



The **NEWSCASTER**

The Official Publication of the Winnipeg Amateur Radio Club

April 2003

Free to Members

Home Brew Night

Date: April 14th, 2003
Time: 7:30 p.m.
Place: Sturgeon Creek Regional Secondary School

Other Important Dates:

Articles: April 29th - May Newscaster deadline

WARC:

April 27th - Flea Market
May 12 - Propagation explained - VE4SN
June 9 - Field day/Marathon primer
June 15 - Manitoba Marathon

WSC: June 9 - 20th Anniversary of WSCRC

ARES: May 10th - CanWarn Spotter training

Other: April 18th - World Amateur Radio Day
April 24th - MRS Annual General Meeting
June 15th - 25th annual Manitoba Marathon
July 11-13 - 40th Annual International HamFest
August 1-3 - Camp 807 Dryden, Ontario

Nets: Daily 01:00 UTC	MB Evening Phone net 3760 KHz
Daily 01:30 UTC	Prairie traffic Net (CW) 3660 KHz
Daily 02:30 UTC	Aurora #2 net 7055 KHz
Daily 14:30 UTC	MB Wx Net 3743 KHz
Weekdays 9:00am	Seniors morning net 147.390 MHz
Wed. 9:00 pm	Six Meter net 50.238 MHz.
Thursday 9:00pm	MRS Net 147.390 MHz +
Sunday 9:00pm	MRS Net 147.390 MHz +

The President's Call By Louis, VE4PLJ



Hello everyone. Well it looks like the cold snap has finely snapped, and it's about time. For everyone that attended the field trip to the Manitoba Electrical Museum. I think a good time was had by all. I found it very interesting listening to people talking about how things were when they were young. I have to admit that after hearing some of the story's. I had it made when I was a kid. I took a quick count of heads, and I think there was close to thirty people there. Don't for get everyone. This month is Home Brew night. So get those project up and running. See you all at the next meeting.

Winnipeg Senior Citizens Radio Club by Adam Romanchuk, VE4SN, President

It's been a long, cold wait but by all appearances, Spring has finally made an appearance. The snow is rapidly disappearing, the water is filling the streets and maybe a few basements as well and all cars are sporting a thick coat of mud, which is useless to wash off at this time of year. Just maybe I'll be able to repair the ladder line of my G5RV antenna, which has hung listless along the side of the tower for most part of the winter.

Perhaps the warmer weather has prompted some of our membership to rouse up from hibernation and attend Club

WARC: Executive for 2003

Past President	Darcy Wilson	VE4DDW
President	Louis Gaudry	lsgaudry@mb.sympatico.ca
Vice-Pres	John Pura	ve4qv@rac.ca
Secretary	Ruthie Maman	rmaman@mb.sympatico.ca
Treasurer	Fred Venema	fvenema@shaw.ca
Membership	Mark Blumm	ve4mab@rac.ca
Program	Glen Napady	ve4gwn@rac.ca
Director at Large	Rick Allan	rickalla@mts.net

events. Our monthly breakfast was held on March 13th at the Garden City Inn with a total of 35 persons attending. Winner of the free breakfast was Ken Fry, VE4KEF.

Our 4th annual Chili Cook-off held on February 26th also attracted 35 persons. Everyone had a great time and appetites were very apparent by the stack of empty containers at the end of the day. Once again, our perennial winner, Gladys Haldane-Wilson VE4GE took first prize. Second prize went to Helen Agar, XYL of John VE4EI and third prize to Kerri Barclay VE4EEE. Honourable mention was given to entries by Ruth Mills VE4XYL and Beryl Frederick, XYL of Past President Gil VE4AG. The three judges were Paul Champagne VE4OPC, George Gillespie VE4GNG and Irene Henderson, XYL of Treasurer Ed VE4YU. Congratulations to Alf Keber VE4ALF for coordinating a very successful event and to all who assisted in making it so.

The CW Course is now concluded with seven successful candidates who passed the required 5 wpm exam. They were; Natalie Hasell VE4NAT, Darwin Duckworth VE4DKY, Dave Carlsen VE4WXG, Ted Vidler VE4VID, Bruce Folkett VE4BMF, Kevin Podaima VE4AHN and Roger Stokes who has yet to obtain his call sign. Others who were close to passing will no doubt try again in the near future.

At the March Executive Board meeting two new members were welcomed into the Club. They were: Ed Oakes VE4OAK and Jerry Urquhart VE4JU. Total club membership now stands at 188.

That's about it for this time around. Keep dry everyone and good hunting on the bands.

**From the Planning Chair:
Glen, VE4GWN**



As I look out my window I and see the wet streets I find it hard to believe that just a short time ago it was sub-zero then add the wind it was COLD!!

For those of you who made it out to the Manitoba Electrical Museum last month, thanks for attending. Our guides, Ron Kirby and Alex McKenzie have been sent a thank-you letter. For you who missed, I think that if you have the time you should try to pay a visit. Some of the "old" appliances they had I remember seeing at my grand parents, or aunts' places as I grew up. This trip was at no cost to the club and the staff even put out some soft drinks for us at the end of the tour. I didn't know about the drinks until I was about to leave, so for those who left early and never received any, sorry about that. At this stage I should thank Derek, VE4HAY for making the suggestion that we visit the museum. Through an unfortunate coincidence Derek couldn't attend.

