

Ottawa Amateur Radio Club

# Groundwave

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*From the Editor:*

February 2013

The speaker for the February meeting is Dave Conn, VE3KL, whose topic is "The Lure of the Ladder Line and the G5RV Antenna".

Hope to see you at the meeting.

Ian Jeffrey, VE3IGJ, Editor



Check out our Web Page: [www.oarc.net](http://www.oarc.net)

**Next Meeting 7:30 pm, Wednesday, February 13th  
in the Colonel By Room at Ottawa City Hall**

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Ottawa Amateur Radio Club

# Groundwave

February 2013

*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 which is on the second floor 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 (except some holidays) at 20:00 hours on the club repeater **VE2CRA 146.940(-)** 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 the Capital City FM Net. To list items and make inquiries, got to <http://www.ncswapnet.ca>. You may reach Ed at 613-738 8924 or e-mail him at va3es@rac.ca.

**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 Monday evening at 19:30 hours on repeater **VE3MPC 147.150(+)**. 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.

*The Ottawa Amateur Radio Club bulletin "Groundwave" is published and distributed to club members. Publication dates may vary but it is hoped that the bulletin arrives at its destination before the events listed in it have expired. The bulletin is not published for July and August when meetings do not occur. Every effort is made to provide accurate information in the bulletin, however we are all human and mistakes can be made. The OARC accepts no responsibility for any damages that may result from this. The opinions expressed in this bulletin are those of the author.*

## **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 CTCSS required  
(UHF) 443.300/448.300

VE3TVA Amateur Fast Scan Television Repeater  
Currently off the air and looking for a new home.

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.

## Dates to Remember

## January Minutes

### Meeting Opens

2013-01-09 19:30 EST

### Guests

Dr. Nur Serinken, VA3JPG [?? Ed]

### Notices

Clare Fowler's wife, Mary Fowler, passed away. The club extends condolences to Claire and the family.

### Membership

Al is still taking memberships. See him to sign up to the club

### Recent Events

RAC Winter Contest

- 9 of us gathered at the Diefenbunker this year to operate
- 320,670 score, 967 QSOs, 63 multipliers

### Current Events

Club Project

Everything is ready to go. First meeting is at January 19th at Algonquin College.

Canadian Ski Marathon

- coming up soon, Feb 9th and 10th
- our 40th year in supporting this event
- looking for lots of operators again, come and join us
- EMRG is doing a 'check out your gear' day, Jan 26th
- contact Harold via email
- [www.radio-1.ca](http://www.radio-1.ca)

5MHz Band

- decision on status of 5MHz band is due in early 2013, postponed to mid 2013
- all indications are that it will go through.. just a matter of getting through the process

RAC National Executive Meeting

- Feb 9th and 10th

### Interesting Contacts:

### 2013

Feb. 9, 10	Canada Ski Marathon
Apr. 10	Homebrew Night
Jun. 12	OARC AGM and Elections
Jun. 22, 23	Field Day
Jul. 1	RAC Canada Day Contest
Sep. 7	Hamfest
Sep. 30	Membership Renewal Deadline
Nov. 1	Joe Norton Award Subm. Due
Dec. 28	RAC Winter Contest

VE3QN worked 5X0JM in Uganda on 20m SSB. He notes ZL4IR regularly checks in on 20m SSB.

VE3YTZ received 9th place in Canada in the low power, single operator, SSB category of the ARRL 10 Meter 2011 Contest.

### Meeting Topic

Brian VE3QN spoke on a century of regulating radio services.

### 50/50 Draw

\$11.00 to Dave VE3TLY

### Meeting Closed

2013-01-09 21:30 EST

Jean Richard

VE3DNI

### 3D Printing

Further to the 3D printing subject that came up at the December meeting, check out the web site <http://www.makerbot.com/> for information on a home version of a 3D printer.

3D printing can now also be performed in metal—stainless steel and other metals too. A web search will find lots of further information.



