



# The **NEWSCASTER**

The Official Publication of the Winnipeg Amateur Radio Club

<http://www.virtualmultimedia.com/warc/>

January 2001

Free to Members

vol: 2001-01

## “The Low Bands”

By Bill, VE4UD

**Date:** January 8th, 2001  
**Time:** 7:30 p.m.  
**Place:** Sturgeon Creek Regional Secondary School

### Other Important Dates:

Articles Jan 31 - Article Deadline February Newscaster

WARC Feb 12, Mar 12, Apr 9, May 14, Jun 14 Meeting schedule

WSC: Jan 17th - Board Meeting  
Feb - G.O.T.A.

ARES: Jan 16 Salvation Army - CAPT Heather Darrach  
Feb 10-11 Festival du Voyager Sled Dog Races

Other: Thursday 9:00pm - MRS Net 147.390 MHz +  
Sunday 1:00pm - MRS Net 147.390 MHz +

### WARC: Executive for 2001

|                |                 |        |          |
|----------------|-----------------|--------|----------|
| Past President | Norm Coull      | VE4EH  | 885-1692 |
| President      | Darcy Wilson    | VE4DDW | 783-0421 |
| Vice-Pres./ PR | Tom Mills       | VE4SE  | 837-6915 |
| Secretary      | Ruthie Maman    | VE4CRS | 589-6718 |
| Treasurer      | Sue Collings    | VE4SYM | 694-1525 |
| Membership     | Mariska Maguire | VE4MMG | 256-3143 |
| Program        | David Rosner    | VE4DAR | 489-4106 |
| Goodwill       | Vern Dutton     | VE4VQ  | 256-5346 |

### News from the Winnipeg Seniors' Radio Club by Gil Frederick, VE4AG

At the Annual General Meeting held on Wednesday, December 20, 2000 at the Clubrooms, the following slate of 19 Directors, for the term of January 1, 2001 to December 31, 2001, was elected by acclamation; the Past President's position is automatic, to be held in 2001 by Ed Henderson, VE4YU.

President: George Moodie, VE4GOM  
Vice-President: Gil Frederick VE4AG  
Secretary: George Gillespie, VE4GNG  
Treasurer: Gladys Haldane-Wilsone, VE4GE

Directors: Bert Andrews, VE4AND; Paul Champagne, VE4OPC; Roy Coldwell, VE4ROY; Norm Coull, VE4EH; Albert Diamond, VE4AX; Willard Elliott, VE4WJE; Gord Finch, VE4GF; Lila Forrester, VE4LIL; Alan Haldane-Wilsone, VE4ALN; Bryan Hodge, VE4IQ; Colin McBeath, VE4JCM; Bill McMenemy, VE4WCM; Ruth Mills, VE4XYL; Adam Romanchuk, VE4SN; and Bill Shipley, VE4BYL.

At the Board meeting just prior to the General meeting, the following were voted in as members of WSCRC: Alexander Parkinson, VE4APN; Bob MacIntyre, VE4ZX; Betty Andrews, VE4BTY; William Morris, VE4BCE; Paul Palace, VE4PXP; and David LeBlanc, VE4DHL. This brings our total membership to 183.

The next monthly breakfast will be held at the Garden City Inn, on Thursday, January 11, 2001 at 9:00 a.m. ALL breakfast meetings will be held at this location throughout 2001.

During 2000, average attendance was 30.

The next WSCRC Board meeting will be held on Wednesday, January 17, 2001 at 10:00 a.m. At this time, the selection of Committee Chairpersons, delegated by the President, will be ratified by the Board.

The auditors were appointed for 2001 – they are Albert Diamond, VE4AX and Joe Konkin, VE4WF.

During 2000, four club members became Silent Keys: VE4AM, Art Maxwell; VE4JGF, Jim Forrester; VE4KI, Jack Crolley, and VE4WV Irwin Williams

The Old St. Vital Biz outdoor Community Festival, held on Sunday, November 19, was again a success. The total of visitors to the clubrooms was down from last year's figure, but we still played host to just under 500 parents and kids, and many had a talk on 2m with Santa's helpers (our Club members). Those who took a part in handling the activities at the Club were: Bob Hall, VE4RJH; George Moodie, VE4GOM (together with his xyl Iris who helped dole out the cookies); Alf Keber, VE4ALF; Ed Henderson, VE4YU; Alan Haldane-Wilson, VE4ALN; Gladys Haldane-Wilson, VE4GE; Lila Forrester, VE4LIL (who took attendance); Colin McBeath, VE4JCM; George Gillespie, VE4GNG; Gil Frederick, VE4AG; Paul Champagne, VE4OPC; Albert Diamond, VE4AX; Harsha Godavari, VE4SAI; Bob Jacobs, VE4RCJ; Rolf Bandlow, VE4VZ, and Bert Andrews, VE4AND.

