



# *The* **NEWSCASTER**

*The Official Publication of the Winnipeg Amateur Radio Club*

<http://www.mts.net/~warc>

**January 2007**

**IRLP # 1066**

**VE4BB**

## SWOT

Date: **January 8th, 2007**  
Time: 7:30 p.m.  
Place: Sturgeon Creek Regional Secondary School

**And now for a word from the President ...**

**By Geoff, VE4BAW**

Sorry no article available at  
deadline time.

**Winnipeg Senior Citizens  
Radio Club News  
by Adam, VE4SN**



## Other Important Dates:

WARC: Feb. 12 - NVIS- redux  
Mar. 12 - Radio in Aviation  
April 9 - Home Brew Night  
April 15 - Flea market  
May 14 -  
June 11 -

WSC: 2nd Thurs. of month - Breakfast - Garden City Inn  
Dec. 5 - Christmas Party  
Dec. 20 - Annual General Meeting

ARES:

Other: April 18 - World Amateur Radio Day.

Nets: Daily 00:00 UTC	MB Evening Phone net 3747 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 9:00	Seniors morning net 147.390 MHz +
Wed. 02:00 UTC	MB IRLP Net 145.450 MHz +
Wed. 9:00 pm	Six Meter net 50.238 MHz USB
Thursday 9:00 pm	MRS Net 147.390 MHz +
Sunday 9:00 pm	MRS Net 147.390 MHz +

The busy Christmas season has passed and if I may, I would remind everyone that there are only 364 shopping days until the next one! The best part of this year was the rather un-seasonal temperatures that made shopping somewhat more bearable than in past years. I hope everyone had a very Merry Christmas and that Santa was good to all of you.

December was also a busy month at the Winnipeg Senior Citizens Radio Club. First, we had our annual Christmas Luncheon on December 5th. Eighty two persons were in attendance to enjoy a wonderful Turkey dinner prepared by Roman's Catering. Although this year's entertainment was cut back to some extent, we did have recorded music during mealtime. There was ample time for eyeball QSO's and much socializing. Santa also made his regular appearance to distribute gifts and prizes to lucky recipients. Ed Oakes, VE4OAK, was this year's nominee for the Club's Honour Roll award.

## WARC: Executive for 2006- 2007

Past President	John Pura	ve4qv at rac.ca
President	Geoff Bawden	ve4baw at rac.ca
Vice-Pres	GeorgeMoodie	geomoodie at yahoo.com
Secretary	Ruthie Maman	rmaman at mts.net
Treasurer	Pat Geisbrecht	ve4plg at mts.net
Membership	Mark Blumm	ve4mab at rac.ca
Program	Derek Hay	ve4hay at rac.ca
Director at Large	Raymond Hall	ve4rq at rac.ca

Our regular Monthly Breakfast was held on Thursday, December 14th at the usual place. Even though it was only nine days after the big feed, twenty three hungry folks showed up to enjoy a hearty breakfast and more socializing. The lucky winner of the free breakfast was Beryl Frederick, XYL of Gil VE4AG. Next breakfast is in the new year on January 11. Hope to see a good turn out!

December 20th was the day of our Annual General Meeting which was held in the Council Chambers of the Civic Building at 604 St. Mary's Road. Thirty members were present to participate in the election of a new Executive for 2007 as well as the election of a Board of Directors for 2007. The following is the result of the elections:

#### THE EXECUTIVE:

President	Harry Tapper, VE4HST
Vice President	Al Woodrow, VE4AEW
Treasurer	Tom Blatch, VE4HQ
Secretary	Willard Elliott, VE4WJE
Past President	Paul Champagne, VE4OPC (no election)

#### THE BOARD OF DIRECTORS:

Tom McRae, VE4TSM; Bruce Massey, VE4GR; Alf Keber, VE4ALF; Bert Andrews, VE4AND; Rolf Bandlow, VE4VZ; Pat Giesbrecht, VE4PLG; Ed Oakes, VE4OAK; Glen Ash, VE4ASH; Adam Romanchuk, VE4SN; Bill Shipley VE4BYL; Brian Rand, VE4CAN; Gil Frederick, VE4AG; Tom Faulkner, VE4PEG.

