

# Kilowatter

The voice of the KW Amateur Radio Club

May 2007

Since 1922

## Kitchener-Waterloo Amateur Radio Club

133 Weber St. N. Suite #3-138;  
Waterloo, Ontario  
N2J 3G9

EDITOR: Dennis Tabbert VA3DLT

PHONE: 463-9641

email: va3dlt@rac.ca

Web site: <http://www.kwarc.org>

## MONDAY'S MEETING

**Date:** Monday May 7th 2007  
**Time:** 7:30pm  
**Place:** RCAF Wing 404 Club. End of Dutton Dr. Waterloo. Off Weber St. N  
**Topic:** Chandra M. Kudsia - Evolution of Communication Satellite Systems

## UPCOMING EVENTS

<b>23rd Annual Smiths Falls Amateur Radio Flea Market</b> Rideau Lakes Amateur Radio Club inc Saturday, May 12, 2007, Smiths Falls ON	<b>Ontario Hamfest 2007</b> Burlington Amateur Radio Club Inc. July 7, 2007 Milton, ON
<b>Hamfest 2007</b> The Brantford Amateur Radio Club August 18, 2007 Burford, ON	<b>VHARA Hamfest 2007</b> Victoria-Haliburton Amateur Radio Association August 25, 2007 Lindsay, ON
<b>Ottawa Amateur Radio Club 11th Annual Hamfest</b> Ottawa Amateur Radio Club, Inc Saturday, September 1, 2007, Ottawa (Carp) ON	<b>Hamilton Amateur Radio Club "HAMFEST 2007"</b> Hamilton Amateur Radio Club Saturday, October 13, 2007, Ancaster ON
<b>Annual K.W.A.R.C. Field Day</b> Doon Pioneer Village June 23rd - 24th	<b>Central Ontario Hamfest &amp; Fleamarket</b> Guelph ARC & Kitchener Waterloo ARC June 9, 2007, Fergus ON

### KWARC Directors 2006-2007

<b>President</b>	Bob Pelling	VE3XNB	885-9995
<b>Vice President</b>	Dennis Tabbert	VA3DLT	463-9641
<b>Past President</b>	Gord Hayward	VE3EOS	744-7205
<b>Treasurer</b>	Al Macdonald	VA3TET	741-0281
<b>Secretary</b>	Ben Sasiela	VE3ST	748-0445
<b>Director</b>	Tedd Doda	VE3TJD	634-5949
<b>Director</b>	Bill Riddell	VE3WFR	571-9875

### The Executive Committee Chairs

<b>Program</b>	vacant		
<b>Technical</b>	Tedd Doda	VE3TJD	634-5949
<b>Packet</b>	Tedd Doda	VE3TJD	634-5949
<b>Database Mgr</b>	Dave Schwartz	VA3DGS	884-3594
<b>Bulletin Editor</b>	Dennis Tabbert	VA3DLT	463-9641
<b>Edu. Co-Ord</b>	Ron Gimbel	VE3DBD	584-2009
<b>Chief Examiner</b>	Vern Stroud	VE3RVS	743-9342
<b>Auto Patch</b>	Ben Sasiela	VE3ST	748-0445
<b>ARES Manager</b>	Larry Gorman	VE3LGN	884-6782
<b>CANWARN Mgr.</b>	Ben Sasiela	VE3ST	748-0445
<b>QSL Manager</b>	Gord Gibson	VE3NQG	893-5148
<b>Inventory</b>	Ben Sasiela	VE3ST	748-0445
<b>Field Day</b>	Gord Hayward	VE3EOS	744-7205
<b>Webmaster</b>	Dennis Tabbert	VA3DLT	463-9641
<b>Bereavement</b>	Marg Cassel	VE3RE	634-5139
<b>Flea Market</b>	Dennis Tabbert	VA3DLT	463-9641
<b>QCWA Rep</b>	Harold Braun	VE3DWH	884-2388

### KWARC Owned Repeaters/Nodes

Mode	Call	Freq.	PL	patch	Location
Voice	VE3KSR	146.970	131.8		Baden Hill
Voice	VE3RCK	146.865	131.8	Open	Mannheim
Packet	VE3KSR-0	145.010			Baden Hill
Packet	VE3KWQ	145.090			Waterloo
Voice	VE3IXY	224.340	131.8		Mannheim
IRLP	VE3RBM	444.875	131.8		Mannheim
Echolink	VE3SED	53.370	131.8		Baden Hill
Voice	VE3SED	442.200	131.8		Baden Hill
Special Events		147.510			Kitchener