Our Christmas Party was a great success!. This year, we sold 108 tickets. We had a good meal, albeit with some serving confusion (a couple of our ladies pitched in to facilitate the salad servings), and the entertainment was fabulous! Besides a good singing performance by the Intermods, accompanied on guitars by Paul Palace, VE4PXP, and Ralph Lavalley, VE4RY, and a visit by Santa Claus (a.k.a. Gord, VE4GF). We had a solo by Paul (what a voice!), and a wonderful harmonica medley by Adam Romanchuk, VE4SN. As usual, "Dolf the Clown" showed up with an updated computer called "Hammy" (better pedigree) – his picture will be on our webpage in January - and we had a Gracie Allen/George Burns comedy routine by Bob Hall, VE4RJH and Ruth Mills, VE4XYL. Prizes were in abundance, and the raffle items, hand-made by Gladys, VE4GE, were as exquisite as usual – and resulted in quite a number of tickets being sold and a good income for the Club.

The Club will be involved with G.O.T.A. (Guides On The Air) again this winter (February)– look for full information in the "Sparks" being available in late January – also in the next edition of the Newscaster. Info will also appear on our web site, [www.pangea.ca/~ve4wsc](http://www.pangea.ca/~ve4wsc)



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

Comments or if you just want to reach us :

**Newscaster Editor**  
**Winnipeg Amateur Radio Club**  
**C/O VE4WSC**  
**598 St. Mary's Road**  
**Winnipeg, MB R2M 3L5**

Our Club is now a member of AMSAT. Another project that has been started is a Packet Station at the Club – John Agar, VE4EI is in charge of this.

And in closing, we hope you had a good start to the new year, and that all your wishes come true in 2001.

## OSCAR AWARD

**Tom VE4SE and Ruth VE4XYL**

It took us both by surprise, we the recipients of the OSCAR AWARD and the lovely comments of appreciation from the Winnipeg Amateur Radio Club and all the groups or functions that we serve under the Amateur Radio umbrella. We could not have earned this award without the help and co-operation of our fellow Amateur Radio operators. Participation has been rewarding to us, an excellent opportunity to be with and share in the work, fun and fellowship at the different events.

To all our friends at WARC, MRS, ARES, WSC and the whole Amateur Radio community, a hearty thank you.

Happy New Year and may 2001 be another fun year for all of us.

## Hints & Kinks

**By Ralph, VE4RY**

It never fails: you're re-assembling a piece of equipment that you've been working on and wouldn't you know, you're missing a screw or washer.

I've used all the traditional ways of trying to keep track of these small items, such as using empty pill bottles or small trays, but I've found that these are easily knocked off the bench, and the parts go flying and are sometimes lost forever.

A better way of keeping track of these tiny items is to press a golf-ball sized hunk of duct-seal or weather seal putty near the edge of the work area and just stab the parts into the putty as you remove them from the equipment. They'll stay put until you need them. No more of that hands and knees with a flashlight routine.

For long-term storage, pull all the parts out of the putty, seal them in a sandwich bag and place it inside the equipment.

## Minutes for W.A.R.C. December 11th, 2000

**Submitted by Ruthie, VE4CRS**

It was just so cold, your bones could snap, but, sure enough, 55 members and 17 guests braved the deep freeze and made it to the annual WARC Xmas Party. The warmth of the friendship and good cheer of all who attended, the punch and the eggnog, the party sandwiches and the dainties definitely compensated the miserable

cold outside. For those of you who couldn't make it, here's what happened.

David, VE4DAR was the Master of Ceremonies, and welcomed all. Darcy, VE4DDW seconded David's welcome with a greetings and a welcome of his own. Introductions followed. Many "better-halves" attended which was great to see.

Dick, VE4HK presented a "Worked All Winnipeg" Award to Eric, VE4EWN, one of our new hams. Congratulations, Eric.

David pointed out that this is our 81st WARC Xmas Party. Quite an achievement! Let's give ourselves a big hand of applause that we have come this far, and many wishes for another 80 more!

David especially thanked the four YL's who helped prepare the food. It was all Ruth VE4XYL's superb planning and pre/post preparation. Mariska VE4MMG, Sue VE4SYM and Ruthie VE4CRS were only Ruth's helpers.

Adam VE4SN presented the "Oscar Award" for Outstanding Service Concerning Amateur Radio to the most deserving couple of our club, Tom and Ruth Mills, VE4SE and VE4XYL. On behalf of the executive and all the members of WARC, we would like to congratulate both of you for your dedication and outstanding service.

Then it was time for food and refreshments, time for eating and shmoozing, and going back to the tables to replenish the plates! Believe me there was lots! Delicious!

Entertainment followed.

First, "Professor Flatus Flots" with an annual report from his "Flotsum Computer Company". (I dare anyone to ask me the true meaning of the word "flots").

"The Intermods" were up next, introduced by Bob VE4RJH. On the guitars, Paul VE4PXP (another new ham), and Ralph VE4RY. The conductor: - Adam VE4SN. The singers: - Alf, VE4ALF; Ruth, VE4XYL; George, VE4GNG; Gladys, VE4GE; Paul, VE4OPC; Ed, VE4YU; Sylvia and Rae. They crooned quite a variety of songs and we all enjoyed them very much. Thanks Intermods!

