Ottawa Amateur Radio Club

Groundwave

P.O. Box 8873, Ottawa, Ontario, Canada, K1G 3J2

Check out our Web Page: ***www.oarc.net***

May 2006

The speakers for the May 10 meeting are Jim Dean, VE3IQ, and Joe Parkinson, VE3JG. The topic of their presentation will be *BPL: Current Status in Canada.* This is a very timely topic and should be of interest to everyone.

The June 14 Annual General Meeting will feature the election of the new executive. All positions are up for grabs so nominate someone or even volunteer for a position on the executive.

The meeting will also have a presentation from the Algonquin College students on their project sponsored by the OARC to make emergency communications through building walls.

See you at the meeting.

Ian Jeffrey, VE3IGJ

MAY MEETING 7:30 pm, May 10th in the Honeywell Room at Ottawa City Hall

In This Issue....

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Groundwave

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Articles may be submitted for use in this publication provided that they portray events or activities that promote Amateur Radio. Letters and comments are also welcome. Submissions may be made by mail addressed to the Editor care of the OARC, or by e-mail to "ve3igj@rac.ca". Deadline for submissions occurs three days after the regular monthly meeting of the OARC.

Please support your local radio organisations. They support you!

Club Information

The Ottawa Amateur Radio Club Inc. is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the National Capital Area and to the advancement and achievement of club members.

Regular Meetings of the OARC Inc. are held on the second Wednesday of each month (except July and August) in the Honeywell Room (2nd floor of the Old Teacher's College) of Ottawa City Hall (formerly Regional Municipality of Ottawa Carleton Headquarters) on Lisgar Street. Meetings commence at approximately 19:30 hours. Further details about each meeting is elsewhere in this publication.

Executive Meetings of the OARC Inc. are normally held on the first Wednesday of each month at 19:30 hours. Contact the President to confirm the date, time and place of the next meeting.

The CAPITAL CITY FM Net meets every Monday at 20:00 hours on the club repeater **VE2CRA** to pass traffic and to make announcements of interest to Amateurs in the National Capital Region.

The SWAP Net is a service provided and conducted by Ed Seib, VA3ES. This feature appears on theCapital City FM Net. To list items and make inquiries, call Ed at 613-738 8924 or e-mail him at va3es@rac.ca. Also available on the web: http://www.igs.net/~swap.

The POT-HOLE Net is a SSB/HF net sponsored by the Ottawa Valley Mobile Radio Club and is conducted every Sunday at 10:00 hours on **3.760 MHz**. All amateurs are welcome to check in.

The POT-LID CW Net is an informal slow-speed **CW** net sponsored and conducted by Ed Morgan, VE3GX, and meets every Sunday, except during July and August, at 11:00 hours on **3.620** MHz, to promote interest in CW and CW procedures.

The QCWA CHAPTER 70 Net meets every Thursday evening at 20:00 hours on repeater VE3TWO **147.300+.** You do not have to be a QCWA member to participate.

The Ottawa Valley VHF/UHF SSB Net is sponsored by the West Carleton ARC. Look for it every Tuesday night (except the first Tuesday of the month) around 21:00 on **144.250,** (roll calls after net on 50.150, 432.150, 222.150, and 1296.100.) Horizontal polarization is preferred.

VE3TEN

Tuning in the beacon so that it makes sense requires you tune to **28.175** on **cw** and read the tone that is there . The spaces between the elements are the higher tone. If that doesn't work, tune to **28.175.28** on **lower sideband** for better results.

Voice (VHF) 146.94/146.34 100Hz output tone
(UHF) 443.300/448.300

VE3TVA Amateur Fast Scan Television Repeater
Video/audio beacon & input 439.25 MHz (audio sub. 443.75)
Video/Audio output 914 MHz (FM)

IRLP Node 2040 146.94/146.34 (VE2CRA/VE3RC)
(Code 411 for info) (Code 204 for activity)
(Code 88 for time)
For further information please contact the Repeater Chair.

Note: The IRLP link is not connected to ECHOLINK. Please do not try to connect using the alpha keys on your keypad. It just confuses the operator.

Note: The IRLP link is disabled during the Capital City Net each Monday. It is disabled from 2000 to 2145 Mondays except for May to August when the link is disabled from 2000 to 2020.

