

Kilowatter

The voice of the KW Amateur Radio Club

December 2007

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 December 3rd, 2007

Time: 7:30pm

Place: RCAF Wing 404 Club. End of Dutton Dr. Waterloo. Off Weber St. N

Topic: Christmas Social Gathering and Awards

UPCOMING EVENTS

Lunch Bunch Christmas Gathering Transylvania Club, Kitchener Second Friday Before Christmas, December 14, 2007	Big Event 30 Flea Market and Hamfest Niagara Peninsula Amateur Radio Club, Inc. Saturday, February 2, 2008 St. Catharines, ON
Burlington Spring Flea Market Saturday, February 23, 2008 Burlington, Ontario	IARC Twelfth Annual Flea Market Iroquois Amateur Radio Club Saturday, April 5, 2008 Iroquois, Ontario
Durham Region Hamfest (32nd Annual) North Shore ARC & South Pickering ARC Saturday, April 19, 2008 Whitby,	24th Annual Smiths Falls Amateur Radio Flea Market Rideau Lakes Amateur Radio Club inc. Saturday, May 10, 2008 Smiths Falls, ON
Central Ontario Hamfest & Fleamarket GARC & KWARC Saturday June 7, 2008 Fergus, ON	Field Day Location to be announced June 28/29, 2008

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	578-7328
Secretary	Ken Willmott	VE3MIX	897-1737
Director	Tedd Doda	VE3TJD	513-0377
Director	Gord Hayward	VE3EOS	744-7205

The Executive Committee Chairs

Program	vacant		
Technical	Tedd Doda	VE3TJD	513-0377
Packet	Tedd Doda	VE3TJD	513-0377
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	880-8862
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

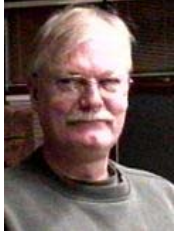
KWARC Owned Repeaters/Nodes

Mode	Call	Freq.	PL	patch	Location
Voice	VE3KSR	146.970	131.8		Baden Hill
Voice	VE3RCK	146.865	131.8		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



Greetings, to all.

everyday, hi hi.

This month's club meeting is our annual Christmas meeting. As in the past there will be no business meeting. The custom for this meeting is everyone brings treats, whether it's freshly baked chocolate chip cookies, or for those in a hurry, a box of "Tim bits". Tedd is bringing his CD player for background Christmas music. Also we have the piano which has been used in the past, so if anyone wants to play with the ivories your more than welcome. Please bring your family along, to meet the members they hear you talking to



Don't forget to bring some non-perishable food, for the local food bank. Your donations are always appreciated. Last year we collected 140 lbs.

Don't forget the annual Christmas luncheon at the Transylvania Club. on Friday December 14th. Please see Tedd Doda VE3SED at the KWARC monthly meeting on December 3rd. or at Tedd's Electronics (519) 513-0377 2492 Cedar creek Rd. (where hwy 401 and 97 meet) for tickets. Tedd announced that the Christmas

Luncheon will be starting at 11:30 and going until everyone is done. Cost will be \$15.25 a plate. If you're able to offer to the club a door prize donation, we would be most pleased to accept.

At this time I would like to say Merry Christmas and Happy New year to all, especially the shut ins who may be reading this tabloid, and are unable to attend the meeting, all of us at the club are wishing you well.

Hope to see you all Monday night.

Best 73

Dennis Tabbert VA3DLT

President KWARC 2007-2008

Short Items

The Lunch Bunch Christmas Luncheon will be on December 14th starting at 11:30 and going until everyone is done. Cost will be \$15.25 a plate, and door prizes will be appreciated. You can acquire your tickets at Tedd's shop (the new one at 401 + 97) or at the meeting on December 3rd.

The Wednesday morning coffee gang would like to invite all to join them at Luther Village for coffee. Proceedings start about 9.00AM and last about an hour (or two). They are having a Christmas Luncheon (chicken or beef) on Dec.5 at 11:30 AM at Luther village. Anyone interested please contact Al Macdonald VA3TET at almac1@rogers.com for tickets (\$20.00 ea.).

