays@ 9:30 on VE6NHB 145.410MHz

6m SSB Net

Sundays @ 21:00 on 50.140 USB

*The Emitter***Editor**

Dave Devine
VE6DEV emitter@narc.net

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Send corrections, articles, and news
to emitter@narc.net

Contact the NARC Treasurer
for advertising rates

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On the Front Cover:



VA6LM VE6SRV VE6AEW VA6IP VE6AIA taking down VE6AIA's radio tower Aug 2012.

Minutes of the General Meeting of the Northern Amateur Radio Club

Held at the Cedar Park Inn on Wednesday, **September 19, 2012** at 7.30
p.m.

1. **Call to Order** – The Vice- President VA6IP, called the meeting to order at 7:29 p.m.
2. **Guests/New Members:** There were several guests in attendance: Paul and Andrew Reid; looking to get more information on amateur radio and becoming a member. Bart VA6BRT was a new member in attendance.
3. **Approval of Minutes** – Glen VA6GC motioned that the May general meeting minutes be approved as printed in the Emitter. Mike VE6XZM seconded the motion. Carried by members present.
4. Business arising from the previous minutes:
5. N/A
6. Directors Reports:
 - a. **President:** Absent, VA6IP conveyed that VE6XVK sends his regrets, as he is working overseas. He is working on a volunteer appreciation project for members– more to follow from him at the next general meeting.
 - b. **Vice-President:** N/A
 - c. **Treasurer:** Glen VA6GC reviewed cash flow and net worth with members.
 - i. He will be absent for the Oct meeting.
 - ii. Elections are in November – we desperately need a Treasurer. It would be great to see someone from our membership volunteer. If we hire a company to facilitate our Treasurer duties, it would be approximately \$300 to \$500 per month for this service.

- iii. Discussed Operation Director's budget (approximate cost of \$15,815). Members felt some of the costs for purchases could be higher, so it was recommended that the budget be increased by an additional \$1,000. Gern VE6KG motioned that we increase the budget by \$1,000. VE6UC seconded the motion. Motion carried by members.
 - iv. Due to the cancellation of the Hamfest, RAC returned our donations cheque and it was deposited back into the Casino account to be used for future operations, as per the membership direction.
- d. **Secretary:** Susan VE6SUS stated we have 147 paid members.
- e. **Operations Director:** Ray VE6RHS was absent.
- f. **Training Director:** Neil VA6NF will be holding a Basic course in November (3rd, 4th, 17th, 18th). The exam will take place the following Saturday or two weeks, depending upon the course participants.
- g. **Emergency Communications Director:** Absent.
- h. **Public Service Director:** Patrick VE6PY stated the Gorilla Run held September 8th was a huge success, entertaining costumes. The Toy Run will take place on September 30th, The Fall Classic on October 14th, and the Ball Gowns and Tux Race on November 4th. This will end our events until February 2013 when the Hypothermic takes place. Please call publicservice@narc.net to volunteer for any of these events.
- i. **Public Relations Director:** Mike VE6XZM reported: Is entertaining the ideas of printing up advertisements and putting in grocery stores to bring new members and interests to NARC meetings.
- j. **Program Director:** Melanie VE6MSH (via e-mail): Dave Beale won't be able to attend tonight's meeting to present on the new repeater linking setup and codes. For October, depending on availability, we will have either Dave present on repeater codes or Keehan presenting on the TNC repeater system. There will be no presentation in Novembers, as we have elections, and there is no meeting in December.

- k. **Activities Director:** Bill VA6GRZ reported: Pancake breakfasts will take place the third Saturday following the general meeting. Our next breakfast is September 22nd from 9-10 am; serving scrambled eggs and sausage also. Need volunteers to arrive at 8:30 assist – please. He suggested placing these announcements on the NARC site, put out on repeaters, and the Emitter.
- l. **Webmaster:** Todd VE6TWS (via e-mail): Away on vacation. Site is now on a faster better Canadian server. As well, I will be adding SSL (secure log in) as one member had requested.
- m. **Director at Large:** Gern VE6KG is willing to organize the RAC winter contest at the HM site, if anyone is interested.
- n. **Past President:** VE6TVN mentioned the fence is fixed at the HM site and new mailbox keys have been cut and distributed to appropriate exec members.