There was a special "solo" rendition of the "Xmas Blues" and "My Blue Heaven" by Paul, VE4PXP, vocal and guitar. Wow! Very impressive. For a moment I thought we were in New Orleans.

Bob, VE4RJH and Ruth VE4XYL gave their interpretation of George and Gracie Burns (from way back then when there was no TV), and we concluded the entertainment with a "Happy Birthday" to Alf, VE4ALF.

It was "hat and mug" contest time, but lo and behold, only one hat to judge. Eric, VE4EWN was the only brave contestant. (judges were the following VE4's: OKP, GF, YG). Two fantastic mugs

competed for first prize; - Pat, VE4PLG and Bob, VE\$MAQ.

(judges were Nancy Napady and Bill VE4WKB). The winner: - Pat. The runner-up: - Bob. Good show!

The membership attendance draw included ten prizes. The winners were the following VE4's: Don, GD; Ken, AFL; Ted, VID; XYL, Ruth; WF, Joe; CRS, Ruthie;

AA, AL; MAB, Mark; OKP, Otto; MMG, Mariska.

The loonie draw winners were: - Betty Andrews (another new ham), and Joe, VE4WF.

Congrats to all!

At this time, on behalf of the executive, we would like to thank all members and guests who braved the weather and attended. It was a great evening and our thanks go out to all of you. We also wish to extend our warmest wishes to all members and their families for the holiday season and a Happy New Year. Last but not least, special thanks to all members who helped make this evening possible.

## Program By David VE4DAR

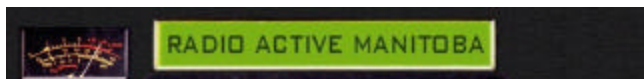
You've got your Basic Qualification and you're tired of 2 m. Now, you want to get onto the HF bands, so you're studying CW. Where will you hang out when you get the upgrade? Or, you've "done everything" and you're getting a little bored with the hobby. Now what?

Well, come to the WARC meeting on January 8 and be informed and challenged. Bill, VE4UD, will be talking about "The Low Bands" (160 and 80m). How do you put a 160m antenna in a city lot? What are some of the nets to check on 160 and 80m? Pose your own questions, too.

After a short meeting, there will be a 30-minute eyeball over coffee; and an interesting program. So phone a friend and car pool. See you at 7:30 p.m. at Sturgeon Creek Collegiate, on Ness Ave.

## Am I a good Amateur Radio Operator? by Eric, VE4EPC

- ☞ Check your rig's volume control before transmitting as many of us turn it down for various reasons and forget that it is turned down. It can be a little embarrassing after making a call and wondering why no one is answering.
- ☞ Hand held with a Rubber Duck antenna work's well Outside and in close proximity to a repeater but other locations such as inside a building or a vehicle may require increased power or move to a suitable location or both.



## [WWW.VE4.NET](http://WWW.VE4.NET)

### Promoting the Spirit of Radio

Bob Hrabi

VE4ZAP

- ☞ If you make a call and you are told you are noisy or unreadable check your equipment, your location and your power settings before continuing to have a conversation, it is very awkward for the receiving station to acknowledge what they cannot hear.
- ☞ With the use of the " Victor Alpha " prefix used in Canada by new and old Hams it is now even more important to use your full call sign and is preferred by most hams in phonetics.
- ☞ When operating on a repeater in a Group it becomes necessary more so to remember to slow down on your key ups and space your conversations to avoid a lot of doubling and to allow someone to get a call in.
- ☞ Keep in mind that not only Hams are listening to your conversations and even though we have the right to transmit on our designated frequencies, we still have to keep our conversations to not offend anyone.
- ☞ Although we as hams like the fact that we can and are acknowledged by the sound of our voice we still have to follow the rules and identify properly. After all it's what makes Hams what we are and it is the law.
- ☞ We seem to get into the habit of repeater operation as the only method available even when we are stationary and close to each other or we are following another ham in our vehicle. We can go simplex for this type of communication and free up the repeater for those that cannot.
- ☞ Hams seem to think a repeater is indestructible and will last forever, lets use our rig as a repeater and let a bunch of hams keep it keyed for a couple of hours with no dead time for it to cool down and then wonder how long it will last.
- ☞ Changes to the rules and regulations are now in effect ( 2001 ) as well as safety issues and RF emissions. Are you up to date with the changes or should you be enquiring as to how the changes effect your operations?
- ☞ Kerchunking or keying up with out modulation is an annoyance to all listening as well as stopping a radio or

scanner in scan mode. If you have to test your equipment or test to see if you can reach the repeater, identify your station so everyone listening knows you are a Ham using the equipment.

- ☞ Remember we have a gentleman's agreement .to not include Politics and Religion in our conversations. There may be some other things we have to watch what we say, give a little thought before you say something you may regret.