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Minutes

The **OARC monthly meeting** was held on April 12th, 2006 at Ottawa City Hall, Ottawa, ON and was called to order at 19:40 by President Diane, VA3DB. About 33 were present including 3 guests.

Diane, VA3DB called the crowded meeting room to order; there were three guests and all signed our newly found guest book.

Graham Ide, VE3BYT

David Conn, VE3KL (Dave joined the club this evening)

Darren Hum, an aspiring ham.

Diane then solicited corrections for the last minutes. There was one correction.

One of our visitors last month was incorrectly identified as Frederic John Thompson, VE3UEB, it should have been Marc Poitras, VA3VEB. Apologies to both gentlemen.

Announcements:

Kris, VE3URL reported he is still looking for volunteers for the Tour Nortel coming up Sunday, May 7. A t-shirt and lunch could be yours! Contact him if interested (callsign@rac.ca)

OVMRC Simplex Contest is also on Sunday May 7th. Paul, VE3CPH mentioned that he has won two years running and he's not giving up the title without a fight!

RAC Technophile Contest. The Canadian Amateur is running a contest to encourage technical submissions. See TCA for more details.

May speaker topic will be on BPL (Broadband over Power Lines)

Dates to Remember

2006

Feb. 11,12	Canada Ski Marathon
Apr. 12	Homebrew Night
Jun. 14	OARC AGM and Elections
Jun. 24,25	Field Day
Jul. 1	RAC Canada Day Contest
Sep. 2	OARC Hamfest and RAC Forum
Sep. 30	Membership Renewal Deadline
Nov. 1	Joe Norton Award Subm. Due
Dec. 30	RAC Winter Contest

Home Brew. There were 13 hams with entries!

Dave Conn, VE3KL had a digital HF and 2m power meter good for 5mw to 30w. He was experimenting with microcontrollers

Doug Leach, VE3XK showed off his analog power meter designed to be used with transverters. He used QST from June 2001 as his inspiration and it included a power tap for use at high power. It is good to 500 MHz.

Graham Ide, VE3BYT created a UHF "Skew-Planar Wheel Antenna". It is omni-directional and circularly polarized. The 1964 ARRL Antenna Handbook and QST from 1963 have more information. View Graham's page at http://www.slvrc.org/902band/skewplanar.htm

Darren Hum & Ying Hum, VA3YH. Darren presented an unusual key made with Lego blocks. The contact is any conveniently available coin. Ying demonstrated a travel key made with a clothes-pin and parts from an old TI calculator. And finally Ying showed an intermod filter antenna made with coffee cans used to make a converted Radio Shack weather radio useful on

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Odds and Ends

The Ottawa Valley Mobile Radio Club is holding their Third Annual 2-m Contest on Sunday, May 7. For details see http://www.ovmrc.on.ca/news.htm.

The Manotick Amateur Radio group has put up a good web site with many interesting links and features including a calendar clock and an APRS station locator. See http://www.ve3rix.ca.

[From Doug Leach, VE3XK] Please join us Tuesday evening at 9pm for the Ottawa Valley Upper Frequencies SSB net on 144.250 MHz (USB). After the 2m net, there will be a brief roll call on 50.150 MHz, 432.150 MHz and 222.150 MHz. Given sufficient interest, we will also try 903.150 MHz and 1296.100 MHz to verify operation of your equipment on all those bands. If you cannot join the net, please visit the West Carleton web site http://www.wcarc.on.ca/ for this week's announcements (under Events).

Notes: Rochester runs a 2m net on Monday at 9 pm on 144.260 MHz. Montreal runs a 2m net on Tuesday at 8 pm on 144.240 MHz. Please join in on the 432 MHz Sprint on Thursday from 7 - 11 pm.

The Smith Falls Fleamarket takes place Saturday, May 13 sponsored by the Rideau Lakes Amateur Radio Club (formerly the Smith Falls Amateur Radio Club). Open for vendors at 07:00, public at 09:00. Public admission $3. For further information see http://ww.falls.igs.net/~rlarc.

Don't forget to enter RAC's Technophile Competition. An entry consists of a short, clearly written article describing a technique which you have used or invented yourself. There are monthly prizes and the grand prize is a one-year, free membership in RAC. See further details in TCA.