7. **New Business:**

- a. Fred McDougall VA6FRM (member) stated he would like to make a motion to revert back to the old site and Kelly Weist VE6UC seconded. Amendment: **If the old site still exists.** A discussion ensued. VE6PY stated that our old site still exists, one member has access, but Mitch VE6OH holds the domain.
 - i. Glen VA6GC stated that we presently have a volunteer to oversee our current web site – who is going to maintain it?
 - i. Current web master would have to revert as per members wishes. Members stated that our web site needs to be more lightweight, they feel it is too cumbersome – resource intensive.
 - i. Proposal: VE6KG motioned that the proposed amendment be made pending until the next general meeting so that we can discuss with our present web master and he is present . Motion seconded by VE6ZG. One opposed to the amendment. Remaining members were in agreement. Motion carried.
- 8. **November Elections –** We need to form a Nominations Committee. Volunteers are: VA6IP, VE6ZG and VE6KGF. Positions open are: President, Vice-President, Treasurer, Director at Large, Training Director and Public Service Director.

9. Next General Meeting – Wednesday, October 17, 2012
10. Meeting adjourned at 8:30 pm

Edmonton Motorcycle Toy Run

Sept 30, 2012



It's a wild ride!

Once each year, a few short months before Christmas, Edmonton and surrounding area motorcyclists meet by the thousands to make a unique en masse ride across the city.

All those bikes cruising along together makes a pretty imposing sight, but what makes it even more memorable - and incredible - is the fact that each biker in that group of thousands makes the ride with a toy or two riding shotgun.



Photographs courtesy of Ray VE6RHS.

Heard on the Air

by David Beale VA6TK

The airwaves have ears! Watch what you say. Otherwise your questions or misunderstandings will be seen and explained here. Names will be withheld to protect the questioner.

Today's question.

A while ago someone asked "why does VE6NHB use a 144.8 Hz CTCSS tone. Why not 144.0 or 150 Hz?"

The details.

Here we go.

We are talking about a Continuous Tone Coded Squelch System. If the radio receives the correct "sub-audible" tone, it will open the squelch. Note that communications receivers are supposed to only pass 300 to 3000 Hz, and CTCSS tones stay well below 300 Hz, hence "sub-audible".

"In the beginning" Motorola found small buisness' couldn't afford their own repeater. So the solution was "shared repeaters". The users were happy at first, then, as more and more companies were added the radios became too "noisy" with all the chatter. So the Motorola engineers came up with a system to open the radio squelch only if a specific "sub-audible" tone was present. Now, in those days, (1950s) they had to use vibrating reeds to get the stability needed, and those reeds, while fairly high "Q", still had to have a reliable separation between the tones. So the available frequency (about 70 Hz to about 220 Hz) was divided up using precise percent values. Hence the odd frequencies. As an aside, those reeds, of course, had momentum. So when the tone disappeared on the receiver the reed kept vibrating for a second or two, and the receiver audio poured forth noise! Hence came the technology of reverse tone, which stopped the reed very quickly. This is still used in some repeaters as it causes the users receivers to squelch the audio very quickly, even with electronic CTCSS. Users like quiet receivers!

Motorola's competitors immediately copied the CTCSS technology, but of course had to use a different name to avoid copyright infringement.

What is it called?

CTCSS is what it is. But that is a poor marketing term, and one most people wouldn't like to repeat. It's hard to say.

Motorola calls it "PL tone" or "PL" (for Private Line, a trademark of Motorola).

General Electric and Bendix King call it Channel Guard (or CG).

RCA called their implementation Quiet Channel or QC.

Icom calls this feature C.Tone.

Kenwood radios call the feature Quiet Talk or QT.

Johnson used "TG" for "ToneGuard", and later "CG" for "CallGuard".

Zetron literature refers to "ToneLock".

Ritron, Inc. labels their implementations "Quiet Call" (QC).

The nitty gritty details.

Modern radios, including all Amateur radios, use CTCSS tones generated in a chip, usually one that does a lot of other things as well. The frequency is derived from a quartz crystal, so is very accurate and stable. There are the original tones, standardized by the EIA, and therefore called the EIA tones, and because modern electronics works so much better, "extra" non-standard tones were added. Not all radios contain these, so beware when choosing a tone!

One problem that immediately came up was one user, who couldn't hear another on the air with a different tone or "user group", would talk over an ongoing conversation. There WAS a light, but who watches a light under the dash when driving? So "busy channel lockout" was implemented. Your radio won't transmit if it is receiving a different CTCSS tone from the one programmed. Of course this caused all kinds of "repeater games" to occur, with one user trying to keep the other groups off "his" repeater. Hence repeater controller manufacturers added "penalty timers", "hog timers", and the like to punish this behaviour.