In closing, I wish everyone a healthy, happy and peaceful New Year!



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**IRLP Node 1066**  
 145.450 MHz -600 KHz  
 (VE4WRS)

Comments or if you just want to reach us :  
**Winnipeg Amateur Radio Club**  
**C/O VE4WSC**  
**598 St. Mary's Road**  
**Winnipeg, MB R2M 3L5**

## WPGARES

### By Jeff, VE4MBQ Emergency Coordinator

Ten ARES members participated in operating VE4WWO for 24 hours 02 DEC 2006 during the ARRL-NWS SKYWARN Recognition Day. We appear to have contacted at least 32 NWS stations, primarily via IRLP. For unknown reasons we continue to be the only CANWARN station that participates.

Five members participated in the familiarization session 28 NOV (VE4s DWG, VID, VZ and HK). Thanks to VE4s: HK, VID, GWN, KLM, VZ, DWG, RLF, ALW, MBQ and VA4AA. Special thanks to Tedd VE4VID for acting as our QSL Manager.

Many of our newer and experienced members attended the DEC General Meeting, the Power Point presentation on Call-Outs & Equipment can be downloaded from our web-site: <http://www.winnipegares.ca/educmtng.htm>

Thanks to ARES Auxiliary member Luke VE4WTF for lugging the ARES-owned gear in & setting it up and thanks to Marc VE4MCP for helping to get my projector "woken up" and getting current details on WTISS location at 17 Wing. I found the discussion during & after the presentation was quite useful and thought-provoking, hopefully the members in attendance concur!

Three members are scheduled for the Winnipeg Emergency Management or WEM Course in mid-JAN. At press time the reconfiguration for VE4EOC has not yet taken place. Two ARES members are scheduled so far to attend the 28 JAN familiarization session for VE4PSC in the Public Safety Emergency Preparedness Canada (PSEPC) Regional Office, we can still accommodate at least two more members.

We have been asked to provide volunteer Amateur communications for two events so far this winter: Festival du Voyageur Sled Dog Races 3&4 FEB, The Forks Scouts Canada Klondike Derby 3&4 MAR Camp Amisk

At press time we have eighteen volunteers for Sled Dog, need 25-30 each day; and only three for Klondike Derby, need 12-13 each day. Please see our web-site for more details and let me know ASAP if you can assist. Each of these events is a great winter communications experience!

Our next General Meeting will be TUE 16 JAN, Megan Gillespie from Environment Canada will be presenting on S.A.M.E. Weather Radio.

