

Kilowatter

The voice of the KW Amateur Radio Club

September 2007

Since 1922

Kitchener-Waterloo Amateur Radio Club

133 Weber St. N. Suite #3-138

Waterloo, Ontario

N2J 3G9

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

MONDAY'S MEETING

Date: Monday September 10th 2007
Time: 7:30pm
Place: RCAF Wing 404 Club. End of Dutton Dr. Waterloo. Off Weber St. N
Topic: Mike Scott VE3FAR Working Amateur Satellites

UPCOMING EVENTS

Ottawa Amateur Radio Club 11th Annual Hamfest Ottawa Amateur Radio Club, Inc Saturday, September 1, 2007, Ottawa (Carp) ON	Barrie-Orillia Hamfest Barrie Amateur Radio Club & Orillia Amateur Radio Club Saturday, September 8, 2007 Barrie Ontario
Kingston Amateur Radio Club Flea Market Kingston Amateur Radio Club Saturday, September 15, 2007 Kingston, ON	London Amateur Radio Club 30th Annual Fleamarket London Amateur Radio Club Sunday, September 23, 2007 London, ON
Hamilton Amateur Radio Club "HAMFEST 2007" Hamilton Amateur Radio Club Saturday, October 13, 2007, Ancaster ON	York Region Hamfest York Region Amateur Radio Club Saturday, October 27, 2007 Markham Ontario
Big Event 30 Flea Market and Hamfest Niagara Peninsula Amateur Radio Club, Inc. Saturday, February 2, 2008 St. Catharines, ON	Central Ontario Hamfest & Fleamarket GARC & KWARC Saturday June 7, 2008 ,Fergus, ON

KWARC Directors 2006-7

President	Dennis Tabbert	VA3DLT	463-9641
Vice President	Ben Sasiela	VE3ST	748-0445
Past President	Bob Pelling	VE3XNB	885-9995
Treasurer	Don Fisher	VE3ESE	741-0281
Secretary	Ken Willmott	VE3MIX	897-1737
Director	Tedd Doda	VE3TJD	634-5949
Director	Gord Hayward	VE3EOS	744-7205

The Executive Committee Chairs

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

The Pres Sez



My the time flies,

I hope everyone had a pleasant summer and got their outside "amateur" work done. Saying that, I got the new tower erected, thanks to Don (VE3ESE) and Ben (VE3ST).

Its September already, and that means KWARC is gearing up for another 10 months of meetings.

They will be held at the same place as in the past, 7:30 start time. It will be nice to see familiar faces again and hopefully some new ones as well!

Our annual flea market and hamfest was a success this year, with approximately the same profit as last year. Thanks to all who jumped in to help out. Our club had a fine showing of volunteers, both Friday night setup and Saturday.

Don't forget the Amateur Radio classes, which will prepare you for your Industry Canada Licence Exam. They are held twice weekly for 10 weeks and generally start in March. Further info will be posted later on the website.

Our club has a lot to offer in the way of repeaters, six voice repeaters, from 6 meters, vhf, and uhf, including a 220 repeater (224.340-)

There is IRLP and Echolink offered. (see the website for details)

These must keep Ted (VE3TJD) busy just keeping them up and running!!

Tedd also did a tremendous job with his Wednesday night nets, which I hope will resume in the fall.

Welcome to Ken (VE3MIX) our new Secretary and Don (VE3ESE) our new treasurer. Many thanks to outgoing treasurer Al (VA3TET) for a fine job!!

Don't forget to bring your handheld and radio manual to the club meeting, as this will be a hands on demonstration.

I hope to see you at the club meeting. Call in frequency is 146.970 (-) with a 131.8 tone.

73 for now

Dennis Tabbert VA3DLT

Club president 2007-2008

Kitchener Waterloo Amateur Radio Club

June 4 2007 Meeting Minutes



Election of Officers for 2007/2008

Meeting called to order by president Bob Pelling VE3XNB at 7.45 pm

Bob welcomed members to this business meeting and the microphone was passed around for introductions. 26 members attended.

Amateur Radio Classes

Ron Gimbell reported that a total of six people took the amateur radio course that is provided by the club in the spring of the year, and all six people pass the exam. Students that pass the exam are also automatically members of the club for a one-year period. Congratulations to those that passed, and we hope that they will enjoy amateur radio and the club.

Amateur of the Year Award Selection

Gord Hayward distributed ballots to those that attended and requested nominations with supporting reasons for the "Amateur-of-the-Year" award submittal.