## mk's Word

There is a documentary DVD in the library called *Disconnected*. It's about three college undergrads who try, as a challenge, to give up computers for three weeks. It is interesting to see what they go through. First, they have to decide what they consider a computer, and what they don't. Is the phone a computer? Could they get someone else to read their email for urgent messages? They have to go through Facebook withdrawal, have serious difficulty with boredom, and have to figure out how to put paper into an electric typewriter (the first draft of this piece is being written on my trusty Royal Caravan manual paper swatter - pushing type into ribbon takes real work.) Not being engineering students, they don't have to figure out how to run a slide rule.

So, what does this all have to do with amateur radio at VE3FFK? Well, I got inspired by it all, and wondered what would happen if my primary communications and entertainment devices went away for a while. For a test, I decided to go without radio of any sort for 24 hours. Just to make it more of a challenge, I decided to pull the plug on electricity almost completely. Other than the 'fridge, alarms and outside lighting, no pushing electrons around. Ditch the Casio and wind up the Timex and we're off.

Giving up the internet and computers in general was like giving up cod liver oil. I didn't miss solitaire enough to break out the deck of cards. Giving up electric lighting, even flashlights, really slowed things down, especially after dark, although like any well prepared hamster, there are lots of candles around. Giving up television was no problem. I am my own garage door opener, so the remote for that was a non issue, as was the remote for the ceiling fan, since the fan is electric. The really difficult thing to get by with out was, you guessed it, RADIO.

Whether it was CBC on three metres, or VE3 on two, forecasts, news or just talk, the lack of radio made the biggest hole in my day. I could easily

give up the telephone (and once did for a bunch of years), but a day without radio was like 24 hours of darkness. It was an interesting experience. The first thing I noticed was the quiet. No transformers or ceiling fans humming, no background audio from a radio in another room, no once a second ticking of the battery operated clock. I took a longer walk than usual, read more than usual and did some yard work, but I kept wandering toward either the HF, 2m or broadcast band boxes. Somehow it seemed a harder habit to break than reaching for the light switch. Give it a try yourself some day. Just pick a time of year when you don't have to shut off the furnace, and when daylight is reasonably long. That's a challenge for another time.

73 and glad to be back on the grid  
mk

## How RCA Lost the LCD

Fifty years ago this month, RCA filed for its first patent on a new form of display that relied on a then obscure class of compounds called liquid crystals. Engineers at RCA's Princeton, N.J., central research facility had spent several years tinkering with these materials, but prior to that point, nobody was quite sure what to do with them. It seemed like RCA, the company responsible for the commercialization of both black-and-white and color television, was again poised to revolutionize the field of electronic displays by turning these liquid crystal displays into commercial products. Yet in 1976, RCA sold off its liquid crystal operation, abandoning what eventually became one of the most widespread technologies of the information age and the foundation of a multibillion-dollar industry.

For the full story see

<http://spectrum.ieee.org/consumer-electronics/audiovideo/how-rca-lost-the-lcd/>

utm\_source=techalert&utm\_medium=email  
&utm\_campaign=112112

## How to Build a Flying Saucer

Aero Sys Div, 1969 (RG 342 UD-UP 138; NND 63253; Boxes 35 and 58)

By Michael Rhodes

Recently declassified records from the Aeronautical Systems Division, USAF (RG 342 – Records of United States Air Force Commands, Activities, and Organizations) reveal some surprising, perhaps never-before-seen images:



### USAF Project 1794

The above illustration was discovered in the pages of a document titled "Project 1794, Final Development Summary Report" (d.1956) The caption reads "USAF Project 1794". However, the Air Force had contracted the work out to a Canadian company, Avro Aircraft Limited in Ontario, to construct the disk-shaped craft. According to the same report, it was designed to be a vertical take-off and landing (VTOL) plane designed to reach a top speed of Mach 4, with a ceiling of over 100,000 feet, and a range of over 1,000 nautical miles.