April 14th is HOME BREW night. As I say every April it is my favourite meeting of the year. Please bring your projects, and the necessary information to go with them, as there will be prizes to be won.

For closing I will remind everyone that the Flea Market will be on April 27th. **This year Radio World will be our sponsor and helping us with prizes. They will also have a table set up.** The location will again be at the Heritage-Victoria Community Club 950 Sturgeon Rd. just north of Ness Ave. THERE IS NO PARKING ON THE ROAD. The doors will open for VENDERS only at 0900, and the public at 1000 and no sooner! Ruth will start serving coffee at 0800.

I am still looking for ideas for next year (I have 3 so far) so please contact me: 861 8082, ve4gwn@rac.ca or on the VE4WPG repeater.

Industry Canada Amateur Centre
 Voice 1-888-780-3333 (toll-free)
 Fax: 1-613-991-5575
 Email: spectrum.amateur@ic.gc.ca
 Web: .. <http://strategis.gc.ca/radioamateur.e>

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<http://www.ve4.net/newsletters.html>

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386 Belvidere Street 885-9278
<http://www.escape.ca/~ve4jnf> ve4jnf@escape.ca

WPGARES**Jeff Dovyak VE4MBQ**

Our March General Meeting featured Gord Favelle a psychologist with Office of the Fire Commissioner. Gord gave us an very interesting presentation on Stress Management During Operations - thanks to David VE4DAR for making the arrangements. We are considering a type of WPGARES club jacket with RAC-ARES logo, either \$78 "Basic System Bomber Jacket" or \$93 "Deluxe System Bomber Jacket", add \$11 for 2XL-5XL. If interested please contact MBQ ASAP.

WPGARES Exercise 31 was run SUN 23 MAR 2003. It was a telephone fan-out exercise with a Mobilization Net based on a mock call-out. Participants were VE4s:GWN, VID, KU, XYL, RCJ, DAR, RST, YYL, FV, ACX, CDP, CRS, MGR, TRO, TJR, HK, MMG, MAB, EAR, SS, ESX, AJR, WTS, KEH, BSR, MBQ and VA4AA. Thanks to Manitoba Repeater Society for use of VE4WPG and Interlake Amateur Radio Club for use of VE4ARC.

CANWARN Spotter Training will be held in Winnipeg at PSPC, 4th floor 123 Main Street, SAT 10 MAY. Basic/Refresher Training at 0900h, Advanced Spotter Training at 1300h. Please register with MBQ by WED 23 APR if planning to attend, indicate whether you are attending morning, afternoon, or both sessions.

Richard Kazuk VE4KAZ is still looking for volunteer operators for Canadian Senior Women's and Men's Team Handball National Championships in Winnipeg 16, 17, 18MAY. Please contact Richard ASAP if interested, ve4kaz@rac.ca. It is not too late to volunteer for Amateur Communications for this year's Manitoba Marathon SUN 15 JUN. You can get in touch with Robert VE4RST if interested, 982-9600 or e-mail: ftphysio@mb.sympatico.ca The Marathon is probably the largest on-going Amateur operation in Manitoba, an excellent experience for your first or twenty-first public service event !

Garth Blumm VE4GWB is organizing Amateur operators for a kayaking event at Sturgeon Falls in the Whiteshell, 20-22 JUN. Contact Garth for more information,

333-2119 or e-mail: ve4gwb@hotmail.com , event website: www.PaddlingManitoba.com

Our next General Meeting is TUE 15 APR 1900h at Sir Wm Stephenson Library 765 Keewatin Street. Gord Snarr VE4GLS and Wayne Warren VE4WR (Manitoba ARES Exec) have been invited to discuss an emergency response exercise in Altona last fall.

This Month is
Home Brew Night
 April 14th

What have you decided to build ? If you start now, you should have it built in time for the big night. So start building and show your soldering prowess by bringing your project out on April 14th, to be judged by your fellow hams. If you are lost for idea's, check out these sites on home brew projects.

<http://homepage.tinet.ie/~ei9gq/homebrew.html>

<http://www.ku4ay.net/homebrew.html>

<http://www.ac6v.com/homebrew.htm>

<http://www.ac6v.com/homebrew.htm>

<http://wb0nni.dakotamade.com/>

<http://www.qsl.net/ve3rgw/dream.html>

<http://www.tecsolv.com/cq/>

The Electronic Hole Theory - Exposed as Fraud
 Submitted by Tom, VE4HQ

Have you ever been confused by the Electronic Hole Theory of Semiconductor Physics? I do know my stuff when it comes to electronics and have done a careful study of the illusory phenomenon of electron flow and here is what I have found. After years of research, I have come to realize that the hole theory may Not be Correct. My theory, which has been proven time and time again in service shops all across the country, is this.

*All Electronic Devices and Especially IC's
 Work on Smoke...*

Yes, that's what I said, Smoke! I have recently discovered that every electronic device manufactured and all IC makers, encapsulate a certain amount of Black Smoke in every one of their devices. This smoke is what does the work and performs the magic of electron flow inside the device. Undoubtedly, you have often noticed that a component will quit working when this encapsulated smoke leaks out. I have documented this many times and it conclusively proves my theory. After all, when a storm comes up, the sky gets black, The lightening starts to flash through the black clouds, which must be smoke. Because when the sky clears and is no longer black the lightening stops! So the Smoke is the answer to electron flow... Proof Positive: Have you ever been able to operate an electronic component after the Smoke leaked out? I rest my case.....