### Other Area Repeaters/Nodes

Mode	Call	Freq.	PL	patch	Location
Voice	VE3ERC	444.700	N		Elmira
Voice	VE3KFM	442.000	Y	open	Kitchener
Voice	VE3RND	145.330	Y		Plattsville
Voice	VE3SWR	146.790	N		Cambridge
IRLP	VE3WFM	147.090	N		Waterloo
Voice	VE3WWW	146.835	N		U of W
Voice	VE3RSS	147.030	N	members	Acton
ULR Link	VE3BHR	447.075	Y		Baden Hill
Voice	VE3RKL	443.850	N		Guelph
Voice	VE3ZMG	145.210	N		Guelph
Packet	VE3VIQ	145.570			Guelph
TCP/IP	VE3MKY	145.570			Guelph
TCP/IP	VE3UOW	145.570			U of W B
Voice	VE3BAY	442.350	Y		Kitchener

Kitchener Waterloo Amateur Radio Club  
Meeting April 2<sup>nd</sup> 2007  
Minutes



Meeting Called to Order at 7.30 by President Bob Pelling VE3XNB

Bob welcomed all members and guests to this months meeting and passed the microphone amongst attendants for the introductions.

Roger Sanderson VE3RKS and Steve Kavanath VE3SMA are presenting the evening Presentation

Topic is Microwave Communications on Amateur Bands.

Steve covered a very interesting PowerPoint presentation covering the many frequencies and bands that are available for this mode of operations. From 902 MHz to 250 GHz one will find a total of 12 bands of various spectrums. Type of communications in this area include DX, ATV, satellite, High Speed Data, Moon Bounce, CW, SSB, and some FM. There are some repeaters operating in the 902 MHz band and a few in the 1.2 GHz band in Ontario and across the country. Satellites operate in the 1.2 MHz, to 24 GHz range. Steve indicated that some of the propagation modes include line of sight, reflective paths, tropospheric scatter and ducting, rain and snow scatter, and moon bounce.

Steve also listed some of the various contests that are sponsored by ARRL yearly for these modes; Each Contest presents unique challenges that vary with each contest. Often contest rules permit changing operating locations and repeating initial contacts for added points. Members were giving several web site locations where they could obtain further information on Microwave Communications. Ontario UHF Association [www.ovhfa.ca](http://www.ovhfa.ca) and WA1MBA Site is [www.wa1mba.org](http://www.wa1mba.org) for further info.

Members of KWARC expressed their gratitude for the presentation and a certificate of appreciation was presented.

Coffee Break at 8.45 15 minutes

Business of KWARC

Treasure Report from Al McDonald VA3TET.

Al is looking for membership dues that have fallen in arrears. The cancellation of the last two meeting due to severe weather hampered due updating. Members are encouraged to attend the monthly meeting and bring their dues up to date or to send them in to the clubs mailing address.

QCWA News.

QCWA Member Harold Braun VE3DWH made a special plaque presentation to club member Ron Gimbel VE3DBD celebrating Ron's 50 years as an amateur radio operator. Ron obtained his license in 1957. Congratulations to Ron Gimbel VE3DBD for this milestone in his amateur radio career.

Nominations for 2007/2008 Executives'

Gord Hayward will be calling for nominations at the next meeting to stand for consideration for executive positions. Contact Gord VE3EOS if you would be willing to be considered through a vote from the members to assist in one of the positions on the board

Technical Report Tedd Doda Chair VE3TJD

Only one problem with the clubs equipment, the APRS radio on Baden hill became defective and has been repaired, All else working 100%

Can warn/ARES Larry Gorman VE3LGN

Larry reported that Canwarn training once again this year would be on April 24 at the U of W off Phillip St. This training is sponsored by environment Canada. Parking off Phillip St. See the April Kilowatt for info or visit the clubs web site for times and details. Please attend this very worthwhile event and be prepared to assist during severe weather by being an educated mobile spotter.

Flea Market Fergus Dennis Tabbert VA3DLT

Previous years lack of members "set up working crews support" makes it very difficult to successfully operate this event and may lead to the even being discontinued if help does not come forth. All it takes is a few hours of your volunteer on the Friday of the flea market as well as during the event itself to make this even most successful. Please contact Dennis Tabbert and volunteer to help, even if it's just for one of the days. Its lots of fun, not hard work, and you get to meet lots of great people. Both the Kitchener and Guelph clubs benefit from the revenue of this event enabling the clubs to operate yearly without raising due membership fees. The flea market event is also looking for companies or corporate sponsors to donate door prizes for our event. If you're an employee of a company, please approach your employer for donations for door prizes that can be used at the Fergus Flea Market. Every little donation would be appreciated. Please contact club member Gord Gibson VE3RGG 519-893-5148 with your contribution to this worthy event. Your company will be recognized for the donation.