### **Winnipeg ARES Report** by Jeff, VE4MBQ - Winnipeg EC

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We have finally closed off some administrative odds and ends. All of the ARES golf shirts from September have finally been picked up by the buyers, the three extras were purchased as well. The unsold Sherlock Guides have been returned to the publisher, if you did not bother to buy one from WPGARES at the discounted price you can now buy one from any store at the full price plus tax - the 6th Edition IS our official map reference now. Our telephone fan-out has been updated - thanks to Michael VE4MJM and Pat VE4PLG for their years as "phoners", Dave VE4DAR has taken over MJM's list (EIH is alternate), Bill VE4DL has taken over PLG's list (WTS is alternate).

Our December meeting featured Dr Gord Giesbrecht from the U of M Human Performance Lab. Gord is a professor of Thermoregulation and spoke about his experiences coping with the cold on his two treks of Lake Winnipeg - "The Almost-Scott Expedition". Gord is planning another trip in February with a multi-national team including CF and USN personnel. The web-site for his trip will be: [www.umanitoba.ca/outreach/lakewinnipeg](http://www.umanitoba.ca/outreach/lakewinnipeg)

We are putting together a team of ARES members to operate VE4EMO if required in the coming months, there is still room for one or two more volunteers. A Simplex Test Net was conducted FRI 22DEC from VE4EMO to look at performance concerns with the station's TM-V7A - it is not performing as we'd wish in terms of sensitivity and intermod rejection. A comprehensive report on the test has been sent to Manitoba ARES Executive for action. Thanks to the seventeen who participated, your time was a great help: VE4s: WTS, DAR, RCJ, ESX, DL, YU, AND, AJR, MMG, WF, YYL, EIH, HGD, WR, GLS, MBQ and EM235!

We will once again be covering Festival du Voyager Sled Dog Races 10,11FEB. Apparently they will be held at Bird's Hill Park due to the unsafe ice conditions on the Red River. Another eight or so volunteer operators are still required, maybe with the change in location we might get some interest or "mutual aid" from our neighboring units. Please contact MBQ if interested.

An update to the WPGARES Emergency Plan was distributed at our November meeting, if you have not received one yet please attend the January meeting! Our next meeting is TUE 16JAN 1900h at Sir Wm Stephenson Library 765 Keewatin Street. Guest

speakers will be CAPT Heather Darrach and John Gowron from The Salvation Army, they will be talking about TSA Emergency Services.

A familiarization session for WPGARES members only will be held at the City of Winnipeg Emergency Operations Centre (VE4EOC) on TUE 27FEB. 1900h for surnames A-L, 2000h surnames M-Z. ARES photo-ID is a MUST.

## Contest Calendar

### January 2001

|           |           |                                   |
|-----------|-----------|-----------------------------------|
| 01        | 0000-2400 | CW ARRL Straight Key Night        |
| 01        | 0000-0100 | CW/SSB AGB "New Year SnowBall" 01 |
| 0800-1100 |           | RTTY SARTG New Year Contest       |
| 01        | 0900-1200 | CW AGCW Happy New Year            |
| 01        | 1600-2200 | CW/SSB HangOver Hustle            |
| 06-07     | 1500-1500 | CW AGCW-DL QRP Winter Contest     |
| 06-07     | 1800-2400 | Digital ARRL RTTY Roundup         |
| 06        | 1800-2400 | SSB Kid's Day Operating Event     |
| 06        | 0500-1000 | CW/SSB Old New Year Contest       |
| 06-07     | 1800-0600 | CW North American QSO Party       |
| 12-14     | 2200-2200 | CW Japan Int'l DX, Low Bands      |
| 13-14     | 0000-2400 | CW YL-ISSB QSO Party              |
| 13-14     | 0700-2359 | CW Michigan QRP Club CW Contest   |
| 13-14     | 0900-2100 | SSB/CW Hunting Lions on the Air   |
| 13-14     | 1800-0600 | SSB North American QSO Party      |
| 20        | 1200-2000 | CW LZ Open Contest                |
| 21        | 0000-2400 | CW HA DX Contest                  |
| 26-28     | 2200-1600 | CW CQ W W 160m Contest            |
| 27-28     | 0600-1800 | CW REF                            |
| 27-28     | 1300-1300 | SSB UBA                           |