## Calendar

### January, 2007

ARRL Straight Key Night	CW	0000Z	Jan 1
SARTG New Year	RTTY	0800Z	Jan 1
SCAG Straight Key Day	CW	0800Z	Jan 1
AGCW Happy New Year		0900Z	Jan 1
AGCW VHF Contest		1600Z	Jan 1
AGCW UHF Contest		1900Z	Jan 1
ARS Spartan Sprint		0200Z	Jan 2
10 meter NAC	CW/SSB/FM/DIGI	1800Z	Jan 4
Original QRP Contest		1500Z	Jan 6
ARRL RTTY Roundup	RTTY	1800Z	Jan 6
EUCW 160m Contest		2000Z	Jan 6
	And	0400Z	Jan 7
Kid's Day Contest		1800Z	Jan 7
SKCC Sprint	CW	0200Z	Jan 10
Hunting Lions in the Air Contest		0000Z	Jan 13
Club PSKFest	PSK	0000Z	Jan 13
MI QRP January	CW	1200Z	Jan 13
SPAR Winter Field Day		1200L	Jan 13
Midwinter Contest	CW	1400Z	Jan 13
North American QSO Party	CW	1800Z	Jan 13
NRAU-Baltic Contest	CW	0530Z	Jan 14
Midwinter Contest	Phone	0800Z	Jan 14
NRAU-Baltic Contest	SSB	0800Z	Jan 14
DARC 10-Meter Contest		0900Z	Jan 14
SSA Månadstest nr 1	CW	1500Z	Jan 14
SSA Månadstest nr 1	SSB	1615Z	Jan 14
NAQCC Straight Key/Bug Sprint	CW	0130Z	Jan 18
LZ Open Contest		0400Z	Jan 20
UT Contest	CW/SSB	0600Z	Jan 14
UK DX Contest	RTTY	1200Z	Jan 20
Hungarian DX Contest		1200Z	Jan 20
North American QSO Party	SSB	1800Z	Jan 20
ARRL January VHF Sweepstakes		1900Z	Jan 20
Run for the Bacon QRP Contest		0100Z	Jan 22
CQ 160-Meter Contest	CW	0000Z	Jan 27
REF Contest	CW	0600Z	Jan 27
SARL Youth for Amateur Radio		0700Z	Jan 27
BARTG RTTY Sprint	RTTY	1200Z	Jan 27
UBA DX Contest	SSB	1300Z	Jan 27

### February

10 meter NAC	CW/SSB/FM/DIGI	1800Z	Feb 1
Vermont QSO Party		0000Z	Feb 3
10-10 Int. Winter Contest	SSB	0001Z	Feb 3
AGCW Straight Key Party	CW	1300Z	Feb 3
Minnesota QSO Party		1400Z	Feb 3
YLRL YL-OM Contest	CW	1400Z	Feb 3
Delaware QSO Party		1700Z	Feb 3
	And	1300Z	Feb 4

Mexico RTTY International	RTTY	1800Z	Feb 3
North American Sprint	SSB	0000Z	Feb 4
ARCI Fireside SSB Sprint	SSB	2000Z	Feb 4
RSGB 80m Club Championship	SSB	2000Z	Feb 5
ARS Spartan Sprint		0200Z	Feb 6
CQ WW RTTY WPX Contest	RTTY	0000Z	Feb 10
Asia-Pacific Spring Sprint	CW	1100Z	Feb 10
KCJ Topband Contest		1200Z	Feb 10
Dutch PACC Contest		1200Z	Feb 10
Classic Exchange (CX)	AM/SSB	1400Z	Feb 10
YLRL YL-OM Contest	SSB	1400Z	Feb 10
Louisiana QSO Party	CW/SSB	1500Z	Feb 10
British Columbia QSO Challenge		1600Z	Feb 10
FISTS Winter Sprint		1700Z	Feb 10
RSGB 1st 1.8 MHz Contest	CW	2100Z	Feb 10
North American Sprint	CW	0000Z	Feb 11
Classic Exchange (CX)	AM/CW/SSB	1400Z	Feb 11
ARRL School Club Roundup		1300Z	Feb 12
SKCC Sprint	CW	0000Z	Feb 14
NAQCC Straight Key/Bug Sprint	CW	0130Z	Feb 14
AGCW Semi-Automatic Key	CW	1900Z	Feb 14
RSGB 80m Club Championship	Data	2000Z	Feb 14
ARRL Inter. DX Contest	CW	0000Z	Feb 17
YLISSB QSO Party	CW/SSB	0000Z	Feb 17
SSA Månadstest nr 2	SSB	1400Z	Feb 18
SSA Månadstest nr 2	CW	1515Z	Feb 18
Run for the Bacon QRP Contest		0200Z	Feb 19
RSGB 80m Club Championship	CW	2000Z	Feb 22
Russian PSK WW Contest		2100Z	Feb 23
CQ 160-Meter Contest	SSB	0000Z	Feb 24
REF Contest	SSB	0600Z	Feb 24
UBA DX Contest	CW	1300Z	Feb 24
Mississippi QSO Party	CW/SSB	1500Z	Feb 24
OMISS QSO Party	SSB	1500Z	Feb 24
North American QSO Party	RTTY	1800Z	Feb 24
High Speed Club	CW	0900Z	Feb 25
	And	1500Z	Feb 25
North Carolina QSO Party		1700Z	Feb 25
CQC Winter QSO Party	CW/SSB	2200Z	Feb 25