Hamfest Committee Sought

As I have announced at several of the monthly meetings, this will be my last year managing the OARC Hamfest. So we need to do some succession planning as no one would like to see the Hamfest, which I believe has gained an excellent reputation, wilt away. The Executive and I propose that a small committee be established in time for this year's Hamfest in order for the members to learn the ropes on the job. This year, I would lead the group, passing on my experience. It is then hoped that one of those committee members will step forward to manage next year's event, with the assistance of the committee, which I hope would also include myself.
If any are interested in getting involved in what really is a fun project, please let me know. I already have one individual who has expressed interest. I do hope that 2-3 others will step forward.

Greg Danylchenko, VE3YTZ

VE3YTZ@ rac.ca

Call for Nominations

Nominations are currently being accepted for the 2006-2007 OARC executive. Any position listed in the "Club Executive" section of the Groundwave is open for nomination. Elections will be held at the June Annual General Meeting.

All members in good standing of the OARC are invited to submit their nomination or be nominated. Please send an email to ve3cph@rac.ca for details, or for information by phone call 747-1551.

Paul Henry, VE3CPH
Nominations Chair

Ottawa Amateur Radio Club
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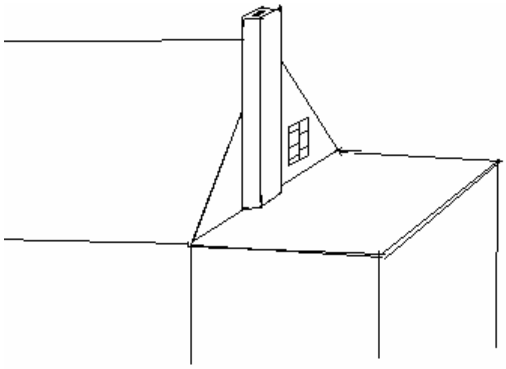
Mk's Words

What to do about 160?

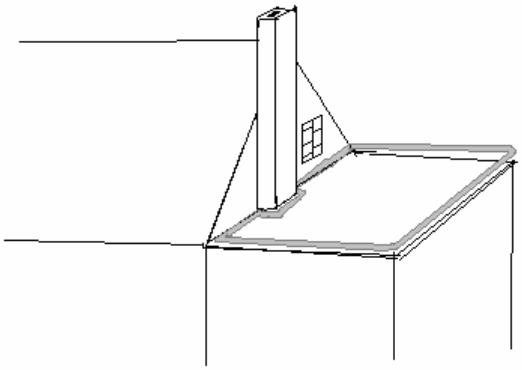
Now that the nights are approaching their shortest, and thunderstorm QRN is at its worst, I'm thinking about antennas for 160m again. Of course the fact that we are pretty far from freezing rain season might have something to do with it also.

For a long time I have pondered the question of an antenna for 160 on my little lot in the big city. I have decided the best place for an antenna is on the flat (but not level) spot on the roof at the back of my house, about 7 m up. I'm not looking for a great DX antenna, just something relatively quiet that will give me good local and NVIS coverage.

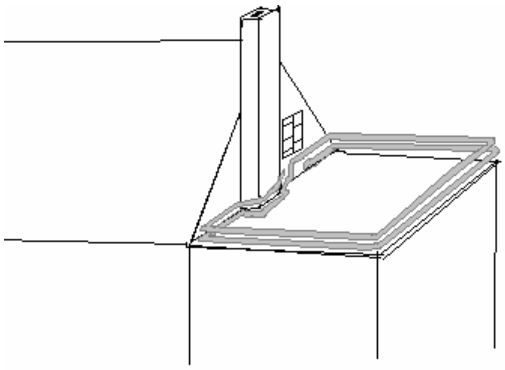


This is about what the space looks like. Imagine it with a laneway on one side and a house on the other side, with about 2m between my house and my neighbours.

The first plan was a one turn loop of aluminum tubing or pipe around the perimeter:



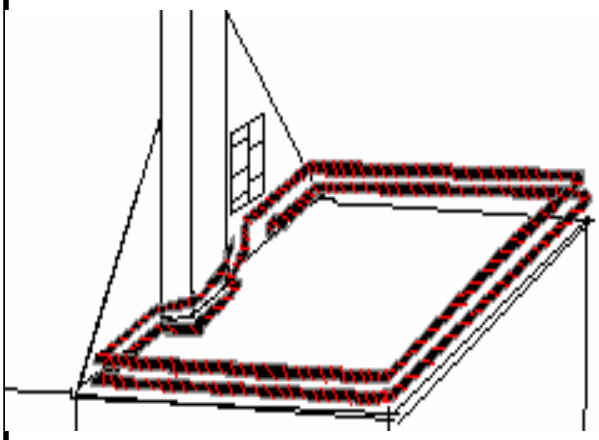
Then I figured I could double the efficiency if I made it two turns.