Field day Preparation

The theme this year is "Back-to-Basics" and once again this popular club sponsored event will take place at Doon Pioneer Crossroads on Homer Watson Drive in Kitchener. Gord Hayward is the co-ordinator, please contact him to reserve a band-operating mode if you plan to attend. There is usually a social gathering for the supper period on Saturday evening, and all members are invited to attend and see the club's Field day event in action.

Band already spoken for. Gord Gibson VE3RGG 40m phone

Gord Hayward VE3EOS 80m/160m phone

Fergus Flea Market Club Event

Dennis Tabbert VA3DLT represents the club in this event that is co-sponsored with the Guelph Amateur Radio Club. Volunteers are requested to help set up tables, and prepare facilities and should attend on Friday by at least 6.00 pm in preparation for Saturdays Event. All help would be greatly appreciated. Larry Gorman VE3LGN requires help at the admission gate. Please help Larry if you can.

QSL Club Activities

Gord Gibson VE3RGG, our clubs call sign VE3IC QSL manager. Gord is very active seeking contacts associated with the Light House Society, and is seeking contacts in this area on behalf of the club. Keep up the good work Gord.

Treasury Report

Al McDonald VE3TET indicated that the monthly coffee and refreshments that the club provides is loosing money. Don't forget to pay for this service, if you wish for it to continue. Please pay for what you obtain. No mooching please. Al also highlighted that the clubs newsletter costs have gone up due to printing and mailing costs. The executives of the club will review this report and make decisions if required.

ARRL VHF Contest

Roger Sanderson VE3RKS explained that participants are able to operate in this contest as Rovers. A Rover is one operator that becomes mobile operating from grid squares. If a Rover changes grids. He/she is able to again repeat the contacts to obtain further points in this contest. This contest is for 6m and up frequencies.

There is a Car Rally called "Black Bear Rally" to be held on June 16 in Dorset Ont. Roger is seeking help with communications

Presentation Ken Willmott VE3MIX

Ken was presented with a plaque of appreciation for the presentation that he did on "Microphones" to the club membership.

Election of Officers Call for Nominations

The following names have been nominated for voting by the members to represent the clubs interest for the 2007/2008 year.

Tedd Doda VE3TJD, Bob Pelling VE3XNB, Gord Hayward VE3EOS, Don Fisher VE3ESE, Ken Willmott VE3MIX, Ben Sasiela VE3ST, Dennis Tabbert VA3DLT

Call to close the nomination process. Gord Gibson VE3RGG, second by Bill Riddell VE3WFR, carried

Vote for member's approval and acceptance, Unanimous acceptance.

Clubs New News Letter Editor.

Gord Hayward VE3EOS has accepted the position of the new clubs newsletter editor. Our thanks go out to Dennis Tabbert VA3DLT for doing a super job for the many past years. Dennis will continue to operate our clubs web page responsibilities.

Door Prize Draw

Won by Tedd Doda. VE3TJD..

Wednesday Night Repeater Net

Bill Riddell VE3WFR acknowledges the efforts of Tedd Doda VE3TJD for doing the Wednesday night net on repeater VE3KSR for the past year. Tedd handled a total of 69 nets. Thanks Tedd for doing this very successful and popular event.

Closing Comments Bob Pelling VE3XNB

Bob wished all members a very happy summer of ham activities, and reminded that the clubs meeting will resume in September on the second Monday for this month only, being Sept 10 2007. All following meeting will continue to be held on the first Monday of the month.

Minutes by Club Secretary

Ben Sasiela

VE3ST

[Kitchener Waterloo Amateur Radio Club](#)
[Executive Meeting Minutes June 5th 2007](#)



Present:

Bob Pelling VE3XNB
Ken Willmott VE3MIX
Al McDonald VE3TET
Dennis Tabbert VA3DLT
Gord Hayward VE3EOS
Tedd Doda VE3TJD
Ben Sasiela VE3ST

Regrets:

Don Fisher VE3ESE

Item 1.

Positions of responsibility within the slate of elected officers for the club executive for the year 2007/2008 periods were determined and appear.

President	Dennis Tabbert VA3DLT
Vice President	Ben Sasiela VE3ST
Past President	Bob Pelling VE3XNB
Secretary	Ken Willmott VE3MIX
Treasury	Don Fisher VE3ESE
Executive	Gord Hayward VE3EOS
Executive	Tedd Doda VE3TJD

Moved by Bob Pelling VE3XNB that the positions assigned as read be accepted. Second by Tedd Doda VE3TJD. Motion unanimously passed.