## DIAMOND IMAGE

Floyd Rolph VE4 FDR

835 Cavalier Drive

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## News from the Net

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### ***RAC-Bulletin 06-017E Special Prefixes Authorized***

At the request of Radio Amateurs of Canada, Industry Canada has authorized all Canadian radio amateurs to use special event prefixes for the months of December 2006 and January 2007, to mark the 100th anniversary of the first AM voice broadcast by Reginald Fessenden on December 24, 1906. Reginald Fessenden, who was born in East Bolton, Quebec, on October 6, 1866, and lived until July 22, 1932, was the holder of more than 500 patents on a wide variety of subjects, and the inventor of radio as we know it today. He is particularly known for: the first voice transmission by radio in 1900, the first transatlantic two-way radio communications in January 1906, and the first radio broadcasts of entertainment and music in December 1906. On Christmas Eve, 1906, from a transmitting station in Brant Rock, Massachusetts, he sent a short program which included the song O Holy Night played on the violin and a reading from the Bible. A second short program was broadcast on December 31, 1906. Canadian radio amateurs are authorized to use the following special event prefixes during the period 1 December 2006 to 31 January 2007 inclusive:

CF for VA stations  
CG for VE stations  
CH for VO stations  
CI0 for VY0 stations  
CI1 for VY1 stations  
CI2 for VY2 stations.

### ***RAC-Bulletin 06-018E Operation by "Basic Plus" Amateurs in the USA***

Since Industry Canada removed the mandatory requirement for the Morse Qualification for access to the HF bands below 30 MHz on July 22, 2005, there has been confusion as to whether amateurs with a "Basic Plus" qualification (without Morse Code) are permitted to use the HF bands in other countries. A spokesperson for the FCC's Amateur Division has clarified the situation regarding the Reciprocal Operating Agreement between Canada and the United States:

- A Canadian Basic Plus licensed operator located within the US, US- controlled territories or US territorial waters has the same HF privileges as in Canada, insofar as those privileges do not exceed those granted to US Extra Class amateurs.

A Canadian licensed operator operating within the US or US waters must comply with US regulations for the Amateur Radio Service. Their operating privileges can be no more than those of a US Extra Class Amateur. This means

that Canadian amateurs in the US cannot, for example, use SSB below 7150 KHz on the 40 meter band, as they are able to do in Canada or in international waters. Industry Canada has confirmed that this statement is consistent with IC's understanding of the reciprocal operating treaty between Canada and the US. The situation in other countries varies from country to country. Many countries have still retained the Morse requirement for HF, and some countries continue to require a Morse qualification for HF operation by amateurs visiting from other countries. Basic Plus operators planning to visit countries other than the US and wishing to operate on HF while travelling should contact the regulatory authorities in those countries before leaving Canada.

### ***History Channel features Amateur Radio***

The History Channel plans to run a new 13-part series in early 2007 on the Secret Life of Machines. One of the episodes will be devoted to amateur radio, in particular amateur radio in space. Guests on the show will include Rosalie White of ARISS, an organization that carries out amateur radio contacts between school pupils and astronauts on the International Space Station. She will talk about the role radio amateurs have played in the SuitSat-1 experiment and explain how amateur radio satellites are designed, tested and launched. The amateur radio episode will also highlight the work of school pupils who built five types of crystal radios and compared their qualities. -- *WIA*

### ***FCC Drops Morse requirement***

Washington, D.C. - Today, the Federal Communications Commission (FCC) adopted a Report and Order and Order on Reconsideration (Order) that modifies the rules for the Amateur Radio Service by revising the examination requirements for obtaining a General Class or Amateur Extra Class amateur radio operator license and revising the operating privileges for Technician Class licensees. In addition, the Order resolves a petition filed by the American Radio Relay League, Inc. (ARRL) for partial reconsideration of an FCC Order on amateur service rules released on October 10, 2006.

