Kilowatter

The voice of the KW Amateur Radio Club

October 2006 **Since 1922**

Kitchener - Waterloo Amateur Radio Club
133 Weber St. N. Suite #3-138
Waterloo, Ontario
N2J 3G9

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MONDAY'S MEETING

Date: **Monday October 2nd 2006**
Time: **7:30pm**
Place: **RCAF Wing 404 Club. End of Dutton Dr. Waterloo. Off Weber St. N**

UPCOMING EVENTS

VHARA Hamfest 2006 Victoria-Haliburton Amateur Radio Association Saturday, August 26, 2006, Lindsay ON	Barrie Hamfest Barrie Amateur Radio Club Saturday, September 9, 2006, Barrie ON
Brantford Amateur Radio Club Hamfest 2006 Brantford Amateur Radio Club Saturday, August 19, 2006, Brantford ON	Hamilton Amateur Radio Club "HAMFEST 2006" Hamilton Amateur Radio Club Saturday, October 14, 2006,Ancaster ON
ONTARIO HAMFEST Burlington Amateur Radio Club Saturday, July 8, 2006, Milton ON	London Amateur Radio Club 29th Annual Fleamarket London Amateur Radio Club Sunday, September 24, 2006, London Ontario ON
York Region Hamfest York Region Amateur Radio Club Starts on Saturday, October 28, 2006, Markham ON	Central Ontario Hamfest & Fleamarket Guelph ARC & Kitchener Waterloo ARC June 9, 2007, Fergus ON

KWARC Directors 2005-2006

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

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	Dennis Tabbert	VA3DLT	463-9641
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.	Bob Pelling	VE3XNB	885-9995
QSL Manager	Gord Gibson	VE3NQK	893-5148
Inventory	Ben Sasiela	VE3ST	748-0445
Field Day	Bob Pelling	VE3XNB	885-9995
Webmaster	Dennis Tabbert	VA3DLT	463-9641
Bereavement	Marg Cassel	VE3RE	634-5139
Flea Market	Bob Pelling	VE3XNB	885-9995
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	Yes	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	open	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 Bob Pelling VE3XNB

Welcome to a new season. I hope you all had a good summer and were able to get in lots of operating outdoors in the fine weather we had this summer. I do need to apologize for missing last months KILOWATTER. Work, health and computer issues all contributed to that. Additionally, the Fielday results will be put into the KILOWATTER next month. I have them and so does the ARRL, but Bonnie and I are in the process of replacing both our computers, and, as a result a lot of stuff has been misplaced. I might even give a little detail on our new Computers next month. I am also trying to get hold of Mike from Guelph regarding the flea market results. I hopefully will have a report on that for next month as well.

We are stile in need of a Coffee and Donut person. Due to the kinds of shifts I work I may not be able to do it every month. Also we are stile in need of a Program Director. Anyone willing to volunteer for either of these positions please contact ANY member of the board.

If anyone has ANY suggestions as to programs for the following year, such as, speakers we may approach, topics we may discuss or anything else, please let someone on the board know.

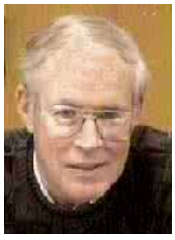
I wish to personal thank Bill Graham VE3ETK for his excellent presentation on short notice last month.

It is not too early to start thinking of next years Fielday. Plan on your bands etc. It has been suggested that we change our location. If anyone can suggest a better spot, let us know and we will investigate.

73 for now

Bob VE3XNB

ARES Annual Simulated Emergency Training Exercise



The Ontario Province-wide emergency preparedness exercise (SET) will be conducted OCTOBER 7, 2006.

Operations will be from 11:00 to 14:00 and from 18:00 to 21:00 hours, Eastern time.

The Ontario NTS will be handling H.F. operationson the Ontario ARES H.F. freq`s of 7.153 MHz. and 3.742 MHz. pending propagation.

VHF/UHF/IRLP will be active on the Crossroads reflector 9206.

If you have the opportunity, check in.