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Contest Calendar

April

SARL 80-Meter QSO Party		1700Z	Apr 3
MARAC County Hunters Contest	SSB	0000Z	Apr 5
SP DX Contest		1500Z	Apr 5
EA RTTY Contest		1600Z	Apr 5
Missouri QSO Party		1800Z	Apr 5
		1800Z	Apr 6
QCWA QSO Party		1900Z	Apr 5
YLRL DX to NA YL Contest	CW	1400Z	Apr 9
JIDX CW Contest		0700Z	Apr 12
QRP ARCI Spring QSO Party		1200Z	Apr 12
EU Spring Sprint	SSB	1500Z	Apr 12
UBA Spring Contest	SSB	0600Z	Apr 13
YLRL DX to NA YL Contest	SSB	1400Z	Apr 16
Holyland DX Contest		0000Z	Apr 19
TARA Spring Wakeup	PSK31	0000Z	Apr 19
ES Open HF Championship		0500Z	Apr 19
YU DX Contest		1200Z	Apr 19
GACW CW DX Contest		1200Z	Apr 19
EU Spring Sprint	CW	1500Z	Apr 19
Michigan QSO Party		1600Z	Apr 19
Ontario QSO Party		1800Z	Apr 19
Harry Angel Memorial Sprint		1100Z	Apr 25
SP DX RTTY Contest		1200Z	Apr 26
Helvetia Contest		1300Z	Apr 26
QRP to the Field		1500Z	Apr 26
Florida QSO Party		1600Z	Apr 26
		1200Z	Apr 27
Nebraska QSO Party		1700Z	Apr 26

May, 2003

AGCW QRP/QRP Contest		1300Z	May 1
IPA Contest	CW	0000Z	May 3
MARAC County Hunters Contest	CW	0000Z	May 3
10-10 Int. Spring Contest	CW	0001Z	May 3
Indiana QSO Party		1300Z	May 3
ARI International DX Contest		2000Z	May 3
New England QSO Party		2000Z	May 3
		1100Z	May 4
IPA Contest	SSB	0000Z	May 4
VOLTA WW	RTTY	1200Z	May 10
Oregon QSO Party		1400Z	May 10
FISTS Spring Sprint		1700Z	May 10
CQ-M International DX		2100Z	May 10
Anatolian	RTTY	1800Z	May 16
His Maj. King of Spain Contest	CW	1800Z	May 17
Baltic Contest		2100Z	May 17
CQ WW WPX Contest	CW	0000Z	May 24
VK-ZL Trans-Tasman	Phone	0800Z	May 24
QRP ARCI Hootowl Sprint		2000L	May 25
MI QRP Memorial Day	CW	2300Z	May 26
Six Club WW Contest		2300Z	May 30
Great Lakes QSO Party		0000Z	May 31

News from the Net

Microwave energy

THOMPSON, MANITOBA, CANADA. Telephone relay company night watchman Edward Baker, 31, was killed early Christmas morning by excessive microwave radiation exposure. He was apparently attempting to keep warm next to a telecommunications feed-horn. Baker had been suspended on a safety violation once last year, according to Northern Manitoba Signal Relay spokesperson Tanya Cooke. She noted that Baker's earlier infraction was for defeating a safety shutoff switch and entering a restricted maintenance catwalk in order to stand in front of the microwave dish. He had told co-workers that it was the only way he could stay warm during his twelve-hour shift at the station, where winter temperatures often dip to forty below zero.

Microwaves can heat water molecules within human tissue in the same way that they heat food in microwave ovens. For his Christmas shift, Baker reportedly brought a twelve pack of beer and a plastic lawn chair, which he positioned directly in line with the strongest microwave beam. Baker had not been told about a tenfold boost in microwave power planned that night to handle the anticipated increase in holiday long-distance calling traffic. Baker's body was discovered by the daytime watchman, John Burns, who was greeted by an odour he mistook for a Christmas roast he thought Baker must have prepared as a surprise. Burns also reported to NMSR company officials that Baker's unfinished beers had exploded. (April 1, 2003)



International HamFest
40th. Anniversary
July 11-13, 2003

At the International Peace Garden. This year is the 40th anniversary of the International Ham Fest and this year promises to be the best one yet. Each registrant will receive a monogrammed mouse pad as well as a chance to win one of many great prizes including HF and VHF radios (ht's and mobiles). Come on out for the weekend and take part in all the activities. I am sure there will be a great flea market as usual where one can pick up some great bargains for the ham shack. Let's break all previous attendance records and make this one the best yet. The registration fee is still only \$13.00 Canadian funds.

Polish Amateurs Gain 136kHz and 50MHz Bands

Chris, SP5HS, reports that the new Polish national frequency allocation table came into effect on the 27th of February. It allows for SP amateurs to use the 136kHz band, while the 50 MHz band is now allocated to amateurs in Poland on a Secondary basis, shared with government services. Thanks to the RSGB HF Manager, Colin Thomas, G3PSM, for sending in this news item

Amateur radio and the challenge of change

A review of amateur radio, past, present and future by two longtime radio amateurs has found that major changes are desperately needed to ensure the hobby can survive.