The current amateur service operator license structure contains three classes of amateur radio operator licenses: Technician Class, General Class, and Amateur Extra Class. General Class and Amateur Extra Class licensees are permitted to operate in Amateur bands below 30 MHz, while the introductory Technician Class licensees are only permitted to operate in bands above 30 MHz. Prior to today's action, the FCC, in accordance with international radio regulations, required applicants for General Class and Amateur Extra Class operator licenses to pass a five words-per-minute Morse code examination.



Today's Order eliminates that requirement for General and Amateur Extra licensees. This change reflects revisions to international radio regulations made at the International Telecommunication Union's 2003 World Radio Conference (WRC-03), which authorized each country to determine whether to require that individuals demonstrate Morse code proficiency in order to qualify for an amateur radio license with transmitting privileges on frequencies below 30 MHz. This change eliminates an unnecessary regulatory burden that may discourage current amateur radio operators from advancing their skills and participating more fully in the benefits of amateur radio.

Today's Order also revises the operating privileges for Technician Class licensees by eliminating a disparity in the operating privileges for the Technician Class and Technician Plus Class licensees. Technician Class licensees are authorized operating privileges on all amateur frequencies above 30 MHz. The Technician Plus Class license, which is an operator license class that existed prior the FCC's simplification of the amateur license structure in 1999 and was grandfathered after that time, authorized operating privileges on all amateur frequencies above 30 MHz, as well as frequency segments in four HF bands (below 30 Mhz) after the successful completion of a Morse code examination. With today's elimination of the Morse code exam requirements, the FCC concluded that the disparity between the operating privileges of Technician Class licensees and Technician Plus Class licensees should not be retained.

Therefore, the FCC, in today's action, afforded Technician and Technician Plus licensees identical operating privileges.

Finally, today's Order resolved a petition filed by the ARRL for partial reconsideration of an FCC Order released on October 10, 2006 (FCC 06-149). In this Order, the FCC authorized amateur stations to transmit voice communications on additional frequencies in certain amateur service bands, including the 75 meter (m) band, which is authorized only for certain wideband voice and image communications. The ARRL argued that the 75 m band should not have been expanded below 3635 KHz, in order to protect automatically controlled digital stations operating in the 3620-3635 KHz portion of the 80 m band. The FCC concluded that these stations can be protected by providing alternate spectrum in the 3585-3600 KHz frequency segment.

Action by the Commission on December 15, 2006, by Report and Order and Order on Reconsideration. Chairman Martin and Commissioners Copps, Adelstein, Tate, and McDowell.

### ***Buyer beware - ICOM fakes out there***

VK3PC Jim Linton reports. "The latest to be hit by look-a-like rip-offs is Japanese radio communications manufacturer, ICOM, that reports counterfeits of its VHF IC-V8 transceivers and accessories that has appeared on the market. This popular 5.5 watt hand-held can be configured for either amateur or land-mobile applications. The Japanese manufacturer in a statement said "some of them look almost identical to genuine ICOM products" these products are also being sold through internet shopping sites at very low price. ICOM has obtained some and put them through its testing procedure to declare that in its view, they performed poorly, and of course certainly not up to company's high production standards. "These transceivers, battery packs and chargers may even cause safety problems," ICOM said, warning that it is not responsible, nor liable, for any damage or loss resulting from the use of counterfeit products." --WIA

### ***Grid Locator***

Laurent, F6FVY, has programmed a tool based on Google Earth so that you can click on any spot in the world and automatically the corresponding full grid locator is displayed. <http://f6fvy.free.fr/qthLocator/fullScreen.html> Just adjust the map to the desired resolution. Then click on the spot you want to know and a small window pops up with longitude, latitude and... the grid locator! --WIA