Fig 1 Cutaway of Aircraft Structure

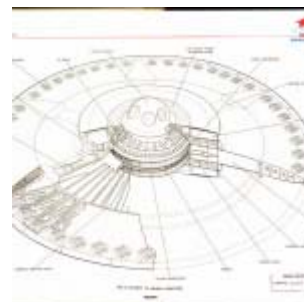


Fig 2 Cutaway of Aircraft Structure

Curiously, these pictures bear a strong resemblance to 'flying saucers' in popular science fiction films made during the years these reports were created: 1956 and 1957.

## Inventor of 555 Timer Dies

Hans Camenzind is well known for the design of the 555 timer, but he accomplished much more in his lifetime. A restless entrepreneur, he was constantly looking for the next project that would keep him intellectually challenged and was not bound by the constraints of his chosen field. He also never stopped coming up with new ideas and interests.

In 1969, he introduced the phase-locked loop concept to integrated circuits (A.B. Grebene, H.R. Camenzind, "Phase Locking As A New Approach For Tuned Integrated Circuits," *ISSCC Digest of Technical Papers*, pp. 100-101, Feb. 1969).

In 1971, he struck out on his own and formed a company around his new idea of semi-custom ICs, eventually growing the company to around 150 employees. The idea was pretty revolutionary at the time, reducing from six months to three weeks the time required to get first prototypes of a new component design.

(Continued on page 6)

## Equipment Burn-in

One characteristic of modern semiconductor electronic equipment is something called infant mortality. The failure rate of new electronic equipment is generally very low. However, if the equipment is going to fail, it is likely to do so within the first few hundred hours of operation. Failure within this time period is called an infant mortality failure and is usually caused by a flaw in a semiconductor or other electronic component. Simply having the equipment power turned on is often enough to cause this type of failure to occur. If the equipment does not fail in the first few hundred hours of operation, then it will probably provide many years of trouble free operation.

The consumer electronic industry generally warrants new electronic equipment for 90 days. A new computer, audio equipment, a television, DVD player, or similar equipment that fails in the first 90 days can generally be returned to the store where it was purchased and replaced with a new unit with few if any questions asked. However, if the device fails after the 90 day warrantee, then getting it replaced becomes much more difficult.

Understanding infant mortality and 90 day warranties suggests a procedure that probably should be used for all new electronic equipment. When you purchase a new electronic device, turn it on and run it continuously for two weeks. Two weeks will provide 336 hours of operation (14 days x 24 hours/day = 336 hours). Once a day cycle the power. Turn the device off, wait a minute or two, and then turn it back on. If after two weeks, your new equipment is still working, then you are probably through the infant mortality period and can expect years of reliable service. If things go badly instead and your new device fails, then by running the equipment continuously you have forced the failure to occur in two weeks, well within the 90 day warrantee period. The problem with not following this procedure is that you can become busy doing other things. 90 days goes by and you have used your new equipment for only a few hours.

Your warrantee has expired and you are still in the infant mortality period, not a good situation.

Burn-in procedures are used by most high-tech companies. For example, when I worked for GTE Government Systems, we had to supply the Government with records showing that we had burned in each system prior to delivering it.

I use this procedure on all electronic equipment that I buy, and it works! Last year I bought a 1 ¼ meter transceiver for ARES/RACES work. In addition to turning on the power, I made a point of transmitting at least once a day. Usually just transmitting my call. On the third day of burn-in a problem developed. Occasionally when I hit the push to talk key, the transceiver turned off (completely powered down). Not every time, it was a very sporadic failure, the worse kind. I returned the radio to Ham Radio Outlet and they gave me a new one without any hassle. The new radio made it through the two week burn-in and has been working great ever since.

Ken Larson, KJ6RZ

*(Continued from page 5)*

After selling InterDesign in 1977, he pursued his passion of reading and research. Then, after several years researching the origins of religion, he published [\*Circumstantial Evidence\*](#).