The authors, Jim Linton VK3PC and Roger Harrison VK2ZRH, through their research demonstrate that Amateur radio in Australia has been in decline for the past five or six years, and propose a way forward to address this serious situation.

Their paper, entitled "Amateur radio and the challenge of change," recommends major changes to the Australian amateur radio examination and licensing system. The theme of the paper, which will be published soon, is that the radio amateur community in Australia needs sustainable growth.

It is important to encourage people into the hobby who retain their licence and their interest in amateur radio. A hobby that continues to interest, challenge or reward them.

The paper states that it is not only a matter of amateur licensee numbers, but also the need to boost on-air activity by radio amateurs. With fewer radio amateurs each year, and very few newcomers getting on the air at every opportunity with their infectious enthusiasm, there is less activity.

Less activity results in existing radio amateurs finding amateur radio less interesting, and their activity drops off too. It has in recent years led some to leave the hobby and cancel their licence.

The Linton-Harrison Paper 2003 looks at Class-licensed Wireless Local Area Network equipment that has sparked an amateur-type boom in non-commercial wireless networking, throughout Australia.

Increasingly, the Wireless Local Area Network hobbyists are potential future radio amateurs - if the licensing system can be made attractive to them.

The paper also touches on the declining interest in science and technology and in technical education in Australia, and how amateur radio could help boost the attractiveness science and engineering as a career option for young people.

Linton-Harrison contend that the amateur licensing system and the examination syllabuses have become irrelevant because they are well behind the times. The whole licensing structure, the examination system and syllabuses need a fundamental rethink.

It is essential that a new system of examination for amateur licences must take into account our prevailing social conditions.

Australia must embrace the ITU Recommendation on amateur qualifications of August 2001 - and reflect these in its licensing system as quickly as possible.

Linton-Harrison propose:

An Unrestricted Licence, with all the licence conditions of the existing AOCIP; and

An Entry Level Licence, with licence conditions appropriate to the licensee's understanding of radio system technologies and operations, without unduly restricting the opportunity to learn by experience and experiment.

A new syllabus, and thus a new exam system, is needed for both.

The authors say the current AOCIP and Novice syllabuses are bloated well beyond the technical and operational basics needed to ensure essential understanding of elementary electronics and radio communication systems.

The Linton-Harrison paper does not adopt the framework of the British Foundation licence. They believe that Australia's new Entry Level Licence should not be strictly an "operators' licence" - a simple permit to use a type-approved transceiver.

Entry Level Licensees should be able to enjoy the thrill and satisfaction of operating a radiocommunication system under as many circumstances and conditions and on a wide variety of bands across the RF spectrum as they wish to explore.

This should be in keeping with long-standing amateur radio tradition and in line with the ITU definition, which says amateur radio exists for the purpose of self-training, intercommunication and technical investigations.

Under the Linton-Harrison proposal the Unrestricted licence would continue to enjoy the same licence conditions as the present (Unrestricted) AOCIP.

The authors propose that the conditions of Entry Level licensees should generally provide for access to most amateur bands from 1.8 MHz through to 5.65 GHz, all currently permitted transmission modes, and 100 watts transmitter output power maximum. Long experience with the Novice Licence has proved that there is little or no risk in them using 100 watts output power.

The time to act is now, before the World Radiocommunication Conference makes a decision on the future licensing requirements for amateur radio.

The amateur radio community and the Wireless Institute of Australia must be ready to take action to revitalize the amateur radio licensing system at the earliest opportunity.

If action is not taken, the continued decline of amateur radio will lead to its ultimate demise.

The Linton-Harrison Paper 2003 can be read at http://www.wiavic.org.au/download/linton_harrison_2003.pdf f --WIA-Victoria

Paul Harvey Plugs Ham Radio's Emergency Communications Role

Veteran ABC Radio Networks commentator Paul Harvey on March 19 offered some kind words for amateur radio. The mention was the second item on "page four" of his Paul Harvey Noon News and Comment program: "America's quiet warriors are the legion of ham radio operators, 700,000 of them, who are always at ready for backup duty in emergencies -- amateur, unpaid, uncelebrated, civilian radio operators, during and after floods and fires and tornadoes. After the 9/11 attacks, hams were indispensable in reuniting friends and families. Most recently it was they who expedited the search for debris after the disaster to the space shuttle Columbia, and right now, at this moment, they are involved in homeland security to a greater degree than you would want me to make public." The commentary's enigmatic and mysterious final sentence -- typical of Harvey's habit of leaving his listeners hanging -- apparently refers to the fact that many Amateur Radio Emergency Service (ARES) and Radio Amateur Emergency Service (RACES) teams have ramped up their alert status as hostilities get under way in the Middle East. [ANS thanks ARRL for the above information.] - *AMSat*

ARRL SURVEYING INTEREST IN HIGH-SPEED DIGITAL NETWORKS

The ARRL High Speed Multimedia (HSMM) Working Group is surveying the amateur community to gauge interest in IEEE 802.11b "Hinternet" activity. The HSMM Working Group encourages spread-spectrum communication modes including such protocols as IEEE 802.11b operating on Amateur Radio frequencies under FCC Part 97 rules. It's adopted Hinternet (a contraction of "ham" and "Internet") as a way to describe the technology. The HSMM Working Group's survey is on the ARRL Web site <<http://www.arrl.org/hsmm>>.