### ***APRS History Lesson***

Bob, WB4APR the creator of APRS gave an interesting APRS history lesson on the TasAPRS mailing list recently that provides some interesting background to the reasons APRS was created: APRS is NOT a vehicle tracking system (though some recent programs think that is all it is because that is all they do). APRS is a live digital network designed to exchange real-time digital information between participants in the net about everything going on, not just vehicle positions. APRS is supposed to give you everything there is to know about the ham radio network surrounding you. GPS tracking was only ADDED in 1992 when GPS got cheap. Given that APRS is a local digital real-time net, amateur radio nets take check ins and maintain a list of active participants in the net. In APRS there are two net-cycle times defined. One is 10 minutes for special events and local activities and the other is 30 minutes for routine operations or regional nets. This gives everyone a consistent expectation about the activities in their net. After 10 minutes at an event, you should see everything happening. After 30 minutes, you should see everything going on in the region. APRS is not an end in itself. It is the backbone net that informs everyone within the local net what is going on ham radio at that instant. NOT just vehicle tracking! --WIA

## **'Lost' volunteers shiver in search and rescue drill**

**By Michelle French**

*Extracted from the Winnipeg Free Press - Mon Dec 4 2006*

FALCON LAKE -- Plunging temperatures weren't enough to deter Gerry Desjardins from lying down beside a rock face off a beaten ski track yesterday afternoon at a Falcon Lake ski resort.

The 47-year-old was one of two "victims" who volunteered to get lost in the woods so ski patrollers could practice their search and rescue skills at an annual exercise and training event of the Canadian Ski Patrol Service.

The rescue mission brought together about 16 volunteers from the Red River Nordic Ski Patrol, six ham radio specialists, two search and rescue workers from Lake of the Woods, and two Falcon Lake-based emergency medical service staff.

The event kicked off just after noon as Desjardins left the ski chalet to find his hiding place in temperatures below minus 20 degrees Celsius.

Within 15 minutes, all four teams were off, checking resort facilities and then spreading out over several T-lines looking for clues.

After about two hours, rookie Sara Kuleza found Desjardins' abandoned skis and followed his footprints up a wooded hill to where he was hiding. In a surprise development, Kuleza also found another foot trail leading to a second female "victim" above the crest of the hill who had "injured" herself trying to rescue Desjardins.

Patrollers called for reinforcements and two rescue toboggans, both victims waiting for another hour as they were assessed for medical "injuries," laid on toboggans, carried down the hill, and taken back to the chalet by snowmobile.

As the clock rounded 3 p.m., both victims were back to base.

Unwrapped from all the blankets used to ferry him back to base, Desjardins headed straight for the chalet fireplace, kicking off his boots and acknowledging that his red face and uncontrollable shivering were no act.

## **Minutes for December 11th, 2006**

**Submitted by Ruthie, VE4CRS**

I'm in Toronto AND COMPLETELY FORGOT ABOUT THE MINUTES. I'll be back in the Peg Wed. night late and can only get them to you for the meeting. Sorry!! Just too involved in school and finally having some time off.

## **Program Chair By Derek, VE4HAY**



Sorry I did not make the Christmas party, but from all accounts there was a good time had by all who did attend. This month our illustrious president will be running a mini SWOT session so that we can define the future of the Winnipeg Amateur Radio Club. If you care about the hobby at all and WARC as well, then I urge you to come out and participate in this session. What is SWOT you ask.

Strength  
Weakness  
Opportunities  
Threats

What will happen is we will list points that the club faces in each of these categories and then put a weighted scaled to them in order of importance. The final product will be a road map to the future of the club. If you want the club to be there in future, please show up and join in the fun.