The clubs web site and future newsletters will be updated with this new information.

Item 2.

Confirmation of club's meeting dates at the 404 wing with the Region Rental Facilities for the period of 2007/2008

Bob Pelling VE3XNB volunteered to contact the city rental facilities office and confirm for the club, the dates that the club's meeting will be held for the above period. This will prevent any misunderstanding and will confirm our meeting dates that will be posted on the clubs web site.

Item 3

Clubs Kilowatt Mailing Costs.

Mailings cost along with reproduction costs have gone up recently. It was detailed that the cost to mail the clubs news letter to a member presently is approx \$11.00 for the year, yet the member who chooses to have the newsletter mailed to them is only charged \$8.00 per year. This has caused a drain on our operational revenues.

Motion by Dennis Tabbert VA3DLT second by Bob Pelling VE3XNB, that the present fee to mail the clubs newsletter to those that are requesting it, be changed from \$8.00 per year, to \$10.00 per year.

Motion unanimously carried.

The cost of requesting that the club newsletter be mailed to those club members that request this option will be fixed at \$10.00 upon membership renewal.

Item 4

Field Day Operational Costs Approval

This year's clubs field day will be held at the Doon Heritage Cross Roads on Homer Watson Drive. The clubs sponsors this event yearly and the costs to operate need to be yearly reviewed and approved by the club's executive.

Motion by Tedd Doda VE3TJD second by Ken Willmott VE3MIX that the field day committee is granted a operating costs of \$300.00 for this 2007 event.

Motion passed unanimously.

Item 5

The executives heard a report from the Flea Market Committee that there will not be any camping facilities available to vendors/hams at this year's event that is to be held in Fergus Ont. This is due to the grounds being utilized by an extensive ceremony being held by the OPP. On the same day at the Fergus community center.

Notice of Next Executive Meeting

The next scheduled executive meeting to be held on the first Tuesday of September, one week prior to the regular scheduled club meeting. Exec Meeting starts at 7.30.

Motion to Adjourn Tedd Doda VE3TJD second by Gord Hayward, passed.

Minutes by Ben Sasiela VE3ST

Field Day 2007 Coordinator Report



This year field day was a low key event with fewer than usual coming out. I am pleased to say that there were a few new faces who helped out and I hope they enjoyed it as much as I did. We were 3 alpha Ontario (3A-ON) running on generator power with the exception of Wes on 20m who ran on batteries. Wes, VE3RYV made 11 contacts on 20m phone, Gord, VE3RGG and Bob, VE3XNB made 120 on 40m phone and I (VE3EOS) made 161 on 80m phone (yes I was running solid state on SSB). The numbers were not bad given our laid back approach and the sunspot number of 0. We're at the bottom of the cycle and absolutely nothing was happening on the sun. The GOES satellite data were flat lined at the low end of the X-ray intensity and the sun pictures were featureless.

The location was at Doon Heritage Crossroads, the same location as a few previous years. Although its in a valley which isn't too great for VHF, the facilities made for a comfortable weekend. We thank Wendy and all of the folks there for their hospitality in making this event possible. Again Lynda, VA3LWH organized the food, certainly enjoyed by all. Set up and tear down were smooth with additional help from some of the new members. We even had a nice description in the KW Record.

Next year (yes, its time to start already) the sunspots should start to improve, so lets start thinking about getting some new life into this keystone event.



Bob VE3XNB operating 40m phone.



Nick G7RZQ also on 40m phone.



Gord VE3EOS on 80m phone.



Peter VA3PTB attempting a satellite contact

Boatanchor Rehabilitation - Power Supplies



Although my solid state power supplies aren't antiques, most of the ones that I have designed or rebuilt are medium current linear supplies. Linear means lots of heat and lots of iron so they definitely count as boatanchors. Switching supplies are way more efficient but they are complicated so I don't tinker with them unless I have to.

The iron is the power transformer. These are rated in both their current capacity as well as their voltage. Its important to note that the voltage is the RMS value so the peak value which is the maximum in a capacitor input filter is 40% higher. When replacing the main electrolytics, this is the minimum value for the capacitor voltage rating.

The main linear supply for low voltage in the few amp range are based on three terminal regulator chips like the 78XX family. XX refers to the voltage, so a 7812 is a 1 amp 12 volt regulator. These chips are very nice, they limit the output current, shut down if the output shorts and shut down if they get too hot. In spite of this, they do have a few gotchas.