### February 2001

|       |           |                                  |
|-------|-----------|----------------------------------|
| 03-04 | 0000-2400 | SSB/CW Vermont QSO Party         |
| 03-04 | Periods   | SSB/CW New Hampshire QSO Party   |
| 03-04 | 0000-2400 | SSB/CW Maine QSO Party           |
| 03-04 | 2 periods | SSB/CW Delaware QSO Party        |
| 03-04 | 1800-0600 | SSB/CW/ RTTY Minnesota QSO       |
| 03-04 | 1800-2400 | RTTY Mexican RTTY Contest        |
| 03    | 1600-1900 | CW AGCW Straight Key             |
| 03-04 | 1700-0500 | DigitalNorthWesQRP Club Digital  |
| 03-04 | 1600-0400 | CW/SSB FYBO Winter QRP Field     |
| 04    | 0000-0359 | SSB North America 'Sprint'       |
| 04-05 | 0000-0400 | SSB/CW Classic Radio Exchange    |
| 05-10 | 13-01     | CW/SSB School Club Roundup       |
| 10-11 | 0000-2400 | RTTY World-Wid&RTTY WPX          |
| 10-11 | 1200-1200 | CW/SSB PACC                      |
| 10-11 | 1200-1200 | CW/SSB Carnaval of Loulé Contest |
| 10    | 1100-1300 | CW Asia-Pacific Sprint           |
| 10-12 | 1400-0200 | SSB YLRL YL-OM Contest           |
| 10-12 | 1400-0600 | CW QCWA QSO Party                |
| 10-11 | 2100-0100 | CW RSGB 1.8MHz Contest           |
| 11    | 0000-0359 | CW North American 'Sprint'       |
| 17-18 | 0000-2400 | CW ARRL DX Contest               |

|       |             |                                |
|-------|-------------|--------------------------------|
| 17-18 | 0000-2400   | SSB YL-ISSB QSO Party          |
| 23-25 | 2200-1600   | SSB CQ W W 160 Meter Contest   |
| 24-25 | 2 periods S | SB/CWNorth Carolina QSO Party  |
| 24-25 | 0600-1800   | SSB REF                        |
| 24-25 | 1300-1300   | CW UBA                         |
| 24-25 | 1400-0200   | CW YLRL YL-OM Contest          |
| 24-25 | 1500-0900   | CW RSGB 7MHz Contest           |
| 24-25 | 2200-0400   | CW/SSB Co. QRP Club Winter QSO |
| 25    | 2 periods   | CW HSC Contest                 |

## WARC back on the Net

Check out the clubs net web site at the following URL;

<http://www.virtualmultimedia.com/warc/>  
**Icom's Dual-Passband-Tuning & Filters**  
 by Dana Hoggatt (KB9SSS)

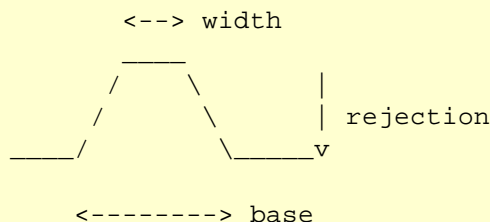
### Extracted from the IC746@egroups.com listserver

To truly appreciate the possible benefits of adding optional crystals to Icom's dual-passband-tuning (DPT), requires a good understanding of what DPT does and how it works.

This is a very complicated topic. Proper treatment would require a small book. The section in the IC-746 manual that covers this topic over simplifies it. What I'm about to describe is also a simplification, but I hope it explains enough to help you understand and use the feature.

(i.e. I hope the experts in the audience forgive my literary license)  
 PASSBAND FILTERS

A passband filter typically has a trapazoidal shaped response curve (here, represented in ASCII)



## Parkside Appliance & Electronics



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[www.escapca.ca/~ve4jnf](http://www.escapca.ca/~ve4jnf)

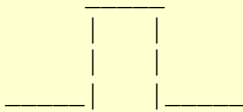
[ve4jnf@escapca.ca](mailto:ve4jnf@escapca.ca)

The "width" of the filter is based upon the width of the top plateau (the 6db points if I recall correctly). The "rejection" is based upon the depth (or height) of the plateau (30-60db is common). The "shape" indirectly measures how steep the sides of the passband are (shape = base / width).

The more narrow the width, the more interference that can be rejected. If the width is too narrow, you start rejecting the desired signal along with the interference.

The deeper the rejection, the less the interference.

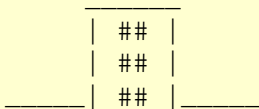
Perfectly shaped filters look very box-like. Their bases are the same width as their plateaus. The steeper the rejection, the better the shape and the better the performance. A perfectly shaped filter would look like.



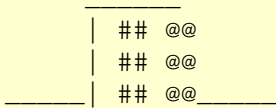
There is no such thing as a "perfect" filter, but they make good examples for illustrations (particularly in a fixed width font as in this note). I'll be using "perfect" filters in this note to simplify my diagrams.

### PASSBAND TUNING

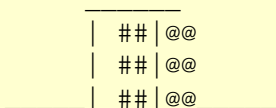
Sometimes called "IF shift", this is the process of shifting the filter response up or down in frequency to help reject nearby signals. A perfect signal perfectly aligned through a perfect filter might look like:



If two signals are close enough together, part of each might come through the pass band. The nearby signal interferes with the desired signal creating noise and distortion.



Shifting the pass band slightly away from the nearby signal can reject it better, reducing its interference.