"The primary goal of the survey is to encourage amateurs to get on the air and start playing with this cheap digital microwave gear," says HSMM Working Group Chair John Champa, K8OCL <k8ocl@arrl.net>. Hinternet Radio Local Area Networks (RLANs) typically use direct-sequence spread spectrum between 2412 and 2437 MHz and are capable of simultaneously carrying audio, video and data signals. Hinternet aficionados adapt commercial 802.11b interfaces designed for Part 15 operation to amateur use.

The HSMM Web survey is brief and permits an opportunity for open-ended input. It asks if respondents have a IEEE 802.11 or "other high-speed digital station" running under Part 97. If so, amateurs are asked to register their stations. It also asks respondents to explain how they might use a high-speed digital system or network if they were to set one up.

Champa urged Hinternet-minded amateurs to also report what they've learned and any new applications to the ARRL IEEE 802.11b reflector operated by Texas A&M University <<http://listserv.tamu.edu/archives/arrl-80211b.html>>(and linked from the "HSMM Resources" menu under "Contacts"). Asked if the Hinternet is catching on within Amateur Radio, Champa simply points to the more than 15,000 hits to the HSMM Working Group's Web site. The Hinternet also is the focus of the article "High Speed Multimedia Radio" by Kris Mraz, N5KM, in the April 2003 issue of QST.

Hinternet proponent Mark Williams, AB8LN, of Milford, Michigan, says he envisions growth of amateur 802.11b operation to cover all large metropolitan areas in the US, not just the few miles some contend is the outer limit for such point-to-point connections. "This is just too easy," he says. "With some of the Amateur Radio pioneering that we are famous for, we should be able to push this technology to its limits--50, 75 and 100-mile links at 2.4 GHz." He said wireless networks dedicated to Amateur Radio stretching across states and linking hams everywhere with high-speed voice and video are possible.

"File-sharing and e-mail, network gaming and pop-up chat are just the tip of a titanic iceberg," he predicted.

Applications abound for public service work too. Amateurs recently involved in the Texas search for debris from the shuttle Columbia used a 802.11b high-speed system on ham radio to link the net control station in Nacagdoches with the Internet.

More information is available on the ARRL High Speed Digital Networks and Multimedia Web page <<http://www.arrl.org/hsmm>>
--ARRL

New Zealand to charge repeater fees

New Zealand Ministry has once again got Amateur Radio tangled up with their business operations. They have proposed fees for repeaters and beacons are which are unacceptable to the New Zealand Association of Radio transmitters. The proposal goes from zero fees to the proposed \$250-initial-fee with an on-going \$200-per-annum charge per repeater is a very significant policy change with serious and unacceptable implications. The zero fee for beacons and repeaters was introduced some years ago for good reason -- NZART

Encouraging Signs for 40-metre Band Realignment

The ARRL has reported that support is growing for 40-metre band 'realignment' plans favourable to amateur radio. With the World Radiocommunication Conference 2003 getting under way in about three months in Geneva, support is growing for two proposals to create a 300 kHz world-wide

40-metre allocation. The ARRL's David Sumner, K1ZZ, reports that, thanks to the efforts of IARU volunteers and others, more than 30 countries now have gone on record to support either one or the other of two favourable 40-metre realignment formulas. He said more support is needed, but he called the interim head count "a good start."

Most popular among the half dozen realignment schemes is so-called 'Method B'. This calls for a three-stage transition that would begin by allowing Region 1 and 3 amateurs access to 7100 to 7200 kHz on a secondary basis starting in 2005 and end with all ITU regions gaining access to 7000 to 7300 kHz by the end of 2009, with the top 100 kHz shared with fixed and mobile stations in Regions 1 and 3. Broadcasters world-wide would shift upwards to 7300 to 7550 kHz.

Such a change would mean an end to the necessity of operating split-frequency to work stations in Region 2 on 40 metres SSB --RSGB

Six motions for Federal Convention

A total of six motions are to be considered at this year's WIA Federal Convention, to be held in Adelaide. Four motions were about exams and licensing. The other two related to the WIA's centenary in 2010. In abbreviated form, the motions are as follows:

- I. To establish a task force to coordinate celebrations for the WIA's centenary.
- II. That the WIA apply for special callsigns to celebrate its centenary.
- III. That the WIA request the ACA to start preparations for the removal of the Morse Requirement in anticipation of the expected World Radio Conference decision on the matter later this year.
- IV. That exam question banks be published on the WIA web site.
- V. That the pass mark for Amateur exams be reduced from 70% to 60%.
- VI. The WIA also requests that the ACA introduce a UK-style Foundation Licence.

The motions will be discussed at the Federal Convention, set down for early next month, and we'll have more news on the outcome of this as it comes to hand.
--WIA- Tasmanian Division



Minutes for W.A.R.C. February 10, 2003 **Submitted by Ruth, VE4XYL**

Due to the field trip to the Electrical Museum last month, there was no meeting and therefore no minutes.