This went well, until I looked at the cost of the tubing. Pretty steep to invest in a project that may or may not perform.

Back to the drawing board.

How about plastic pipe, holding up wires. And at the same time, maybe wrap them as a spiral, adding inductance and increasing the effective length.



Will the dielectric losses cause it to be too lossy? How about the change from a 75mm pipe to a 2mm wire? Will the flex in the pipe cause the operating frequency to change in the wind by more than the bandwidth of the antenna? Back to the drawing board..

So if the design is going to be wire, why not use enough turns of the stuff to take the antenna out of the compact loop category and into the realm of

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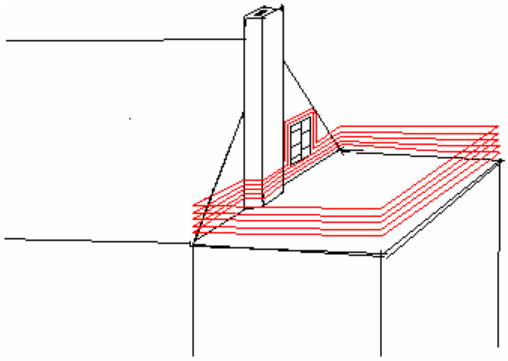
loop antennas that are short, but are still a significant fraction of a wavelength? The bandwidth should get better, maybe enough to overcome the effects of wind the tuning.



That is as far as I have got. I'm usually a "Leap before you Look" type of ham when it comes to antennas, but this project seems to have gotten into the "paralysis by analysis" condition. I still have to tackle capacitor type and the matching for this thing, but that can wait until I nail down the configuration. You folks know the analysis tools, and some of you have done some compact antenna work. What do you think? Which is the best bet? All ideas gratefully accepted.

..and what are YOUR antenna plans for this summer?

73.. mk VE3FFK

Brain Teaser

Congratulations to Brice Wightman, VA2BW, who got the correct answer to the April Brain Teaser. This was a tough one. The answer to "what is the voltage between A and B" is, it depends on how you measure it.

Voltage or potential difference between A and B is defined as the integral along the path from A to B of the dot product of the electric field vector E, and the differential path length dl, or $V_{AB} = -\int_A^B E \cdot dl$. For a conservative field $\int E \cdot dl = 0$ around a closed path from A to A. Therefore, for a conservative field the voltage V_{AB} depends only on the end points and not on the path of integration between them. Also, $V_{AA} = 0$.

However, for a non-conservative field, $\int E \cdot dl \neq 0$ around a closed path. Therefore, the voltage V_{AB} depends on the path of integration between A and B. Also, $V_{AA} \neq 0$.

In the given problem we have a non-conservative field since $\int E \cdot dl = -d/dt (\int B \cdot dA) \neq 0$ according to Faraday's law (the voltage induced in a loop is the time derivative of the flux linkage through the loop). If we integrate around the loop formed by the conductors and the two resistors then V_{AA} = 4V since the current is 1 mA through a total of 4 kohm resistance.

Thus, the answer to the question what is the voltage between A and B is that it is indeterminate until we specify the path. If the voltmeter is on the left-hand side you will get a different reading than if it is on the right-hand side of the circuit. Another way of looking at it is if the path lies along the conductor and R2 (3k), then the voltage is -3 V while if it lies along the conductor and R1 (1k), then it is 1 V.

You can set up an experiment to test this out using a solenoid and sine wave generator to generate the magnetic field.

Brice also sent me a few more teasers one of which is this month's teaser as follows.

What is the resistance measured across the body diagonal of a cube constructed of twelve one-ohm resistors?

Send your answers to ve3igj@rac.ca. Answer next month. Brice is not eligible!

(Continued from page 3)

2M.

Martin Gillen, VA3SIE had a "portable" magnetic loop, restricted capacitance antenna designed for 40 metres. It was made with fiberglass fishing rod and twin-lead.