Cuba Amateur Radio Club Request for help Don Fisher VE3ESE

Don indicated that the Cuba Radio club is in need of assistance in obtaining some crystals to establish a repeater for their members. Don is providing at his own expense, one set, and approached the membership to obtain support to approach the club execs for a contribution for the costs of the second set of crystals. Don VE3ESE is a frequent representative of our area in Cuba during DX'ing visits. Club Members supported Don's request to approach the execs for this donation

Doon Pioneer Crossroads Volunteer Appreciation Breakfast

Bob Pelling indicated that Doon Pioneer Crossroads sent KWARC five tickets to be used by members to attend a free breakfast appreciation event. Members that are interested in going should contact Bob for a free ticket

50/50 Door Prize Winner

AI VE3ATV is this months luck winner.

CNIB Recognition

The club received a certificate of appreciation from the CNIB for the many years of supporting their establishment and amateur radio. Gord Gibson VE3RGG is the clubs custodian for all documents received by KWARC and will add this to our history of supporting local organizations

Meeting Adjournment at 9.40 pm

Motion by Bill Riddell VE3WFR, second by Gord Gibson VE3RGG, to adjourn meeting, carried.

Minutes by Club Secretary

VE3ST

Kitchener Waterloo Amateur Radio Club

Executive Meeting

April 3 2007



Attendants

Gord Hayward VE3EOS Past Pres, Bob Pelling VE3XNB Pres, Ben Sasiela VE3ST Secretary, Bill Riddell VE3WFR Exec. Tedd Doda VE3TJD Exec, Al McDonald VA3TET Treasure, Regrets Dennis Tabbert VA3DLT Vpres

Minutes.

Meeting opened by Bob Pelling at 7.35 pm

Items

Field day Co Coordinator required:

This year's field day theme is "Back to Basics" Gord Hayward has accepted the duties of co coordinating the 2007 clubs field day event to be held at Doon Pioneer Village. The executives thanked Gord for assuming responsibilities for this important event Gord will be looking for band participants as well as help in other duties for this worth while club yearly event.

Flea Market June 9<sup>th</sup> Fergus

Mike Scott VE3FAR of the Guelph Amateur Radio Club is working with our club member Dennis Tabbert VA3DLT in this operation of the flea market. Volunteers are still required to assist in the set-up on Friday, and to run the various duties during the flea market on Saturday. Bob Pelling to continue to ask club members to assist in running this event. As this event contributes significantly to the revenues of both clubs, it is important to sponsor this task with enthusiasm to prevent failure. Dennis reported that flyers are being distributed at other ham fests as advertisements.

Cuba Amateur Radio Club request.

The club was approached via Gord Hayward for Don Fisher VE3ESE; to sponsor the costs of providing support to the Cuba Radio Club by donating funds to buy badly needed crystals for a repeater that they are trying to get going in Cuba. Motion put forward by Gord Hayward, that the club donates the sum of \$50.00 towards this request. Motion seconded by Tedd Doda. Unanimous support voted. The clubs treasury will forward the requested support to Don Fisher for the purchase as presented.

Discussion.

Bill Riddell VE3WFR suggested that KWARC donate one of the spare kwarc club repeaters to Cuba. Tech Chairman of KWARC Tedd Doda indicated that at present, the KWARC does not have any spare VHF repeaters available. Discussion closed.

Motion to Adjourn: at 8; 45 pm

Motion by Tedd VE3TJD, second by Al McDonald VA3TET, carried.

Minutes by VE3ST

Ben Sasiela



## *Boatanchor Rehabilitation - The Johnson Viking II CDC*

I haven't spent all of my time with receivers so this time I'll talk about the Viking II, a classic AM transmitter. This one is the civil defence version from the cold war era. This means that it completely covers 1.7 to 30 MHz. It has a compressor to prevent over modulation (so that the CD people using it without ham licences wouldn't make too big a mess) and a push to talk system.

When I got it was in fine shape but I did an overhaul anyway. The first thing to correct was the power cord. The two wire cord with the fuses in the plug was a definite NoNo. I mounted pigtail fuses in the chassis and installed the three wire U ground cord. Of course this is just a safety feature. U grounds are not a good idea for RF unless you want the house to radiate too.