For full story see

[http://electronicdesign.com/article/analog-and-mixed-signal/555-timer-beginning-hans-camenzind-74715?NL=ED-03&Issue=ED-03\\_20121212\\_ED-03\\_559&YM\\_RID=ijeffrey@davis-eng.com&YM\\_MID=1359614&sfvc4enews=42](http://electronicdesign.com/article/analog-and-mixed-signal/555-timer-beginning-hans-camenzind-74715?NL=ED-03&Issue=ED-03_20121212_ED-03_559&YM_RID=ijeffrey@davis-eng.com&YM_MID=1359614&sfvc4enews=42)

By Peter Camenzind

Electronic Design Web Site

## **Lincoln**

Press Release re Steven Spielberg's "Lincoln" ,  
2012-11-25

Morse Telegraph Club, Inc.  
29150 Windsor Rd.  
Culpeper, VA. 22701

"Morse Telegraph Club members play a key role in Spielberg's Lincoln"

Members of the Morse Telegraph Club, an association of retired railroad and commercial telegraphers, historians, radio amateurs and others with an interest in the history and traditions of telegraphy and the telegraph industry played an important role in the production of "Lincoln."

According to James Wades (WB8SIW), International President of the Morse Telegraph Club, several members provided period telegraph instruments for use in the construction of the War Department Set. Most notably, Tom Perera (W1TP), Derek Cohn (WB0TUA), Kevin Saville (N7JKD), and Roger Reinke provided sufficient telegraph instruments to equip the sixteen operating positions portrayed at the War Department.

Jim Wilson (K4BAV) and his son, Matt Wilson had minor roles as Extras. Jim also worked with production staff and the actors to explain telegraph technology and the role of the telegrapher.

Jim Wades (WB8SIW) who was employed as a Technical Advisor for the production, worked with set designers over a period of months to develop the War Department telegraph scenes. Mr. Wades coordinated the process of procuring the necessary instruments and served as a historical consultant as the telegraph scenes were developed.

Nine of the sixteen telegraph positions depicted in the War Department were fully operational. These instruments could be operated in any combination through the use of a specialized computer program

and terminal units custom built by Mr. Wades for the process. When necessary, a hand key could be inserted in the individual telegraph loops so messages could be improvised.

Mr. Wades worked with the producers to develop historically appropriate message traffic that fit the sequence of the script. However, as the movie was edited, the final product evolved into a more generic facsimile of Morse traffic. However, those with a background in land line telegraphy will hear the occasional snippet of message traffic in the audio track of the movie.

"We are very pleased that Mr. Spielberg and his staff took the time to treat the telegraph with dignity and respect," said Mr. Wades. "It is a pleasure to be associated with a high quality motion picture that can genuinely be classified as not just entertainment, but as a work of art," he added.

The Morse Telegraph Club was founded in 1943 to perpetuate the knowledge, history and traditions of telegraphy. Chapters are located throughout the United States and Canada. Members are actively involved in a variety of projects including presenting talks on the history of telegraphy to historical societies, schools, and Amateur Radio organizations. Chapters throughout the US and Canada have worked with public museums to build historically correct telegraph exhibits. Members also regularly demonstrate telegraphy at historical events throughout North America.

Complete coverage of the making of the telegraph scenes in "Lincoln" will be published in an upcoming issue of "Dots and Dashes," the official journal of the Morse Telegraph Club.

For more information or interviews, please contact:

International President,  
Morse Telegraph Club, Inc.  
269-650-0215  
[jameswades@gmail.com](mailto:jameswades@gmail.com)

<http://www.morsetelegraphclub.org/>

## Canadian Ski Marathon

### North East Ontario Regional Directors Report for January, 2013

I want to wish you all a Happy New Year and hope 2013 is a good one for all of us. I hope you also got an opportunity to participate in the RAC winter contest this year.

Unfortunately we were flying from Edmonton to Thunder Bay via Toronto on the red eye and by the time I got home after being up all night I was not in a contest mood. But I have the fall back position of "wait until next year".