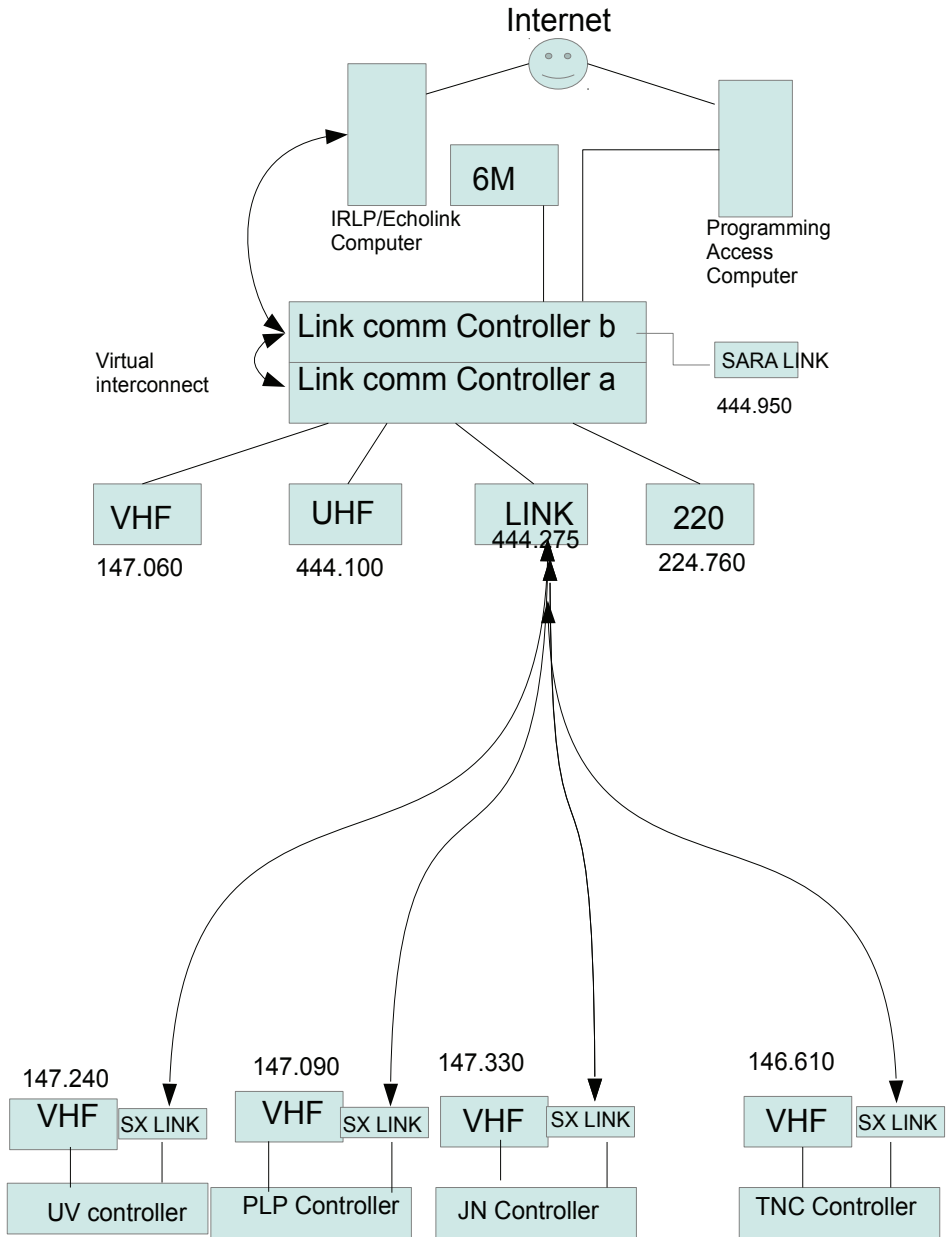
These days frequencies are crowded and sparse. So some systems use “too closely” spaced repeaters, relying on different CTCSS tones to try to provide separation and keep the two repeaters from being tripped at the same time. This is not very effective, and considered poor engineering practise.

Because their antennas are so high and because they are located in very good “radio sites”, often crowded with other repeaters, repeaters are very susceptible to noise and “inter-modulation”, where a combination of signals beats onto the repeater receive frequency, causing it to come on, often with very “interesting” noises! CTCSS can help reduce this, but is not the final cure, as once a user brings the repeater up it can be held or overloaded by the interference.

Of course once CTCSS became popular, there weren’t enough tones! So Motorola came up with “Digitally Coded Squelch” or “DCS”, with many more codes. An example of this is the NARC link repeater, which uses DCS code 446 (an attempt to keep it stable, with all the other system tones floating about). Try it, you’ll see it actually works a bit better than standard CTCSS!