The capacitors were next. I replaced the electrolytics as I always do. The PTT relay runs on 100 volts but the original design didn't have a bleeder so I ran afoul of the commandment: "Beware the lightning that lurketh in undischarged capacitors lest thou be bounded on thy buttocks in an ungentlemanly manner". It bit me. That's now fixed. I took out the big oil filled HV filter. I don't like those so I replaced it with three 450V electrolytics in series with load sharing resistors. These also replace the bleeder. I don't trust oil filled caps but some of the purists like them so they were very happy when I let them take the capacitors for the right price. The last fixup was fattening the audio coupling capacitors to increase the low end response and stiffening the modulator bias by increasing its filter capacity.

I rewired the PTT so it is in series with the panel switch rather than in parallel. It was in parallel so that it would run like the normal Viking but having them in series is a nice safety feature. I also changed the keying arrangement so the key circuit is not on when the jack is removed. This didn't affect the AM mode.

The next job was alignment. Setting the idle current with the 50 Watt slide adjust is a bit tedious but I got it. The compressor is more of a pain. The pot shaft is located at the bottom of the RF cage and has to be set with key down. What was the designer thinking? I got a very long fiberglass screwdriver and did the adjust with one hand in my pocket.

On the air, it works well. Good power, about 90 watts carrier and good audio. I had to go to the Buffalo hamfest to convince the guys there that my voice really sounds like they were hearing. I use this transmitter all the time and it has worked well, except for the spectacular failure.

I was in a QSO on the fateful day when I heard a very loud snap and hit the main breaker. Something had died. I put on the dummy load and turned on the Viking. When I keyed it there was a bright pink glow in one of the 807 modulators. I grounded everything in sight and replaced both 807s. The previous weekend was our hamfest and I had bought a new pair so that fix was fast. The pink glow was gas that leaked in through a crack in the glass.

I tried it again but there was no RF. Had I blown the 50 Watt slide adjust resistor? It tested OK so I was somewhat relieved and started poking around with an ohmmeter. Another 20 Watt resistor tested way too high. Of course you can't take readings in circuit as parallel paths change resistance values, but then I realized parallel paths can't increase the resistance. The resistor was the 20k final screen

resistor. I just happened to have a spare and the replacement was fast. The idle current was still good so I put it back on the antenna and was back on the air.

The spectacular part was the crack in the 807. When the screen resistor failed it instantly unloaded the choke input power supply.

The voltage spike flashed from the getter in the tube, attached to the plate so it gets hot, to its evaporated metallic film on the glass and then somehow out to ground. There's a crater at one end of the crack on the inside. I broke the tube electrically! I now have that tube in a nice new porcelain socket in a walnut base as a souvenir.

### [Tech report for May 2007](#)



Greetings:

Two issues to discuss this month.

First, the weather station that provides the data for our website's weather data had to get reset a couple weeks ago, but when doing this, the date got a bit mixed up (it showed a day late). The tech committee didn't set what's called "years to leap year". Once that was setup properly, the weather station showed the proper date.

The next issue marks the end of a very long tradition. In early February, I tried to use the phone patch on VE3RCK (146.865) and found it didn't work. After some investigating work, it was found that the phone line was cut by Bell. Normally, this wouldn't be an issue, as Bell would repair the line and we would be back in business.

What this did though, was question whether the patch was needed any longer. The Executives of KWARC decided that as no one complained that the patch was broken (for at least 2 months!) that KWARC would stop offering this service. The patch on VE3KSR was discontinued a couple years ago, again for lack of use, so the discontinuation of the patch on RCK marks the last of any phone patch available for KWARC members. The monetary (\$\$\$\$) saving to the club is over \$30 a month.

Remember that the Tech Committee operates by feedback from YOU the KWARC membership. If you come across something that doesn't seem to be working properly, fire off an email or give one of the Tech Committee a call. We don't have a set routine of checking all the hardware that KWARC owns, so if something is broken, we may not know about it! The list of Tech Committee volunteers can be found on the website.

That's it for this month!

Tedd, VE3TJD

Tech Chairman for the KWARC Inc.

*Central Ontario Hamfest 2007 - June 9<sup>th</sup>*

Set-up at 6:30pm on Friday the 8<sup>th</sup>

!!!..Volunteers are desperately needed..!!!

FOUR new volunteers found at recent club meetings:  
Ross Secord, VE3JOG is taking the Pylon Challenge.  
Gord Gibson, VE3NOK is doing the Door Prizes.  
Cristin Richardson, VA3VLN is Marketing and Advertising.  
John Hunter, VE3BNQ will chalk out the Tailgater slots.  
Thank you all very much for chipping in...!