## **New Radio Club Station VE4GAR**

**By David, VE4DAR**

The late Tom Blair, VE4MT, taught science for 30 years at the school known today as the Gray Academy of Jewish Education. Tom was well-loved and respected for his teaching abilities and for the way he dealt with his students. Tom was more than an instructor; he was a friend, especially to those who most needed friendship and support.

Tom was also known in the amateur radio community as a skilled technician working at Prairie Communications. Most hams will remember Tom for his many appearances at WARC Flea Markets making good deals at Prairie's table. Tom's quiet manner may have resulted in his less well-known generous support of the Manitoba Repeater Society and amateur radio generally.

Prairie Communications has donated a complete 2m station to the Gray Academy honouring Tom Blair's memory. Rob Kaufmann, VE4GV, acquired the club station licence of VE4GAR for the school. Rolf Bandlow VE4VZ and David Rosner VE4DAR set up the station so it can be readily moved among the classrooms at the school. In time don't be surprised if you hear Ruthie Maman VE4CRS and the students saying, "This is Victor Echo 4 Gray Academy Radio!"



# Practically Yours

By Glen Ross G8MWR

Let me start with some object grovelling. In the June issue I gave a computer listing for calculating distances from Maidenhead locators. In line 320 you will find:

(1\$(4))-(ASC(1\$(6))) etc.

The equals sign should be replaced with a plus sign and all will be well.

## Diplexing

There are now several good dual-band (144/430MHz) antennas available. Unfortunately, many of the dual-band rigs which are available have separate antenna input sockets for each band. How do you cope with the problem of getting one plug into two sockets? The answer is a simple bit of circuitry called a diplexer. This is a device which sorts out the various frequencies and routes them to the appropriate rig. They are available commercially at a rather nasty price but those that I have measured, whilst safe to use, do not show up any too well on separation and also tend to have an unacceptable loss when placed in circuit.

## The Circuit

The circuit of a home-made diplexer which is well within the construction capabilities of the newcomer to home-brewing is shown in Fig. 1. It consists of three coaxial sockets and four series-resonant circuits. Hopefully you will remember that a series-resonant circuit has a very low impedance at resonance and a high impedance off resonance. How does the circuit work?

Consider a 144MHz (2m) signal coming in on the antenna socket SK2. The tuned circuit L2/C2 is resonant at 144MHz and, having a low impedance, passes the signal to the 2m output SK1. The tuned circuit L3/C3, being resonant at 433MHz, exhibits a high impedance at 2m and so stops the 144MHz signal from reaching the 70cm output socket SK3. On 433MHz the opposite action takes place.

## More Protection

The action already described will do a fair job but it can be improved upon. The tuned circuit L1/C1 which is connected from the 2m output to earth is

## SHOPPING LIST

### Capacitors

Trimms (see text)

5pF 2 C1, 3  
15pF 2 C2, 4

### Inductors

Air-spaced, self-supporting

L1, 3 3 turns 22s.w.g., 6mm dia., 12.6mm long  
L2, 4 5 turns 22s.w.g., 6mm dia., 20mm long

### Miscellaneous

Sockets, BNC, N, etc., as required (3 off), die-cast box; nuts, bolts, washers and solder tags.

series resonant at 433MHz and so any signal at that frequency which manages to find its way through L2/C2 is shorted to earth. As it has a high impedance off resonance, L1/C1 has no effect on the 144MHz signals. The tuned circuit L4/C4 is series resonant at 144MHz and removes any leakage at that frequency which reaches the 70cm output socket.

## Specification

How well does the circuit do its job? Looking first of all at the insertion or through loss, this was measured at less than 0.1dB on 144MHz, and was slightly higher at 0.17dB on 433MHz. When you consider that you need a loss of 3dB to lose one S-point of signal strength, these losses can be disregarded. The blocking of 144MHz at the 70cm output, and of 433MHz at the 2m output was greater than 60dB. This means an unwanted output of 1 microwatt for every 1 watt of power applied, which is more than satisfactory.