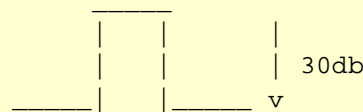
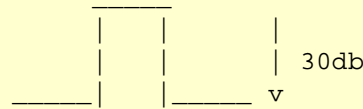


The desired signal will degrade somewhat by not being in the center of the passband. That degradation is offset by the reduced interference. Shifting the IF too far will either distort the desired signal too much, or possibly even push it out of the passband as well.

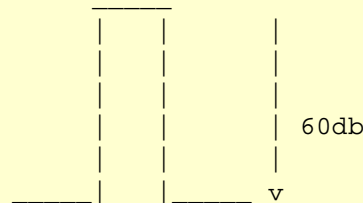
Fortunately, this adjustment is made easy by the human ear. You start shifting, it sounds better. You keep shifting, it starts to sound worse. The adjustment is so intuitive; nobody has any trouble using it.

### DUAL FILTERS

If one filter is good, then two filters are better, right? When two filters are used together, their responses add. Pictorially, you can envision the following two perfect filters



combining into a single response of:



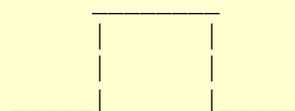
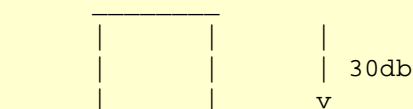
Instead of a single filter with 30db rejection, you get the equivalent of 60db filtering. (That's right, experts. This is one of those oversimplifications I mentioned earlier.) Greater rejection means better selectivity and less noise.

### DUAL PASSBAND TUNING

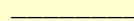
Now, for the part you've been waiting for. We've looked at passband filtering, passband tuning, and dual filtering. It's not a big leap to see all working together at the same time. Passband filtering helps to reject nearby signals and noise. Dual filtering does the same, but stronger. Passband tuning allows shifting to avoid very close signals.

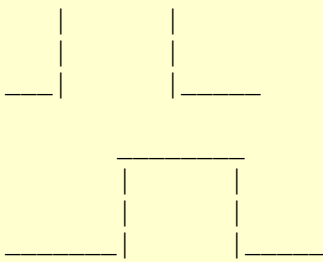
What would happen if you shifted one IF filter up and the other IF filter down? Pictorially, that would start with:

2.4Khz  
<----->

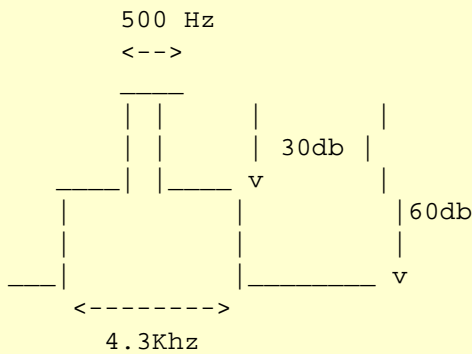


After shifting we would have





After combining, we have (assuming each filter has 30db rejection):



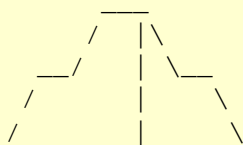
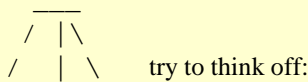
The portion of the spectrum where the two filters overlap forms a new "width" that is narrower than the width of either individual filter. Likewise, the offset portions of the filters broaden the base, thus widening the "shape".

Thus, you're trading off "shape" to improve the "width". Effectively, you get a filter with an adjustable bandwidth.

Leave both filters centered, and you get a very strong passband with excellent shape. Shift them both in the direction to avoid a nearby interfering signal. Shift the filters in opposite directions to narrow the bandwidth. Shift them different amounts in the same direction to both narrow the bandwidth and avoid a nearby signal.

**ICOM DISPLAY**

The Icom 746 display tries to show you what's going on, but the display cannot show the whole picture. Just imagine that the LCD display is only showing you the top of the pattern and visualize the rest in your mind. For example, when you see:

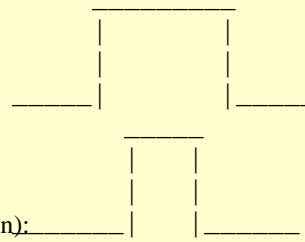


and you'll keep track of what's going on.

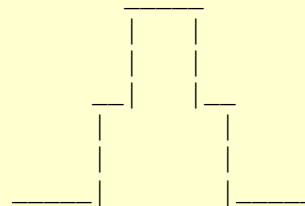
**MATCHING FILTERS**

DPT usage is more intuitive (but not impossible) when the two IF filters match. When the filters have mismatched

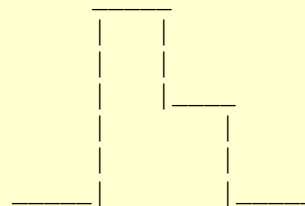
bandwidths, the narrower of the two tends to dominate the performance. For example, the following two filters:



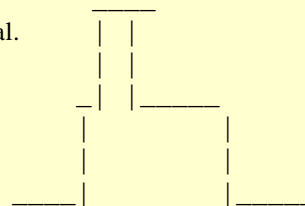
combine to form:



Offsetting the two filters a small amount does not affect the "width" because you're just shifting the top and bottom halves of the response curve a little.