During the holidays I met briefly with Paul, VA3PC who was in Thunder Bay visiting family. He mentioned he is still looking for Bulletin readers for various parts of the province. If you check into a local HF or VHF net and want to help RAC this would be a great way to help. His email is [va3pc@rac.ca](mailto:va3pc@rac.ca)

We are also now into the 5 year extension that RAC obtained for Ontario Amateurs. The actual amended Ontario Regulation 366/09 can be found at [http://www.e-laws.gov.on.ca/html/regs/english/elaws\\_regs\\_090366\\_e.htm](http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_090366_e.htm). It is recommended that hams in Ontario carry a copy of the amended regulation and their Amateur Radio certificate during mobile operations.

In my last Directors report I started to mention some of the benefits of being a RAC member and I want to continue this topic this month. I am not a great DX'er but I do work some with my QRP rig and send QSL's to them. If you have priced an international stamp lately sending cards to the outgoing bureau is very cost effective. If you want to be DX and operate from a European country, you need to obtain a CEPT certificate available from RAC HQ.

If you looked closely at the last TCA you will see the audited financial report. For the first time in several years RAC is making a profit and will end the year of 2013 in the black with a small surplus. Canadian Amateurs are showing their support for RAC as we are still

CSM 2013 - 40 Years of Amateur radio

February 9 and 10, 2013 are the dates for the 47th Canadian Ski Marathon. This will be the 40th year that amateur radio has supported the event.

Each year we provide more than 25 amateurs for communications support for operations. We would like to see you out there.

You can get more information at <http://www.radio-1.ca/>

For those who have volunteered in the past you can update your record at : [http://db.radio-1.ca/volunteer\\_list.php](http://db.radio-1.ca/volunteer_list.php)

If you would like to volunteer this year and your name is not on the current volunteer list you can contact Harold at:

[radio1@admin2.ca](mailto:radio1@admin2.ca) or [va3unk@rac.ca](mailto:va3unk@rac.ca).

Hope to see a lot of you out this year. Bye for now,

Harold, VA3UNK, CSM Radio Coordinator

increasing our membership numbers. Thank you to all of you who join and continue to support RAC either as a Corporate, Regular or Maple Leaf Member.

We are planning to meet in Ottawa during the month of February to do some long term planning. I am asking for your input, where do you want to see RAC in the future? I envision a stronger RAC with more members and fiscal stability that allows us to speak to Industry Canada, Provincial Governments, Municipalities and other agencies to continue to move Amateur Radio forward in the future. Along with more members I hope we can have elections for positions as Amateurs will want to help RAC in a concrete way. Would you consider standing for a position in RAC

If you have any questions, concerns or ideas please email me at [ve3xt@rac.ca](mailto:ve3xt@rac.ca)

Bill Unger, VE3XT

## 2012-2013 Membership Application/Renewal

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

- Single \$25 (\$20 after Feb 1, 2013)
- Family \$30
- Junior \$15 (under 18 years of age)
- New Ham - Free (if licensed in current Membership year)
- Emailed *Groundwave*     Mailed *Groundwave* (add \$10.00)

**Please Note: Membership year is September 1, 2012 to August 31, 2013.**

Family Name: \_\_\_\_\_ First Name/Initials: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ Prov: \_\_\_\_\_ Post Code: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_

E-mail address: \_\_\_\_\_ (For *Groundwave* mailing)

Callsign(s): \_\_\_\_\_

Qualifications:  Basic     Advanced     Morse Code  
Year Licensed: \_\_\_\_\_ RAC Member?    Yes

### Other Family Members

Name: \_\_\_\_\_ Callsign(s): \_\_\_\_\_

Qualifications:  Basic     Advanced     Morse Code  
Year Licensed: \_\_\_\_\_ RAC Member?    Yes

Interests: \_\_\_\_\_

Comments/Suggestions: \_\_\_\_\_

All members who are in good standing on or before the December General Meeting will be eligible for a free one-time name badge. Members who wish a second or replacement badge may purchase one at the Club Price (approx \$7.50 plus tax). Ordered badges will be available in January.

Do you want an OARC NAME TAG?    Yes     Second or Replacement    Yes

ORDER DETAILS - As to appear on badge:

First Name \_\_\_\_\_ Call Sign \_\_\_\_\_