ARES IN ACTION

Operation Aud: Wednesday September 6, 2006

As most people settled back into their work routine after the long Labour Day Weekend, and the kids returned to school, KWARC Emergency Services was also at work. The first ever Regional Social Services Emergency Response Plan (SSERP) Reception Centre Exercise. The City of Kitchener, and Grand River transit provided facilities and transportation. Food service at an Evac site was provided by Bingemans. Representatives of the various social services, the police and GRT assisted with the hypothetical evacuation of Sunnyside Home for the elderly, and people in the surrounding neighbourhood. Real people were used as evacuees.

What was different was having real people as victims, showing up at an Emergency Evacuation Centre.. In this case, the Kitchener Auditorium.

Up to now all simulations have been held in a Regional Services building with only Social Service personnel (and our communications group). Victims have been strictly a number on the script.

The volunteer victims arrived in a GRT bus. Each was given a script as he/she got off the bus, that called for them to act out a variety disabilities and problems that might be encountered in an actual emergency evacuation of the elderly.

In one of the more interesting enactments a rather violent older gentleman (actor) in a wheelchair had to be removed from the building by police.

Our team of Bob VE3XNB, Ben VE3ST, Dave VE3DUA, Larry VE3LGN was somewhat shorthanded, and so a couple of our XYL's also assisted.

Our team dispersed through out the site to assist with debusing, registration and management problems. In two instances we were called upon to handle messaging for cell phones that actually did fail to perform!

About 90 Regional and Kitchener service personnel circulated throughout the exercise area handling problems and analyzing the performance.

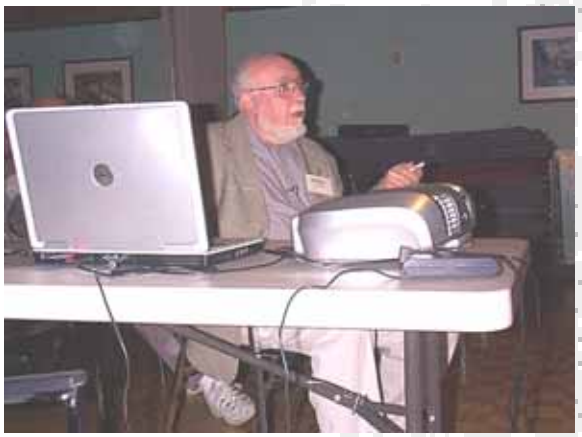
At the post event emergency lunch windup , also a part of the evacuation exercise, K-W Amateur Radio Club Emergency Services was recognized as being a critical part of the exercise in ensuring communications continuity.

Larry VE3LGN

Emergency Services Coordinator

Pictures from the Sept 11 KWARC meeting

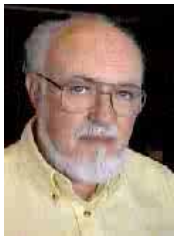
Club Examiner and presenter Bill Graham VE3ETK controlling the PowerPoint presentation he downloaded from RAC which welcomes hams opinions on the new Elementary Level Ham License Proposal



Bill Graham VE3ETK addresses the members hearing suggestions or opinions from the presentation

Bob VE3XNB holds his 50/50 winnings. Way-to-go Bob…

Pictures by VE3ST



WASHINGTON (Reuters) -- Thunderstorms on Earth can lead to storms in the outer reaches of the atmosphere that disrupt radio transmissions and other electronic communications, U.S. researchers said on Tuesday.

The discovery could lead to more reliable global-positioning satellite (GPS) navigation and short-wave radio transmissions by improving forecasts of high-altitude disturbances that can disrupt them, said University of California-Berkeley researcher Thomas Immel.

Using data from NASA satellites, Immel and other researchers discovered that thunderstorms over South America, Africa and Southeast Asia can create turbulence in two bands of electrical gas that hover 250 miles (402 kilometers) above the equator in part of the upper atmosphere known as the ionosphere.

These plasma bands are far too thin to be directly affected by wind from thunderstorms, but researchers found that the wind can shape the plasma bands by generating electricity in the layer of atmosphere below them.

Three of the densest sections of plasma were located directly above areas with frequent thunderstorms -- the Amazon Basin in South America, the Congo Basin in Africa, and Indonesia.