Shift the two filters far enough, and you do eventually impact the overlap and change the "width", but the overall pattern ends up looking lopsided.



Like I said. It is possible to use mismatched filters in DPT, but it is much easier and more intuitive if the filters do match.

The greater the mismatch in bandwidths, the more extreme the effect becomes. Mixing a CW and SSB filter in DPT is virtually pointless.

**BASIC TUNING STRATEGY**

Here is my basic DBT algorithm. I was originally shown this technique on a Drake TR/7, but it seems to work even better on the IC-746. Its based upon the principle that the sooner you get the offending signal out of your IF chain, the less havoc it causes. Thus, nearby signal rejection is the job of the earlier filter and

bandwidth adjustment is the job of the later filter.

1. Start with filters centered and find your signal.
2. Shift both filters to avoid any nearby interference (if needed)
3. Shift the 455Khz filter to narrow the bandwidth (if needed)

You're done with PBT and you can start playing with NR.

### **FILTER SELECTION**

We've already established that DPT works best when the two filters match, so that part of the decision is easy. The hard part is choosing the width.

I have used the 1.9Khz/1.8Khz SSB filters for about 3 months. Personally, I'm finding this to be about as narrow as I ever want to be. Further narrowing thru DPT doesn't do me any good. So at the moment, I do most of my SSB work using the stock 2.4Khz filters and DPT. When the going gets tough (like on field day), I click in the twin narrow filters and shift them together.

I have no direct experience with the 2.1Khz filters. My guess is that once I exhaust the usefulness of DPT at 2.4Khz, DPT at 2.1Khz probably won't do much better. Someday, when I've got some cash to burn, I may try some experimentation to see.

I'm not good enough at CW or have enough experience at it to have a confident opinion. Currently I use 500hz filters there. I use DPT at 2.4Khz to browse for signals. Once I pick a signal, I switch to the 500hz filters and home in from there with DPT.

### **INRAD FILTERS**

I've had several people recommend Inrad filters over Icom's. I have tried replacing the 455Khz IF Icom filters with some from Inrad. The Inrad filters are clearly superior. (in my opinion)

I've been considering more filters from Inrad, but the 9Mhz versions are not drop in replacements, so I'm hesitating.

I've heard of some folks who have replaced the stock 2.4Khz filters with some from Inrad. I'm not willing to void my warranty.

### **ICOM'S MISTAKE**

The IC-746 allows 2 optional filters at 9Mhz, but only one at 455Khz. BIG MISTAKE! I keep opening my rig to mess around with the filters. I find it very annoying. Sorry I don't have any absolutes for you.

## **Portable Telephones**

### **Small Radiations and a Major Enquiry**

## **Hélène Guillemot**

*Science et Vie, July 2000, pp. 76-83*

*Submitted by Vern VE4VQ*

Numerous writers have questioned the effect portable telephones have on the brain. A major investigation is now just getting under way in fourteen countries, one of them being Canada. One of the several insets in the article follows:

### **An Inquiry Without Precedence**

To measure the eventual development of cancer due to the use of portable telephones, the International Centre for Research on Cancer (CIRC) will be starting a study in 14 countries this summer. They are: France, Great Britain, Italy, Germany, Sweden, Norway, Denmark, Finland, U.S.A., Japan, Canada, Australia, and New Zealand.

The enquiry will concentrate on cancers of those organs directly exposed to radiation from mobile telephones. The study will be carried out on people already suffering with cancer. Each of these people will be matched with a well person. Because this translator does not know the proper terminology to be used, he is going to refer to the well person as "person-2".

The study will consider 6 000 cases of cancer of the brain, 1 000 cancers of the acoustic nerve, and from 600 to 700 cancers of the carotid artery.

Each person-2 will be chosen to be as similar as possible to the sick person with whom they will be matched concerning age, sex, place of residence, etc. For statistical reasons, for the rarest cancers several persons-2 will be matched to the ill person.

Each person will complete a questionnaire concerning the use of the mobile telephone, type of phone, and server-network used. Appropriate checks will be made to confirm the correctness of the data.

Then the level of exposure in the two groups will be compared. If the sick are the greatest users of portable telephones, if the proportion of sick grows with the level of exposure, and if differences are statistically significant, the conclusion to be drawn is that the mobile telephone is a risk-factor.

## **News From The Net**

### **Ontario QSO Party Information**

Due to an unfortunate scheduling conflict with the Durham Region Hamfest, the 5th Annual Ontario QSO Party which would have normally been held on April 28-29th has been shifted to April 21-22, 2001 from 18:00 UTC Saturday to 18:00 UTC Sunday.



Also, from here on in the Ontario QSO Party will shift from the last weekend of April to the 3rd full weekend of April.