So now you know.

HM SYSTEM as of 2012-09



Edmonton Area Frequency List

ARES CH	Call Sign	Output	Tone	Location	Additional Info
1	VE6UV	147.240+	100 Hz	Uof A	
2	VE6HM	147.060-	100 Hz	HM Site	Echolink (node*) IRLP (node) Exit 73
3	VE6PLP	147.090+	100 Hz	Falun	Echolink (node*) IRLP (node) Exit 73
4	VE6JN	147.330+	100 Hz	Marriot	Echolink (node*) IRLP (node) Exit 73
5	VE6VPR	145.290-	100 Hz	HM Site	
6	VE6VPR	147.150+	none	Mobile	
7	VE6NC	147.015+	100 Hz	Mobile	
8	VE6NHB	145.410-	114.8 Hz	Sherwood Pk	
9	VE6QCR	146.640-	100 Hz	N of Spruce G	
10	VE6RES	147.120+	100 Hz	Cent Edmonton	IRLP (node) Exit 73
11	VE6PRH	147.360+	none	Edmonton	
12	VE6PAW	147.180+	100 Hz	Edmonton	
13	Simplex call	146.520	none		
14	Simplex	146.550	none		
15	Main Simplex	145.695	none		
16	Simplex	145.580	none		
17	VE6SS	146.880-	none	S of Falun	
18	VE6LAW	146.940-	100 Hz	St Albert	Echolink (node*) Exit 73
19	VA6XG	147.420	110.9 Hz	simplex	
20	VE6OG	146.490	none		Echolink (node*) Exit 73
21	VE6OG	146.850-	100 Hz	Edmonton	
22	VE6CCW	147.270+	none	Edmonton	
23	VE6AFP	147.210+	none	Edmonton	
24	VE6RPA	145.190-	none	Edmonton	
25	VE6FDX	146.835-	none	Edmonton	
26	VE6ALM	146.685-	100 Hz	N of Smoky Lk	Echolink (node*) IRLP (node) Exit 73
27	VE6TOP-2	147.300+	100 Hz	Wabamun	Echolink (node*) IRLP (node) Exit 73
28	VE6TNC	146.610-	100 Hz	Chipman	
29	VE6TOP-1	147.285+	100 Hz	S of Wetaskiwin	Echolink (node*) IRLP (node) Exit 73
30	VE6TOP	147.390+	100 Hz	S Edmonton	Echolink (node*) IRLP (node) Exit 73
31	Simplex Call	223.500	none		
32	Simplex 32	223.520	none		
33	Simplex 33	223.540	none		
34	Simplex 34	223.560	none		
35	Simplex 35	223.580	none		
36	VA6RS	224.560-	123 Hz	U of A	

Edmonton Area Frequency List Cont.

ARES CH	Call Sign	Output	Tone	Location	Additional Info
37	VE6DXD	224.640-	88.5 Hz	TBA	Future
38	VE6MC	224.700-	100 Hz	Edmonton	
39	VE6HM	224.760-	100 Hz	HM Site	
40	VE6HM	444.100+	100 Hz	HM Site	Echolink (node*) IRLP (node) Exit 73
41	VE6GPS	444.400+	none	W Edmonton	
42	VE6SBR	444.800+	103.5 Hz	TBA	Offline
43	VE6NHB	444.950+	114.8 Hz	Sherwood Pk	
44	VE6NC	442.275+	100 Hz	Mobile	
45	VE6HM	444.275+	DCS	HM Site	
46	VE6EDM	444.750+	none	Cent Edm	
47	VE6TOP	444.700+	100 Hz	E Edmonton	Echolink (node*) IRLP (node) Exit 73
48	VE6TOP-4	447.750-	100 Hz	Morinville	
	VE6KM	145.470-	DV	HM site	Dstar
	VE6KM	444.900+	DV	HM site	Dstar
	VE6KM	1287.5-	DV	HM Site	Dstar

Calendar of Events

- Oct 17 - NARC Monthly General Meeting - Cedar Park Inn
- Oct 20 - Breakfast at HM 10:00 am
- Nov 4 - Tuxedos, Gowns, and Hot Dogs: 10k run at 1:59 AM - fastest 10K in North America

- Strathcona County Christmas Bureau - Mid December, there is also a mid-November set up day

Anyone wishing to volunteer to help out with any of these events please contact Patrick VE6PY, email: ve6py@narc.net