And let's not forget who has else has signed up so far:  
Mike Peleschak, Elmer, Accounting, Flyer and Draw Ticket Production,  
Wrist Band Attainment, Arena rental, and Vendor Contact  
Dennis Tabbert, KWARC Co-Chair, Grand Events table rental,  
Flyers to other hamfests  
Mike Scott, GARC Co-Chair, Flyers to other hamfests  
Larry Gorman, Admissions Table  
Linda Willis, Vendor Information Table  
Tedd Doda, Front Lot  
Bob Housser, Back Lot and Tailgate Vendor Admission  
Ben Sasiela, PA System Installation  
Mike Willis, Geulph EMCOMM trailer transportation

The volunteer committee is now pretty much complete, but Hamfest will not be successful without the dozens of club members that show up to help out on Friday and Saturday. We are still desperate for you guys and ladies to come out and help us get this show off and running.

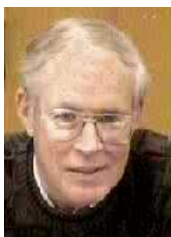
See you there!

Please note that the following jobs are still open:

Direction signs  
Back Security

For more information, or to volunteer, please call:  
Mike at 624-7352, or Dennis at 463-9641.

## CANWARN – SUMMER 2007



Our Annual CANWARN REFRESHER presented by Environment Canada was preceded this year by an unanticipated live demonstration. A rather violent wind and rainstorm, with some lightning tossed in for colour. Fortunately, we escaped the major power outages and building destruction that occurred near Toronto.

Our presenters this year were Robert Kuhn, Senior Severe Weather Analyst for Ontario, and Mitch Meredith, a forecaster and assistant with the Warning Preparedness Program. Mr. Kuhn is a Kitchener resident and commutes to the Weather Office in Downsview.

While the equipment was being set up, Mitch distributed forms for the participants to update their contact information, and a complimentary CANWARN thermal mug, commemorating 20 Years of CANWARN activity.

Mr. Kuhn said that Local spotters are referred to as "The eyes and ears of Environment Canada". Their incident reports are considered to be of critical value both for predicting imminent developments and for verifying suspected events.

When it comes to forecast warnings a Weather Watch, which ideally has a 2 – 8 hour advance notice, is a Heads Up to possible severe weather. A Weather Warning however is only issued if severe weather is evident, or will soon be occurring. Anyone in the path should take immediate protective action.



Thunderstorms are a frequent summer occurrence in Southern Ontario. But a Watch or Warning is only issued if indicators suggest that they have the potential to inflict significant damage. Mushrooming Cumulonimbus clouds in this case often "boil" to extreme elevations. Hail is a typical fallout. Anything over 2cm (size of Nickel) is a serious warning indicator and should be reported.

Downdrafts in a mature Thunderstorm can approach 150 k/h. On reaching ground level they explode outward as destructive winds. Patches of forest and even houses can be flattened!

Spectacular cloud formations are very easy to spot in the Prairies where the horizon is almost endless. However, in Ontario forested areas, rugged topography and urban growth obscure observations and make early visual reporting more difficult.

The classic high altitude anvil head formation is usually an indicator that the storm development is now past its prime.

Various storm signs and severe weather forecast indicators were well illustrated with many excellent photos, several taken by local CANWARN Weather Spotters. You might think that all thunderstorms can be grouped together. But that would be wrong. Single Cell Pulse storms often occur during a hot summer day as moist air masses are drawn inland simultaneously from L.Huron and L Erie converge and migrate north-eastward into our Region. Multi Cell squall lines associated with cyclonic fronts however are more common in S. Ontario. The Super Cell is fortunately a rare phenomenon in Ontario, but common in the American Mid West. Cloud development is awesome to see, rising to 7 km-and even penetrating the stratosphere. They are long lasting, and are most destructive, with rotational updrafts, large hail, heavy rain, and not infrequently a rash of Tornadoes.

Thunderstorms for all their ferocity rarely exceed a life of more than one half hour. The very nature of their development; updrafts of moist hot air, followed by a rush of descending cold air, with heavy rain dooms them to self destruction.



While thunderstorms are quite common throughout Ontario, tornado incidents are infrequent. Between 1981 and 2006 we have had 8 confirmations , 3 probables, and 8 possibles. We average only 7 potential tornado days per year.

Storm spotting is a somewhat difficult task in S.Ontario. Haze and humidity in the atmosphere, trees and rolling landscape, and excessive cloud areas associated with the storm all conspire to hide potential threats from view.

Environment Canada actively encourages all spotters to keep a sharp eye out for threatening weather, and to report in when conditions warrant, using the criteria set out in this presentation.

Remember the 4 "W's" for reporting Severe Weather. Who (is reporting) What, Where, and When.

Larry VE3LGN  
Emergency Services Coordinator  
K-W Amateur Radio Club