There are two other ham (the radio type, you could order the other ;-) breakfast gatherings, on Saturday mornings at Angels in the plaza at Lawrence and Highland and Monday mornings at Benny's at Weber and Lodge in Waterloo. They start at about 9:00ish and go to 10:30ish. No agenda or formality, just good food and conversation.

Address corrections from the membership list:

VE3RVS	Stroud, Vern	Apt 302, 250 Glenridge Dr.	Waterloo ON	N2J 4H8
VE7JHW	Wilkinson, Harry	PO Box 1029	Seaforth ON	NOK 1W0

Kitchener Waterloo Amateur Radio Club
Meeting Minutes November 5th, 2007.

President Dennis, VA3DLT called the meeting to order at 7:45, welcoming all in attendance. As usual, the microphone was passed around and all in attendance were invited to introduce themselves. Dennis VA3DLT chaired the meeting and Mike VE3FAR recorded the minutes.



Dennis VA3DLT introduced the evening's speaker, Larry VE3LGN, who presented a fun-filled program on formal message handling, entitled "ARES Message Passing Exercise." Please review last month's bulletin for details regarding this exercise. It was a great chance to play radio and practice handling non-amateur information in a mock disaster exercise.

Once again, Lynda VA3LWH provided the coffee, cookies, and fruit. Thank you, Lynda.

After the exercise, Ben VE3ST gave the group some feedback on the exercise. He pointed out that some legibility issues may hinder this type of exercise in the real world. He also indicated that

there were a few that were very easy to read and that most were very well done. Ben then handled some good-natured heckling and some intelligent questions. As usual, the exchange was beneficial to everyone.



After the program concluded President Dennis presented Larry VE3LGN with a Certificate of Appreciation for his efforts with the evening's program. Dennis also presented Mike VE3FAR with a Certificate of Appreciation for his presentation at the September meeting on Amateur Satellites.

Ron VE3DBD showed us a box used for charging batteries. The best use for this that a Ham can have would be to charging a 12V battery while running your rig on pure DC. Possibly, they can produce 4 amps continuous (the batteries that each contained may have had a 40Ah capacity, and a charge rate of 1/10 C would be 4 amps). He had 5 available and they were all scooped up by amateurs in attendance in exchange for a small donation to the Grand River Hospital. Thank you, Ron, for raising the spirit of Amateur Radio one notch higher.

Tedd announced that the Christmas Luncheon will be on December 14th starting at 11:30 and going until everyone is done. Cost will be \$14.50 a plate, and door prizes will be appreciated. You can acquire your tickets at Tedd's shop (the new one at 401 + 97) or at the next KWARC monthly meeting on December 3rd. *(ed.'s note – the price will be \$15.25)*

Al McDonald VE3ASN informed the group that Ted Bodman VE3CD has a skyloop (80-10m) for sale. Take it down, and take it away. The only cost is your time to go get it. The sweet deal includes all insulators, feedline, and wire.

Lynda reminded us that the December meeting is a social meeting. If you can, bring a snack or dessert item to share. Also, last year we donated 140 lb. of non-perishable food items to the Food Bank. Please bring something along this year so we can do it again. Lastly, don't forget to bring your spouse or significant other for the evening.

Finally, at 9:27 Bill VE3WFR moved that the meeting be adjourned, and Tedd VE3TJD seconded. Dennis asked for those in favour, and the vote was unanimous.

Minutes by Mike Scott, VE3FAR

[Kitchener Waterloo Amateur Radio Club](#)
[Executive Meeting Minutes Nov 6 2007](#)



Present

Dennis Tabbert VA3DLT President
Tedd Doda VE3TJD Executive
Gord Hayward VE3EOS Executive
Ben Sasiela VE3ST Vice Pres

Absent

Bob Pelling VE3XNB Past Pres
Ken Willmott VE3MIX Secretary
Don Fisher VE3ESE Treasury

Items discussed:

Item 1: Presenter for the Jan 2008 Meeting

Dennis to contact Al McDonald re. obtaining Tom East to do a presentation on RADAR. Tom is a retired employee from Raytheon Canada.

Item 2: Fill in Secretary Duties

Larry Gorman has been asked to fill in on secretary duties in the absence of Ken Willmott. Ken has had difficulty to assist due to work commitments.