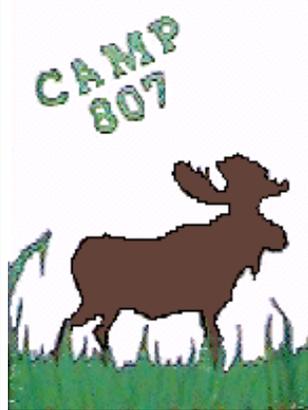
Nanostructures **by Vern, VE4VQ**

Extracted and translated from Science & Vie Oct, 2002 pp118-119

The "insides of today's radios, cell phones and similar devices, and of computers in their many forms, are now so tiny that lengths are measured in nanometres, where one nanometre (Nm) = 10^{-9} metres, i.e. One billionth of a metre. It was the invention of the tunnel-effect microscope in 1981 that made it possible to see individual atoms.

Two methods of cobining atoms and molecules are in use. The first one is called the self-assembly method. It uses specific molecules that arrange themselves automatically. The second method is based on tunnel-effect microscopy. This method allows the operator to move atoms one by one making use of a screen connected to the microscope that allows him to see what he is doing. The drawback to this system is that it is very slow.

Nanotechnology is also being employed in other fields two of which are lithography and manipulation of bacteria in order to produce new medicaments.



Camp 807
Dryden, Ontario
August 1st – 3rd,
2003

For over twenty years, the Amateur Radio clubs in various Northwestern Ontario communities have taken turns hosting this annual family event. The Camp 807 Hamfest incorporates the three favourite things of Northwest Ontario Hams - camping, barbecues and Amateur Radio!

<http://www.arsd.dryden.net/>

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**Dr. Ace's Double Bazooka
Coaxial Dipole Antenna Info
From Ace Ratliff, WH2T
Ace Ratliff**

There is a lot of controversy surrounding the Double Bazooka Coaxial Dipole. Its bandwidth claims have sometimes been exaggerated.

I give details of how to build two different versions of the Double Bazooka Antenna. One antenna uses all coax the other uses coax and twin lead for the antenna.

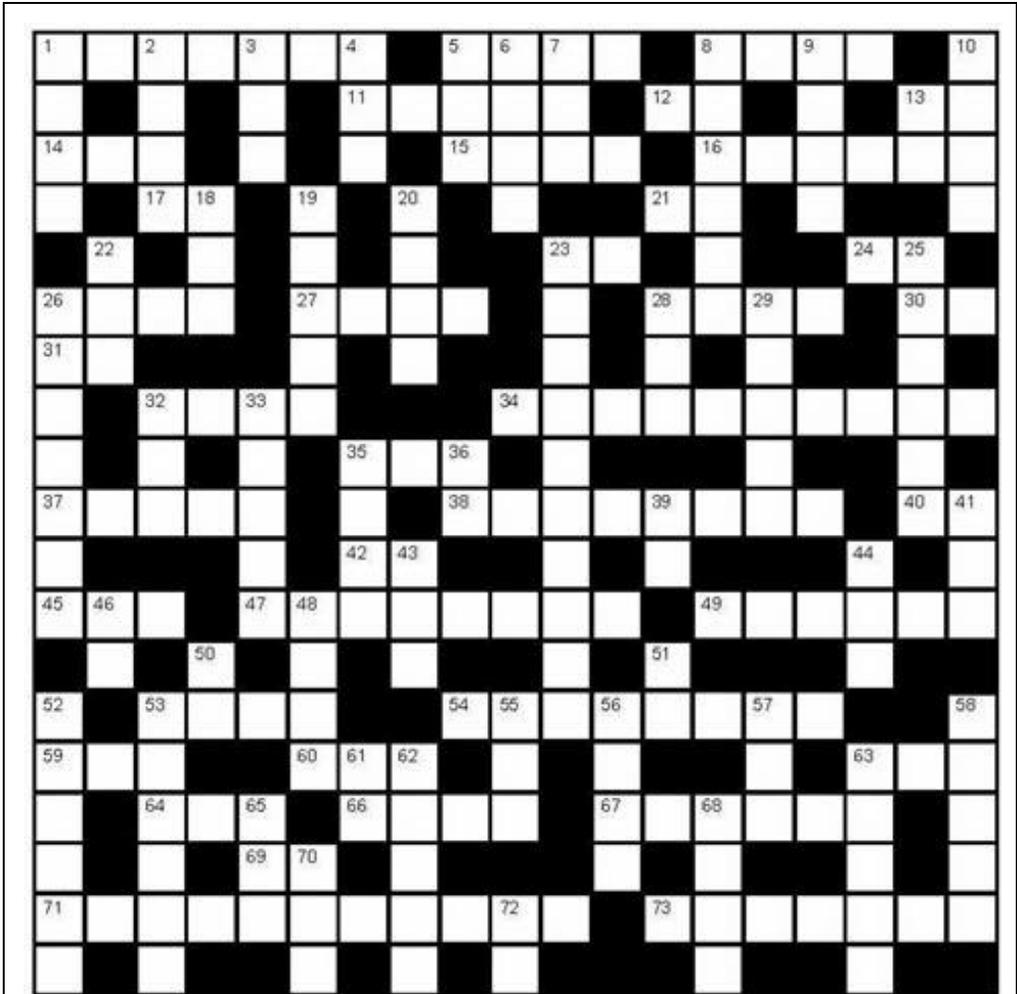
A DOUBLE BAZOOKA antenna is an extremely broad banded Half Wave Antenna which can operate efficiently across an entire Ham band with little change to the SWR. The BAZOOKA antenna design was developed by the staff of M.I.T. in the early 1940's for use by the U.S. Government as a radar antenna. It was modified for amateur radio use in the 1950's.