Mike Kelly, VE3FFK spoke of his adventures teaching the Brownies and demonstrated a key made from an eraser and an oscillator made from a personal alarm. All his parts were from the dollar store.

Dave Green, VE3TLY brought a device he designed to test the new VE2CRA repeater controller. He also showed pictures of his cottage shack power solution using a solar panel and a home-built generator made from a lawnmower engine and a car alternator.

Wayne Getchell, VE3CZO designed and built a net-control controller. He had many bells and whistles as can fit in a small instrumentation box.

Bryan Campbell, VE3ZRK demonstrated his "Repeater System Test Jig". An extreme example of engineering simplicity.

George Roach, VE3BNO on behalf of **Bill Rothwell, VE3FGW(sk)** showed a binary digital clock built by Bill.

Ian Jeffrey, VE3IGJ had a number of antennas inspired by Ski Marathon requirements. They included a "rotatable" J-pole, a quad beam and a 6-element beam which can be mounted horizontally or vertically which he uses for satellite.

Diane Bruce, VA3DB produced a box of 2.4 GHz goodies. She had a crystal tester, a signal generator and a helical antenna inspired by one of Clare, VE3NPC's designs.

Clare Fowler, VE3NPC created a couple of known mismatched terminators built into N-connectors. He also showed his 2.4 GHz signal generator.

While the judges, Clare, VE3NPC and Richard, VE3UNW deliberated on the home-brew entry worthy of the "Clare Fowler Technical Achievement Award", the membership voted on a newly created "People's Choice Home Brew Award".

The winner of the OARC Technical Achievement Award goes to Wayne Getchell, VE3CZO.

The winner of the OARC People's Choice Home Brew Award goes to Darren and Ying Hum, VA3YH.

More Announcements:

Greg, VE3YTZ is still looking for Hamfest Committee volunteers. Contact him if interested (callsign@rac.ca)

Greg, VE3YTZ brought some old QSTs to give away, bundled by year. He has purchased the CD version.

Coffee Break

Diane, VA3DB solicited the crowd for Haves 'n' Wants. There were none.

The $20 50/50 draw was won by Rick, VE3IHI.

The meeting adjourned late due to the terrific home brew turnout at 21:40.

Signed Richard Hagemeyer, VE3UNW club secretary.

[The next page shows Richard Hagemeyer presenting the awards to the winners, Wayne Getchell and Darren and Ying Hum. Ed.]

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Every club needs one of these for Field Day. Complete construction details at http://www.antennalaunchers.com

Pneumatic Antenna Launching Systems
Pneumatic Antenna Deployment Systems (PADS)

RAC Advisory Committee on a New Entry Level Certificate

The RAC Board of Directors has authorized the formation of an Advisory Committee under the leadership of Midwest Director Bjarne Madsen, VE5FX, to examine whether Industry Canada should be asked to institute a new Entry Level Certificate for the Amateur Service in Canada.

The committee is considering the very successful entry level Foundation Licence that has been implemented in the UK and Australia to encourage youth to take an interest in science and radio and to promote growth in amateur radio.

The committee will seek input from Canadian radio amateurs as to what should be done in Canada. For the scope and details of the Advisory Committee's work, and how to contribute, see the details on the Latest News page of the RAC web site at http://www.rac.ca .

MEMBERSHIP APPLICATION / RENEWAL

Ottawa Amateur Radio Club, Inc.
Box 8873 Ottawa, Ontario K1G 3J2

O Renewal **O** New **O** New Ham (FREE if licensed in current membership year)
O Single ($25, $20 after Feb. 1) **O** Family ($30) **O** Junior ($15)
O Emailed PDF Copy **O** Mailed Copy ***Add $5.00 for mailed copy of Groundwave***.

(**Please note**: membership year is September 1 to August 31.)