## Construction

The unit can be built in a small die-cast box, and a suitable layout is shown in Fig. 2. Trimmer capacitor types required will depend on the transmitter powers to be used. Ceramic piston and compression types are suitable for low powers, for higher powers airspaced trimmers (e.g. Jackson C804 series) will be necessary.—Ed.

Tuning the unit is simple. First connect the rigs to the correct output sockets. Until all the following steps are completed DO NOT TRANSMIT.

Tune the 144MHz rig to a strong signal and adjust C2 for the highest S-meter reading. Tune the 433MHz rig to a strong signal and adjust C3 for the best S-meter reading.

Now connect the 144MHz rig to the 70cm output on the diplexer and the 433MHz rig to the 2m output. Tune to a strong 144MHz signal and adjust C4 for minimum S-meter reading. Tune to a strong 433MHz signal and adjust C1 for minimum S-meter reading. For safety, run through all the above steps a second time then reconnect the rigs to the correct outputs and the job is completed.

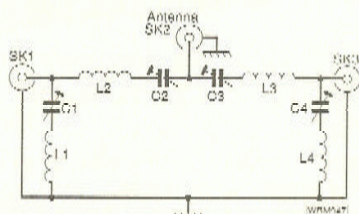


Fig. 1: Circuit diagram of the 144MHz/430MHz diplexer

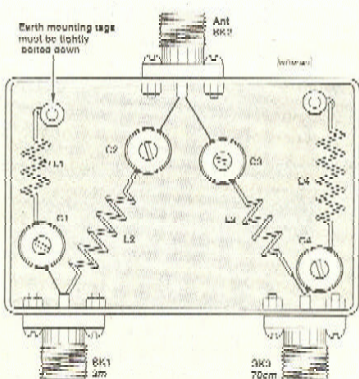


Fig. 2: A layout suitable for operation at fairly low powers



**QTX~**

**By Derek, VE4HAY**



***Did you know***

- ☛ April 18 is World Amateur Radio Day. The theme for 2007 is "Amateur Radio: Allowing youth to connect the world."
- ☛ Home brew night is only 4 months away - start your projects now !!
- ☛ Santa was not very nice to yours truly. I never received one article for the newsletters. And I would have thought that Santa or some other ham had heard my wish list.
- ☛ That right now I am just wasting space. Not having the minutes or the Presidents article takes a lot out of the newsletter, and the bottom of the page is another 5 inches away.
- ☛ The hotel has been booked for the upcoming Hamfest n 2008.
- ☛ Volunteers are still needed to sit on the hamfest committee. Contact VE4HAY for info
- ☛ We are looking for presenters for the 2008 Hamfest - Are you interested?
- ☛ I need to use a larger font to get to the bottom of this page
- ☛ **RAC Winter Contest is this weekend**
- ☛ Only 3 inches to go

Welcome to the following new Hams  
 VE4KAJ - Joshua Koffman  
 VE4DMH - Diane Marie Harrison  
 VE4KMM - Kim McKeever  
 VE4RGM - Robert McKeever  
 VE4SRH - Steven Robert Harrison  
 VE4WPL - W Pyumi San Daali Perera

Thank you to Dale, VE4DRC for getting the WARC IRLP system back on the air. VE4HAY donated a P3-700 computer to the project and Dale transferred the Linux system over to it and configures a few drivers. Then copied the IRLP files. The system is now back on the air, running on 145.450 MHz. Please review the guidelines on the WARC website for operations. And remember to **wait 2 seconds** before keying your MIC. This is an unspoken IRLP rule and must be obeyed.

The Best of DX to everyone in this New year.

73

There I made it to the bottom.....



Adam,  
VE4SN  
holding his  
Pioneer  
Award



Dick, VE4HK talking about  
Oscar Winner, David, VE4DAR

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[ve4mab@rac.ca](mailto:ve4mab@rac.ca) and we will switch you over to the electronic version of the newsletter.