This unique design eliminates the need for antenna matching baluns and can be fed directly with 50 Ohm coax.

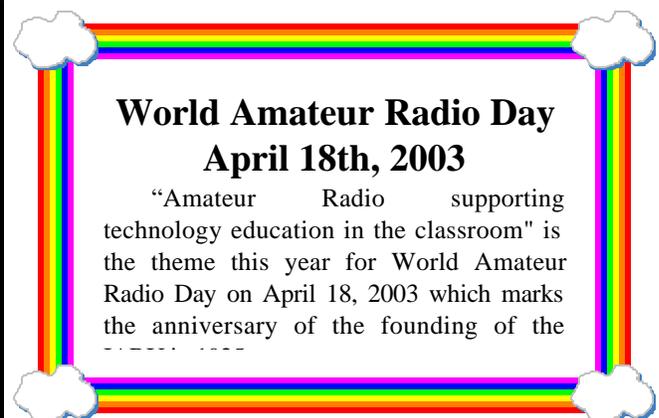
The DOUBLE BAZOOKA is 98% efficient and typically provides S.W.R. readings of less than 2:1 over the entire amateur band.

Since this antenna has no exposed metal wire static charges can not build up thus reducing noise by 6dB over antennas constructed of exposed wire.

The DOUBLE BAZOOKA antenna will handle full legal limit power with no effect to performance. The DOUBLE BAZOOKA is recommended to be mounted in an inverted "V" configuration for optimum results. However the DOUBLE BAZOOKA can be configured horizontally with equally good results. The 80 Meter DOUBLE BAZOOKA antenna will operate on 80 through 10 meters with the aid of an antenna tuner.



The clue for 61 Down is incorrect, leading the puzzle solver to enter "IT", but this won't work with the correct solution for 60 Across. 61 Down should be completed as "AT" - sorry about any frustration!



The following chart gives overall antenna lengths and height placement above ground for a single DOUBLE BAZOOKA.

Across

- | | |
|---|---|
| 1. Logarithmic ratio | 5. Smallest unit of information |
| 5. Slang for satellite | 6. High-speed telephone data service (abbr.) |
| 8. Satellite configuration | 7. Deepest type of sleep (abbr.) |
| 11. Thermal disturbance | 8. Operating from a car |
| 12. After Stop | 9. Rubber antenna |
| 13. Transverse Mode (abbr.) | 10. Analog cell phone system (abbr.) |
| 14. Also | 13. Terminal Unit (abbr.) |
| 15. Type of cell phone protocol (abbr.) | 18. Thanks (CW abbr.) |
| 16. Spare | 19. 6-meters is this type of band |
| 17. Phoned home | 20. Flexible portable antenna |
| 21. Laughing state (abbr.) | 22. Techs get ... privileges above 50 MHz |
| 23. Two-axis rotator (with 30 across) | 23. Dissipation of signal in the ionosphere |
| 24. Abbreviation for 1 Across | 25. Unattended station to observe propagation |
| 26. Solar energy | 26. Rapid change in amplitude |
| 27. Work these squares | 28. Make the highest score |
| 28. CW and SSB are-signal modes | 29. Over |
| 30. Other half of 23 across | 32. Tunes a radio (abbr.) |
| 31. Telephone (abbr.) | 33. Type of polarization that is lossy |
| 32. Award for grid chasers | 35. Micro-micro |
| 34. 2-1/4 second round trip | 36. Number (abbr.) |
| 35. Sensitive type of diode detector | 39. End of message (CW abbr.) |
| 37. Slang for atmospheric propagation | 41. DX means signals that go ... |
| 38. Full duplex relay | 43. Ready to copy (CW abbr.) |
| 40. Noise figure (abbr.) | 44. Type of synchronous satellite |
| 42. General call | 46. Intercept Point (abbr.) |
| 45. Slang for radio | 48. Trajectory of radio waves |
| 47. Occasional E-layer propagation | 50. Appended to new Extra class callsigns |
| 49. From outer space | 51. Measure of acidity |
| 53. Change from solid to liquid | 52. Squeezes |
| 54. Small, portable FM radio | 53. Millionth of a meter |
| 59. Interference from radio (abbr.) | 55. Top card |
| 60. Previously possessed | 56. Round microwave antenna |
| 63. Thyristor (abbr.) | 57. Laughing out loud (abbr.) |
| 64. Old abbreviation for Hertz | 58. Covering that lets air through |
| 66. Adjust a transmitter | |
| 67. Illuminated by the sun | 61. Information Technology (abbr.) |
| 69. Millimeter (abbr.) | 62. Channel in the atmosphere |
| 71. Methods and paths for radio waves | 63. Violent weather |
| 73. Polar zone in the ionosphere | 65. Microwave connector (abbr.) |

Down

- | | |
|--------------------------------|----------------------------|
| 1. Nobody on the band | 70. Manager (abbr.) |
| 2. Morse invented this | 72. Pipe thickness (abbr.) |
| 3. Type of coax connector | |
| 4. Microwave amplifier (abbr.) | |