Family Name:_____ First Name/Initials: _____

Address: _____

City: _____ Prov: _____ Postal Code: _____

Home Phone: _____ Work Phone: _____ Ext _____

E-mail address: _____@_____ (***For Groundwave mailing***)

Callsign(s): |_____| |_____| |_____| Fax: _____
Qualifications: **O** Basic **O** Advanced **O** Grandfathered
Year Licenced: _____

Other Family Members

Name: _____ Callsign(s): |_____| |_____| |_____|
Qualifications: **O** Basic **O** Advanced **O** Grandfathered
Year Licenced: _____

Name: _____ Callsign(s): |_____| |_____| |_____|
Qualifications: **O** Basic **O** Advanced **O** Grandfathered
Year Licenced: _____

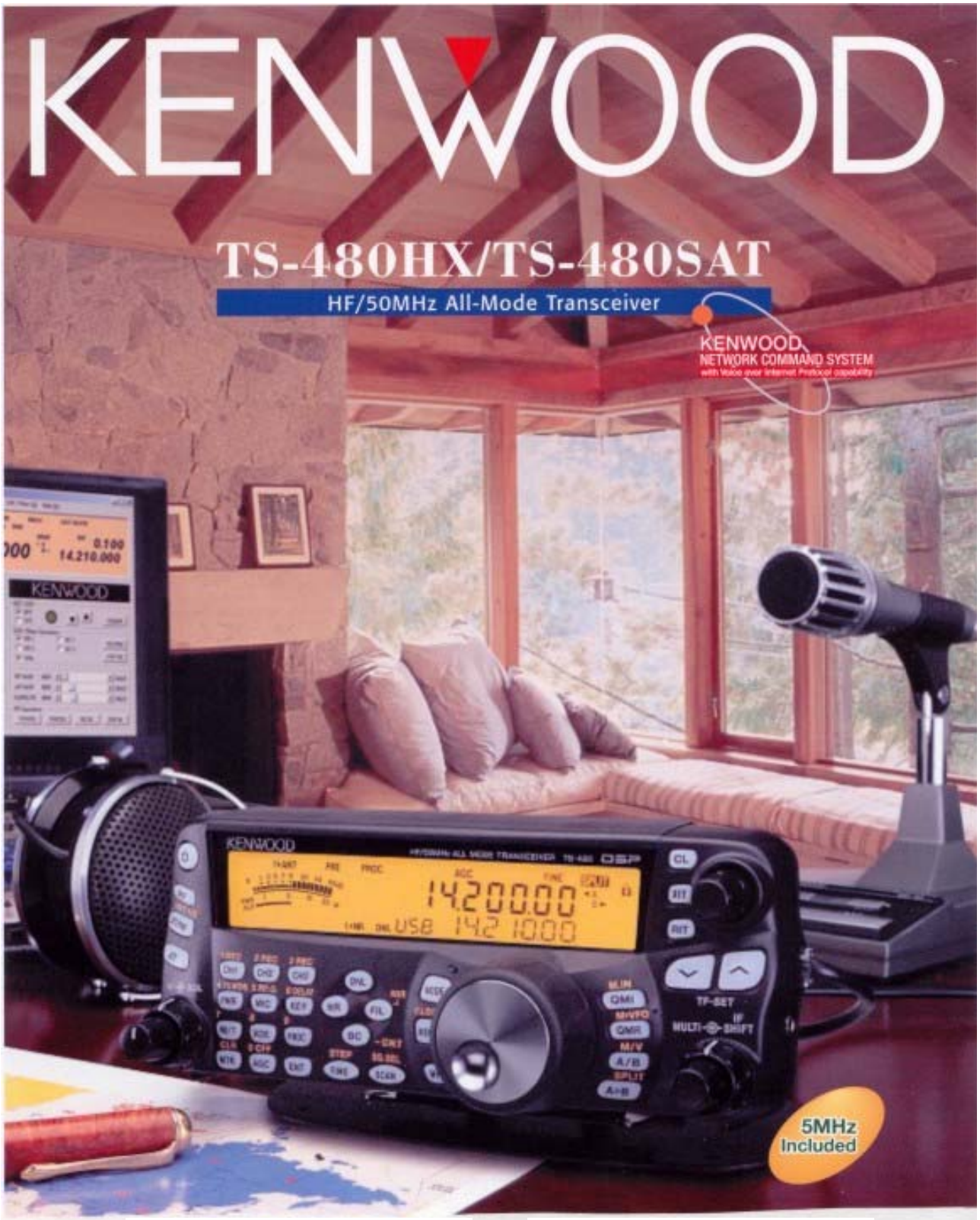
Name: _____ Callsign(s): |_____| |_____| |_____|
Qualifications: **O** Basic **O** Advanced **O** Grandfathered
Year Licenced: _____

Interests: _____

_____

Comments/Suggestions: _____

_____



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