### ***RF Safety and Amateur Radio***

Every Amateur Radio Operator should be aware that there may be health risks associated with exposure to Radio Frequency (RF) energy. Normally, the levels of power, and antennas used by Amateurs result in levels which are considered safe by government authorities, but if you run the legal power limit, or lower than average antennas, read on....

In Canada, the rules and guidelines covering the subject of RF Safety, are published by the Federal Government in a document entitled "Safety Code 6" It is a long and very technical document, but reading the material available at the following web sites should help to understand the significance.

Industry Canada does not require that all Canadian amateurs evaluate their transmitting stations for compliance with Safety code 6, but Radio Amateurs of Canada provides the following information to help you decide what might be appropriate in your situation.

#### ***Canadian RF Safety Information***

[About safety Code 6](#)

[Frequently asked questions](#)

[Electromagnetic Fields](#)

[EMF & Your Health\(VE6GK\)](#)

[Safety of Exposure to Radiofrequency Fields, Antennas and Towers, Safety Code 6](#)

[Download Safety code 6](#)

[Safety of Exposures Cellular Telephones](#)

### ***Germany drops Morse testing requirement from 12 to 5***

On 13 December 2000, the German Federal Minister for Economics and Technolog issued a Gazette notice reducing the "B Test requirement" from a minimum of 12 words (5 characters each) per minute" to "a minimum of 5 words (5 characters each) per minute.

### ***New Version Of DigiPan***

Those active on PSK-31 will know that DigiPan is probably the most popular PSK-31 software on the air. Dave G3VFP reports that a new version is available for download from his webpage [Http://www.g3vfp.co.uk](http://www.g3vfp.co.uk)

### ***BULLETIN 361.02 FROM AMSAT HQ 12/26/00***

AMSAT-NA President Robin Haighton, VE3FRH, provided ANS with the following statement regarding AO-40's recent S-band transmissions on 2401.305 MHz:

The excellent news of contact with AO-40 through the L-band uplink and S-band downlink has been received with joy and relief by AMSAT members around the world. AMSAT-DL issued a

bulletin giving the news that everyone had hoped for on Christmas day, a fantastic gift to the Amateur Radio community.

On behalf of the AMSAT-NA Board of Directors, I wish to congratulate all those concerned in the recovery effort. While we all realize that this is just the first step in many, without making this initial 2-way contact with AO-40, recovery would not be possible. The recovery procedures are a true team effort between Project Leader Karl Meinzer, DJ4ZC, the command stations and the other members of the P3D/AO-40 team.

In conclusion, I wish the team continued success, and I am sure that all of our thoughts are with them as they continue to work on behalf of AMSAT members world wide.

Thanks to AMSAT News Service and AMSAT-NA President Robin Haighton, VE3FRH, for this information

### ***The Antenna That Wasn't by Ralph, VE4RY***

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The temptation was too much! I kept eyeing all this scrap 3/8" stainless steel threaded rod kicking around where I used to work at microwave sites, and I thought, "Hmmm... I'll use this stuff to make a super-strength two meter J-pole."

I proceeded to build one to the usual specs and it was a real beauty, with thick phenolic spacers and industrial quality nuts and washers. The completed antenna looked like it could survive a nuclear blast. By adjusting the nuts I had no trouble tuning it to a perfect 1:1 SWR and the element dimensions conformed with theory.

Setting the thing up in the clear, I expecting needle-bending signals, but was disappointed to say the least. Signals were quite low. What really bugged me was the fact that the 1/4-wave whip on my truck outperformed it... by quite a bit! The coax and connector tested good. What the heck was wrong?

It wasn't much better than a dummy load, and after some head scratching I figured out why: this antenna was living proof of a phenomenon known as "skin effect". The antenna current travels on the surface of the conductor and in this case was following the undulations of the surface of the threads on the rods. This must have caused radiation lobes everywhere except perpendicular to the antenna. Interestingly, there was somewhat of a residual or phantom reference to the actual physical length since the SWR was good, although come to think of it, the null point was a bit vague.

The moral of the story: Don't use threaded rod to make antennas, even if you can get it for free, [and even if you can do it on company time, hihi.]

### ***Editors Ramblings By Derek VE4HAY***

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Well the start of a New Year. I hope that everyone got a special visit from the fat man, and that new accessory or rig is

burning the air waves in search for that rare DX station. I know wireless was the theme this year at our house. 2.4 Ghz telephones (2 lines and 4 handsets), CDMA Cell phone, and 3 FRS (462/467 Mhz) sets. So now we know why the spectrum is quickly being used up with commercial interests. Sorry guys. I am actually quite impressed with the FRS radios. I have hear no other signals so far and the audio is very nice. The kids are having a great time, and ca travel all over he neighbourhood and still be in touch with the house.

Last year saw the "Newscaster" go to electronic delivery and this month it will go to approx. 80 amateurs. If you want to receive it by electronic means please contact VE4MMG. We even send to the Bahamas and to a ham from Scotland who may be moving to Winnipeg and wants to learn about the club. So enjoy and 73.



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