The first gotcha is heat. They work by dropping the input voltage which must be a few volts higher than the required output. This drop shows up as heat. Fortunately these regulators have thermal protection, but the shut down shows up as power dropouts. The regulator heats, shuts down, cools and restarts so it looks like low frequency on-off oscillations, in the hundred Hertz range. They do need heat sinks to pull the heat out, but there is another subtle way of keeping the heat down.

The filter capacitors before the regulator smooth the input. When the rectified AC is high they charge but when the input drops, the diodes shut down and the system runs on the energy stored in the capacitors. Here the input voltage drops until the input is high enough again to recharge the capacitors. The capacitors must be big enough so the minimum voltage is sufficient to keep the regulator running, about 2.5 volts higher than the output. Newer regulators can run with a lot less than the 2.5 volt requirement. If the capacitor is too big, the minimum storage voltage increases and this shows up as regulator heat.

The second gotcha is instability. The regulators are high gain current amplifiers that use a very small error in the output to control the current delivered to the load. Feedback paths can make the regulator oscillate, usually in the 500 kiloHertz range. The specs call for about 1 microfarad bypass capacitors on both the input and output of the regulator if the leads are long. In my experience long is 5 mm! These capacitors can not be electrolytic as the inherent inductance in the electrolytic capacitor will prevent it from stopping the oscillations.

I've also done some much higher current systems. Here the regulator is attached to a set of big pass transistors which can get very hot. Some variable voltage units are really neat and have a variac (variable auto-transformer) on the primary of the power transformer so that the peak voltage input voltage will drop with the output setting. Even so, good heat sinking is the key and if the transistors have to be replaced, mica washers and silicone heat compound (pigeon poo) are a must. Some older units have beryllia washers. These are great for getting rid of heat, but beryllia dust is hideously toxic. Watch out for these!

Next time, I'll go over tube power supplies.

73 de Gord VE3EOS

David Johnson
dbjohnson@rogers.com



519-579-4110
Office



I HAVE MOVED!

My Real Estate Business is now located at
Remax Twin City Realty Inc. Brokerage
901 Victoria St. N, Kitchener

I look forward to meeting you at
the new location.

KWARC Membership Renewal

Please cut out the following renewal form and enclose it with your payment as your renewal date comes due. When you enter the birthday information; just your month and day are needed.

PLEASE MAIL TO: Kitchener-Waterloo Amateur Radio Club 133 Weber Street North, Suite #3-138 Waterloo Ontario N2J 3G9	
First Name	Call:
Address1:	Last Name:
City:	Address2:
Postal Code:	Email Address:
Phone Number: () - - - - - -	Birthday: Month Day
This is a [] RENEWAL or [] NEW APPLICATION	Kilowatter Preference [] MAIL [] From WEB
<input type="checkbox"/> Full Membership @ \$20.00 <input type="checkbox"/> Family membership adder @ \$5.00 <input type="checkbox"/> Seniors Membership @ \$10.00 <input type="checkbox"/> Student or Challenged individuals @ \$10.00	<input type="checkbox"/> Associate (non voting) @ \$10.00. I am a member of the _____ Club. <input type="checkbox"/> Printed Kilowatter Newsletter "Mailed" @ \$10.00
Comments:	
Total Amount Enclosed: \$	Your Cheque Number :



INFORMATION GATEWAY SERVICES

Kitchener-Waterloo Cambridge and Guelph

Information Gateway Services
(Kitchener-Waterloo) Inc.
151 Frobisher Dr., Suite E-118,
Waterloo, Ontario, N2V 2C9

Owner Operator : Don Sinclair VE3ICD

Information Gateway Services (IGS) provides a complete range of Internet services ranging from entry level personal accounts for beginners, right up to the requirements of large commercial organizations.

SPECIAL OFFER TO KWARC MEMBERS

- No activation fee on standard personal accounts for KWARC members. A \$25.00 saving
- \$50 per six months or \$75 per year paid in advance for 5 hours/month --- (extra hours at \$2.00 per hour).
OR \$15/month \$150 year for 30 hours/month (this popular package has just been increased from 20 hrs)
- N E W Now get **UNLIMITED FREE** time from midnight until 7am
- One free KWARC e-mail address urcall@kwarc.org for KWARC members
No coupons or other discounts can be used in conjunction with these special offers to KWARC members ONLY.

For complete details, call Don Sinclair VE3ICD at 884-7200