But researchers found another dense section of plasma above the Pacific Ocean, far from thunderstorm zones -- evidence that tropical thunderstorms have a global influence.

That may explain why the ionosphere above North America is more turbulent than other areas, disrupting radio transmissions that travel through it.

"We now know that accurate predictions of ionospheric disturbances have to incorporate this effect from tropical weather," Immel said in a statement.

Researchers now hope to determine if the plasma bands shift with the seasons, or during large events like hurricanes.

73 Bill ETK

Boatanchor Rehabilitation - The R390A Project

After the preliminary checks were done and I had music on the AM broadcast the 390A was definitely alive but the signals weren't strong. Obviously the place to start was an IF alignment. Its best to start from the output end and work towards the input because problems can be knocked down one by one. This quickly revealed problems with the AGC system. There was little response.

I started measuring the resistance to ground. For normal AGC systems this should be huge but I found a dead short to ground. The antenna trimmer is a variable capacitor (the only front panel adjustable capacitor in the set) on the grid of the RF amplifier. It is part of the AGC but the shaft is insulated from ground by plastic bushings on the 90 degree gears. I cleaned these with oil free solvent but that wasn't the problem. The AGC pin on the terminal strip at the back was bent and touching the chassis. Having fixed that, the resistance was high, but still no voltage. I replaced most of the AGC decoupling capacitors in the IF module but still no voltage. The AGC was now becoming an interesting challenge.

The AGC has its own IF amplifier stage which runs parallel to the detector. This was not working. Its output has a resonating coil which I found to be open. Parts are hard to get so I tried to fix it. Ferrite wrapped around the winding with an adjustable core inside and a bell on the outside. Somewhere inside the wire was broken. The coil was potted so I tried heat to melt the goo and loosen the ferrite but when it did get loose, the whole coil came apart. I had followed the old saying "If it sticks, force it. If it breaks, it needed fixing anyway."

Since I didn't have a spare and couldn't get one cheap a rebuild was in order. In my junque box (junk is bad, junque is good) I found a slug adjustable coil about the right size to fit the can. By trial and error I got a capacitor to resonate it at 455 kHz. After installation I tried to align the new coil but the peak was very broad and the best output voltage was way too low. The coil Q was too low.

Q, the quality factor of a resonant circuit, is the ratio of the energy stored to the energy dissipated in the circuit. After a bit of reading, I realized that the inductance increases with the number of turns squared while the resistance increases with only the number of turns. The inductance of the coil I used was too low. I found another with lots more turns (I didn't care how many, just that there was a lot more) and cut 1/4 inch off the cardboard form to make it fit in the original can. The capacitor to resonate it was a lot smaller, about 56 pF. High Q is the reason most RF applications use large inductors and small capacitors. Installing and aligning the new coil gave a much better AGC voltage and when I did the final performance checks later in the restoration, the AGC was right on the original military specification. Not bad for a junque coil.

The overall IF alignment was straight forward except for the stagger tuning of the transformers between the second, third and fourth stages. Stagger tuning gives the selectivity characteristic of the number of stages but increases the bandwidth to the 16 kHz of the widest mechanical filter. The tighter settings use different mechanical filters or a crystal filter for the 100 Hz setting. The set performance was now quite a bit better, but still left a lot to be desired. The next task was to fix the limiter and to make the audio better.

Club Meeting Minutes

Sept 11 2006

Meeting Called to Order by Bob VE3XNB at 7.35 pm

37 members and guests attended

Bob welcomed all members and guests and passed the microphone for introductions

Evening Presentation

Bob introduced club member and examination Bill Graham VE3ETK as this evening speaker. RAC is seeking input to proposed changes to the licensing entry level of amateur radio. Bill displayed a power point presentation that RAC has made available and explained the proposal to the requirements of a fundamental entry level. RAC is seeking opinions from existing amateur operators on this new concept, and members are encouraged to voice their concerns and suggestion by sending e-mail directly to VE5FX@RAC.CA

Fielding suggestions and idea's from the membership followed the presentation. This requirement of licensing is now in effect in Australia and Great Britain, and reports suggest that many new applications have been received for licensing. Do we want the same proposals in effect in Canada, and what would you see in difficulties if any. Send your comments to the address above, and voice your opinion.