Item 3: Technical Report

Tedd Doda reported that all club equipment worked flawlessly during the summer months and not repairs or concerns were required.

Item 4: Club Meeting Reminders via E Mail

The clubs Webmaster will be sending out via E Mail, reminders of club meeting activity. Reminders for the Dec Meeting Christmas Social Gathering to include, Donations for the local Food Bank, Munchies Table for this meeting. The December club meeting is scheduled to include the yearly "Club Awards" Presentations.

Item 5: Field Day 2008 Location

It was discussed to investigate a new location for this event. Tedd VE3TJD suggested a location near his

business, which is on higher ground. Tedd to review the site, and inquiry if permission is needed to host this event. Club executive to review this site for adaptability.

Item 6: Flea Market Report 2007

Dennis Tabbert VA3DLT received the final statement of attendance and costs/profits and reviewed it with the executives. Statements of activities to be included in the treasury report.

Item 7: Christmas Lunch Brunch

Tedd announced that the 2007 Christmas Lunch Brunch would again this year, be held at the Transylvania Club. Dec 14 2007, starts at 11.45 am. Buffet luncheon. Tickets will be on sale at the Dec KWARC meeting, at Tedd's place of business, as well as at the door on the day of the Luncheon.

Items listed during this meeting did not require proposals, or voting, as such, none were required.

Adjournment: Gord Hayward VE3ESE, second by Tedd VE3TJD, carried,

Minutes by VE3ST
Ben Sasiela

[Boatanchor Rehabilitation - Alignment](#)



My topic for this month is alignment. Has anyone mentioned all of the loose screws in a radio and asked why it didn't work after he tightened them up? Fortunately I've never really encountered that situation, but have just had to tune the sets up. In this article I'll describe the alignment of the FRR-21 VLF communications receiver but the principles are the same for most receivers.

The radio was operational when I opened it up. I usually test the tubes first but the manual forbade this. The tubes are subminiature ones soldered into plug in modules. Unsoldering does more damage than good. All I had to do was use the extender cable I got with the set to connect the removable chassis to the circuit board in the case. This cable is quite rare but I got it with the set at a flea market. It's the heavy black cable in the picture.

I started by setting the BFO to dead on the IF frequency when the frequency vernier (BFO tone) control was dead centre. This required a frequency counter. Then, with the BFO off, I did the IF sections. I connected a voltmeter to the detector output and injected a signal at the IF frequency stage by stage starting at the last IF moving toward the RF section. At each stage I peaked the voltage by adjusting the IF transformer slugs, keeping the voltage low by attenuating the injected signal. If its too high, the peaks are hard to observe. This was the easy part.



After setting up the IF, I moved to the RF section. This is where the dial mechanism can be a problem as the alignment serves to make the dial read correctly, at least at each end of the bands. The dial was OK which was good as the indicator is a projection system which is delicate and complicated. RF alignment was the fun part with 35 adjustments to make, all of them interacting. First I aligned the

local oscillator. Setting the dial to the low end of the band and injecting that frequency at the antenna, I adjusted the oscillator coil. At this frequency, the main capacitor plates are fully meshed so the trimmer capacitor has little effect. Then, at the high end of the band with the signal generator set to the high end frequency I adjusted the trimmer capacitor. With the main capacitor plates fully apart the trimmer is the most important part of the resonance adjustment. I did this several times, low end then high end, as changing the trimmer slightly changes the low end coil adjustment and vice versa. Fortunately they converge. This had to be done on each of the 5 band settings.

The last step was to setup the crystal calibrator. This is a crystal oscillator with a synchronized multivibrator. The oscillator runs at 50 kHz and the multivibrator gives the 10 kHz markers. Crystals age so the adjustment must be done at least every 25 years and the time had come. I set the oscillator with the frequency counter and adjusted the multivibrator to give the required divide by 5 operation.

Once set up, the set gave me really good copy on WWVB at 60 kHz and quite a few aircraft beacons in the 250-500 kHz range. It does get some low end broadcast stations but the IF bandwidth is too restricted for good audio. Most communications in this band are RTTY or CW. In general if you follow three principles, alignments aren't a big problem. These are: start at the audio end and work toward the antenna; keep the signal level low; and adjust the coil at the low frequency end and the trimmer capacitor at the high frequency end of each band.