**2003 Manitoba Marathon
Volunteer Request Reminder**

The planning for the 2003 Manitoba Marathon is again in full swing. This years Manitoba Marathon will be held on Fathers Day, Sunday, June 15th. I would like to thank those people who have already contacted me and have volunteered for this year's marathon. In the next few weeks the marathon organizing committee will be asking for more amateurs to volunteer their time. Announcements will be made through the WARC newsletter as well as MRS and WSC nets. Also, I will be contacting past volunteers directly by phone. However, if possible, do not wait until you are contacted. If you are considering volunteering or know that you will, I would appreciate that you contact me. You may do this by the following:

E-mail fphysio@mb.sympatico.ca

Phone 982-9600
(if answering machine please leave message)

Please leave the following required information:

- If and when you last volunteered for the Manitoba Marathon
- Your call sign and your name
- Your, last position posted at the marathon and if you wish to volunteer there again.
- Your phone number and time to contact you
- If you wish to be or not be posted with someone in particular
- Your T-shirt size

Also, if you know anyone that has not volunteered in the past, please let me know and I will be happy to contact them.

**Spring Flea Market
April 27th**

Table Info, Please contact VE4XYL.

Volunteers please contact Ed VE4EIH

Antenna Band	Length	Centre Height Above Ground	End Height Above Ground
17m	25.4 ft	25-35 feet	7-10 feet
20m	32.4 feet	25-35 feet	7-10 feet
40m	64.0 feet	25-35 feet	10-15 feet
80m	121.0 feet	40-60 feet	15-20 feet
160m	248.0 feet	60-90 feet	15-20 feet

If erected as a Dipole this antenna has horizontal polarization. This antenna can also be installed in an inverted V fashion "Center elevated, with 90 - 120 degrees between the legs" Then it will have vertical polarization and will usually out perform a dipole type antenna at distances of over 500 miles due to its lower angle of radiation.

The coaxial dipole uses the same type of coax for the feed line as the legs are made of or it will not work properly. I'll use the 75-80 Meter antenna as an example.

To build one of these antennas resonant at 3.920 Mhz. Measure out a 120 feet length of coax and cut, this will be the antenna. At the center of this cut off 1" of cover all the way around and remove. Now cut the shield all the way around and separate. Do not cut the dielectric. This is the point at which you will support the antenna so make a hanger from rope or other material. Take your feed line coax and cut back cover at one end so as to be able to separate the center conductor and shield. Attach the feedline center conductor to one side and the shield to the other side of the antenna coax shield at the center of the 120 foot long piece.

Next, measure down each leg 30' 6" from the center and cut a slot in the cover and shield, so as to be able to get to center conductor. At this point solder the center conductor to the shield on both legs. Now seal the center point and each leg where you soldered, with nonconductive silicon, so as to make weather tight. At the end of each leg strip the shield and center off and solder shield to the center conductor so it will not separate and seal.

The center conductor from leg to leg acts as a balun, thus making this antenna able to operate with a very low SWR across the whole band.

Double Bazooka Dipole Antenna Version #2

This adaptation used in amateur radio only uses coax for the broad banding portion of the antenna, while the remaining portion of the elements are constructed of twinlead or ladder line (see attached sketch below). Ladder line is preferable for its inherent strength.

This is a single band antenna. It will not radiate harmonics of your operating frequency. In addition, there is very little feedline radiation, which is great for those who have problems with TVI. Its broadband characteristic makes it ideal for 80 meters and 10 meters.

The Bazooka antenna consists of a half- wavelength of coaxial line with the outer conductor opened at the center and the feedline connected to the open ends. The outside of the coax and the ladder line operate as a half-wave dipole.

The inside of the coax elements, which do not radiate, arc quarter-wave shorted stubs which present a high resistive impedance to the feed point at resonance. Off resonance, the stub reactances change in such a way as to cancel the antenna reactance, thus increasing the bandwidth of the antenna. At the very center of the coax carefully cut away about one inch of the outer vinyl jacket.

Then cut the exposed shield all the way around at the center of the exposed area. Be careful that you do not cut the dielectric material or the center conductor in the process. Twist the two pieces of exposed shield into small pig-tails. These arc the feed-point terminals for the antenna. The center conductor of the feedline is soldered to one and the shield of the feedline to the other. Now solder the center conductor and shield together at each end of the coax antenna element. Solder the two ladder line wires to the end of the antenna element. At the other end of the ladder line, solder the two wires together.

The two conductors at each end of each piece of ladder line should connect to each other. "Don't connect one end to the other end of the ladder line" "Think of it as connecting the two conductors in parallel."

Use a square piece of plastic at the antenna center, drilling a small hole on each side of the coax, wrapping a small wire around the coax and through the holes and twisting the wire together on the other side. A small amount of quick setting epoxy secures the coax to the plastic support and prevents the wire from untwisting.

A coating of silicone rubber or epoxy seals and protects the feed-point from the weather. Do the same where the ladder line is soldered to the shorted end of the coax.

Short the center to shield at each end of the coax. Short the twin lead at each end and solder the coax/shield junction to the coax. Use 50 Ohm Coax feedline at least 66 feet long.

Total Overall length minus Coax length = Total Twin lead length

Example: 3.888 Khz

Total length 118.3 feet

Coax length 83.6 feet

Twin lead length 34' 8 1/2" feet total or 17' 4 1/4" on each end of the antenna

**DIAMOND
IMAGE**

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