A detailed explanation of the privileges and restrictions can be found on the RAC site www.rac.ca, and follow the links.

Coffee Break followed thanks to Gord Hayward VE3EOS who mastered the brew blend.

50/50 winner for this evening was our new Perez, Bob VE3XNB, congratulations Bob

Business Portion

Technical Report. Tedd Doda VE3TJD informed the members that we did not experience any serious hits with lightning during the summer and little maintenance was required. Our club 220 repeaters needed to have the controller reset. Club repeater VE3RCK that operates an auto patch feature and this feature has been disabled. Recently the telephone providers introduced the need for 10 number dialing, and the controller on this repeater is not capable of accommodating this new requirement.

Tedd questioned if any club members would be interested in building "the mystery antenna" perhaps at one of the meeting. This antenna seems to perform on HF with excellent results and gain, and is readily inexpensive to build. Please let Tedd know if you would be interested in this project.

ARES/Can warn Larry Gorman VE3LGN was happy to report that our area did not seem to be exposed to any significant severe weather during this last summer.

AREAS Many members from the club recently participated with the Region simulation of Operation AUD. See Larry's report and pictures in the newsletter.

QSL Bureau Gord Gibson indicated that the club has added ten new countries making our clubs DXCC total now 203. Cards are coming and we expect to reach 235 countries confirmed very soon.

Car Rally Help Needed Roger Sanderson VE3RKS is looking for help in communications for a Car Rally, Contact Roger if you're interested. rsanderson@uwaterloo.ca

QCWA Report Harold Braun announced that the next QCWA meeting will be held on Oct 14 2006 at the Plainsman Restaurant on Hwy 5 starting at 10.00 am. All hams are welcome to come. Guest speaker will be announced very soon. Harold also reminded hams that if they change their address, it's imperative that they inform I.C. It makes it very challenging trying to track down hams.

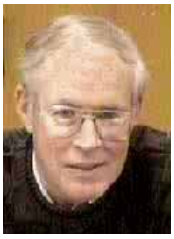
Meeting Adjourned at 9.15pm

Thanks to all that came.

Ben Sasiela

Secretary KWARC

CANWARN-- SUMMER 2006



This has been the quietest summer for CANWARN activity in many years.. The KWARC CANWARN Net Controllers have been on call since May 1, but in all that time we have had few occasions when the Environment Canada Severe Weather Pagers activated. In all cases severe weather never materialized on our area. This has been one of the warmest summers on record, and while many thunderstorms threatened it was most unusual that very few tornadic storms developed. Our local net schedule is still active, but other than periodic doses of heavy rain, the severe weather should be over for Southern Ontario.

Waterspouts are a fall phenomena and are being reported on Lake Ontario, and Huron, but there are very few boaters out there these days.

This was not the case everywhere. In mid July a macro-burst registering up to 120 Km hit the area where I was sailing in the Manitoulin Island area. It hit us as a white squall with solid metre high spray blasting across the lake. Fortunately we were well secured in the lee of a small island. But many of the islands had trees down when the air cleared and power was out for several days in parts of Northern Ontario.

Larry VE3LGN

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:**	**Last Name:**
Address1:	**Address2:**
City: **Postal Code:**	**Email Address:**
Phone Number: ( ) -	**Birthday: ____Month ____ Day**
This is a [ ] RENEWAL or [ ] NEW APPLICATION	**Kilowatter Preference [ ] MAIL [ ] From WEB**
____ Full Membership @ **$20.00** ____ Family membership adder @ **$5.00** ____ Seniors Membership @ **$10.00** ____ Student or Challenged individuals @ **$10.00**	____ Associate *(non voting)* @ **$10.00.** I am a member of the _____ Club. _____ Printed Kilowatter Newsletter **"Mailed" @ $8.00**
_	Speed Dial number request: _____
Comments:	
Total Amount Enclosed: $	**Your Cheque Number :**