73 de Gord, VE3EOS

[What is Electro-Magnetic radiation ?](#)

[The Mass less Marvel comes to the rescue!!!](#)

Written for the Elmira radio club VE3ERC

© Al MacDonald VA3TET Oct. 2007



Most of you are familiar with the concept of electrical and magnetic fields, however a review is probably in order to re-establish the ground rules. For some of you the concept of separating electrical and magnetic fields from Electromagnetic radiation will not be something you have heard before. To understand radiation we must consider three separate phenomena. – My simple overview.

1) Electrical fields (E)

It is the force created when there is a voltage difference between two points – even if it is the voltage difference between two points on the same wire. Any voltage, moving or standing still exerts a physical force on its opposite number. Like charges repel and opposite charges attract. The field diminishes with distance.

This is called the electrical field.

2) Magnetic Fields (H)

A Magnetic field is described as the force created by a moving charge. A wire carrying a current between a battery and light bulb generates a magnetic field around the wire as long as the current flows. This field also diminishes with distance.

Magnetic fields (H) co-exist with (E) fields and the energy contained in the two fields represents the total energy available. You can manipulate the ratios of the two fields but the total energy available is the net sum of the energy contained in the two simultaneously occurring fields.

3) ElectroMagnetic fields (EM)

An ElectroMagnetic field – not to be confused with a magnetic field, is created whenever charges are accelerated (a change of direction or velocity) and emanates at a right angle to the E&H fields.

Electromagnetic fields emanate in waves and their charge influences all other charges in the universe (it is energy).

Electromagnetic fields travel at the speed of light.

OK OK, that's nice but what the heck is an ElectroMagnetic field and what causes it.

Let's see what we know about the EM waves.

They travel at the speed of light in a vacuum

They have no mass

They have energy

They are only created when electrical & magnetic fields are accelerated.

Their magnitude is proportional to the amount of energy applied to accelerate a charge.

MMM - This seems to fit the definition of a photon!!

Now wait a minute, you say, I can't see radio waves!!!

That's true. Your eyes are only designed to detect a narrow spectrum of EM radiation. The rest are there, but you just don't see them!

What processes would cause photonic production on an antenna?

Back to some more basics

Protons Neutrons, electrons etc., are some of the bits that make up an atom. We are only interested in one of the bits – the electron.

The classical description of an atom suggests that the electrons spin in orbits around the Nucleus. Different elements contain more or less electrons. Electrons occupy orbits. The farther the orbit is from the Nucleus the more energy it has.

Let's leave the electrons spinning for a while and discuss how we will use these critters.

It turns out that if you apply enough energy to the electron the increased energy will cause the "critter" to move to the next higher orbit, or be knocked out of orbit (a free electron).

In either case, the electron has more energy.

This is the good stuff so pay attention!!

What happens to all of the extra electron energy and what does it do with it?

There are two cases that can produce photons.

The first case occurs when an electron is forced to give up some of its energy. Every time an electron drops to a lower orbit it gives off the excess energy by producing a photon.

The second case for photon production occurs when two free electrons collide with sufficient force to free some of the excess energy - as a photon. Electrons are the mothers of photons.

Making it happen.

Let's apply moving charge to an antenna and give these "critters" a kick. In real life this is nothing more than pushing the mike button on your transceiver and generating a carrier. The carrier consists of accelerated charges of electrical and magnetic fields.

The following is an over simplification, but allows you to get a feel of photonic birthing.

Imagine the first half of the positive cycle of a carrier's energy knocks electrons free or provides enough energy to put electrons into a more energetic orbit. Their collisions produce – dare we say it! - photons. The second half of the positive cycle is negative and forces electrons to drop back an orbit or cause the free electrons to lose energy and - dare we say it! - produce photons.

In reality it is a combination of these phenomena that produce photonic (EM) radiation.

Electric and magnetic fields co-exist and the acceleration of these fields causes all of the above.

That's how we radiate our radio waves with the mass-less marvel - the photon - for a ham, - unseen but heard!!

[QCWA News "Fred Hammond Chapter 73"](#)



The Fall meeting was held Oct 20th at what was The Plainsman Restaurant on Highway #5, just West of Clappison's Corners. The restaurant has closed and will not be available for our next meeting.

The guest speaker, Bob Rushby VE3GLA was unable to attend. Hopefully, he can be rescheduled for a future meeting.

There were 2 Silent Keys since our Spring meeting. Tom Atkins VE3CDM of Toronto, our President & Gord MacPhail VE3IH, a founding member of the Guelph ARC. Gord received a 75 Year Certificate in 2007.

Mary Card VE3FEB chair of the Scholarship Committee announced 4 scholarships for this year. Winners were Tanveer Ameeruddin, Ryan Bridge, Colin Braun & Faiza Wahid.

There were plenty of door prizes & every one went home with something.

The Spring meeting will be May 3rd, 2008. Location to be announced.

If you were licensed in 1983 or before you are eligible to join QCWA in 2008. Visitors are always welcome at our meetings.

Chapter 73 also assists at The Hammond Museum of Radio in Guelph. The following are some of the highlights of activities from the Curators annual report presented at the Board of Director's meeting on Nov 19th.

The beam & rotator have been replaced with a Cushcraft X7 beam & a Yaesu rotator. The old Sommer XP-704 beam for 40- 10 metres is for sale. For details contact Paul Cassel. Thanks to Paul Cassel, Ron Gimbel, Don Guthrie & Peter Shilton for all their help.

A new sign & awning have been installed at the entrance to the Museum.

The museum is open 9:00am to 4:00 pm daily. The Curator is usually there on Thursdays.

Shawn VE3PSV operated the ONTARS net on 3755 kHz from the station using the VE3HC call & plans to do this more often in the future.

The Museum was invited to participate in the 2007 Community Exhibits Program at the Ontario Legislative Building, Queens Park. A display case featuring 5-6 radios as well as a broadcast microphone will be on display until March 2008.

At least twelve groups toured the Museum in the past year, including a visitor from Belgium, Canadian Automotive Historians Assoc., & Electrical & Computer Engineering staff from University of Waterloo.

The most exciting donation of the year came from a private collector who this year decided to donate his entire collection of some 75 pieces to the museum.

Harold VE3DWH

ARES in Action *This is a Training Exercise!*



Our November club meeting was set aside for a special all member participation event – the annual Simulated Emergency Training exercise. Members drew ID slips on arrival, which directed them to their Team tables. Individual messages of varying degrees of urgency awaited them. Once Team frequencies were established, messages were relayed to counterparts situated across the room. With 12 groups operating simultaneously, it made for an eventful evening! In spite of the hubbub, everyone managed to send and deliver a message. Ben VE3ST at our Marshaling Table was kept busy logging the progress of incoming messages.

A seemingly simple exercise, it took well over an hour for everyone to complete the assignments. Actually, the Exercise went off with amazing efficiency, especially when compared with some of the simulations we have shared at Regional events. Evidently a success, comments continued over VE3KSR by mobiles on their way home. There was some enthusiasm for another exercise sometime in the not too distant future.

The objectives of this event were to:

- Train Amateurs in handling emergency messages.
- Train members in using emergency message forms
- Encourage members to participate if/when we face an emergency
- Get members to check out their equipment for emergency needs.

Please take a few moments to complete the survey below. If possible, Copy, Cut, and Paste, then insert your responses, and e-mail to ARESE@kwarc.org or hand it in to the Reception desk at the December club meeting.

1. Were you able to attend the exercise? ____ If NO, go to Q.6.
2. Did you find the instructions adequately clear? _____
3. Did you find the exercise meaningful (as a simulation of possible realities)? _____
4. What did you find as most interesting about this exercise?
5. How would you rate the exercise in terms of its objectives (See above):
Poor, Fair, Good, Excellent.
6. Would it be worth while to stage another one in the spring?
7. If you were unable to attend this exercise, would you consider participating the next time around? _____

Any positive suggestions for improvement?

Larry VE3LGN
Emergency Services Manager

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
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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:	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
<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 (<i>non voting</i>) @ \$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 :



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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