

January/February 2008

# Winter 2008 Issue

## Is This Your Last Newsletter?

**CVRS membership dues for 2008 are now payable!** After the current edition, the Newsletter will be sent only to members in good standing. 2008 dues are the same as they were for 2007 (which were the same as 2006 - the CVRS inflation fighter!). If you wish to receive the Newsletter as a printed copy by post, annual dues are still \$24; if you wish to receive it as a PDF file via email, annual dues are still \$15.

Those members wishing to submit dues by cheque should make the cheque payable to the CVRS and mail it to:

10271 Algonquin Drive,  
Richmond, BC,  
V7A 3A5.

Members who wish to pay electronically should contact [don@canadianvintageradio.com](mailto:don@canadianvintageradio.com) for payment options.



If you haven't already done so, now is the time to submit your dues for 2008 to ensure you don't miss the next mailing of the Newsletter.

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## Majestic Garage Sale Steal...

- thanks to Bill West-Sells for contributing this article

A friend bought this Rogers Majestic Model Ten-60 radio at a garage sale for only \$20.00— a real steal! A quick look in the back, and I'm suspecting that the radio has never been touched, and the original tubes are these.

We observe that everything is coated in a brown stain and wonder if the owners were heavy smokers.

John picked the Tombstone up by the cabinet top and the whole bottom almost fell out, so my first job was attending to the severed woodwork. As you can see I simply poured glue



to the dado in the base and clamped it back together, leaving it for a few days.

Meanwhile I worked on the chassis, starting with none other than the electrolytics which were the later tarred type, but dried up as expected. I inserted a 33 mF into one and two 8s in the other. Then on to the more unlovely job of removing the little boards with resistors and caps. There was surprisingly little to replace - an open audio plate resistor, and a couple of caps. Many other resistors were quite higher than normal but I left them alone. I'm not the first to see inside.

The dial uses 5 lights and in the centre is a 24 volt tuning light-in series with the power going to the RF and IF circuitry. All this while I was fussing over the fact that I

CANADIAN VINTAGE RADIO SOCIETY

# Canadian Vintage Radios



## From the Editor

Another packed issue here for your perusal and digestion: club news, contributions from members, technical features, tips and much more!

There have been several technical and news submissions since the last issue, some included here and some awaiting the next couple of issues—many thanks to those who made this effort, it is very much appreciated and I'm hoping this will encourage others to do the same. Remember — you just provide me with anything you can, in electronic or paper formats (scribbled on an envelope will do) and I will do the rest (and my best) to complete your article.

Finally, I would like you to encourage like-minded folks to join the CVRS. Pass on a copy of this Newsletter, give them website and forum details—show them its worth way more than the few bucks it costs!

## Provincial Representatives

### Alberta

Rick Williams

[rick@canadianvintageradios.com](mailto:rick@canadianvintageradios.com)

### British Columbia

Bill Chase

[wchase@canadianvintageradio.com](mailto:wchase@canadianvintageradio.com)

### Saskatchewan

Volunteer Needed

### Manitoba

Brad Larson

[vactube@hotmail.com](mailto:vactube@hotmail.com)

### Ontario

Volunteer Needed

### Nova Scotia

Brian McKeigan

[brian@canadianvintageradio.com](mailto:brian@canadianvintageradio.com)

### New Brunswick

Bill Gentleman

[bill@canadianvintageradio.com](mailto:bill@canadianvintageradio.com)

### Newfoundland

Volunteer Needed

### Yukon & NWT

Volunteer Needed

The CVRS is looking for representatives for several regions across Canada. If this position is unfilled in your area and you are willing to take it on, please contact us. Don't worry, the duties are light! - acting as a regional contact for the society in your area, perhaps forwarding news or technical interest items for the newsletter. Of course, if you want to expand the role, we'd also love to have you form a local chapter! What you make of the position is up to you, but we hope to see your name added to the above roster!

## Roger Majestic Model Ten-60 (continued)



couldn't find the model number "26" in the schematic service book. However I did find one called TEN-60 that looked identical except for a padder located on the side of the chassis.

Whenever I see an OPT like this, I drool: They always delivered good sound. And it does, despite a poor 6F6. And those frosty coated Rogers tubes are interesting. But one 88M [=6K7] was a dud.

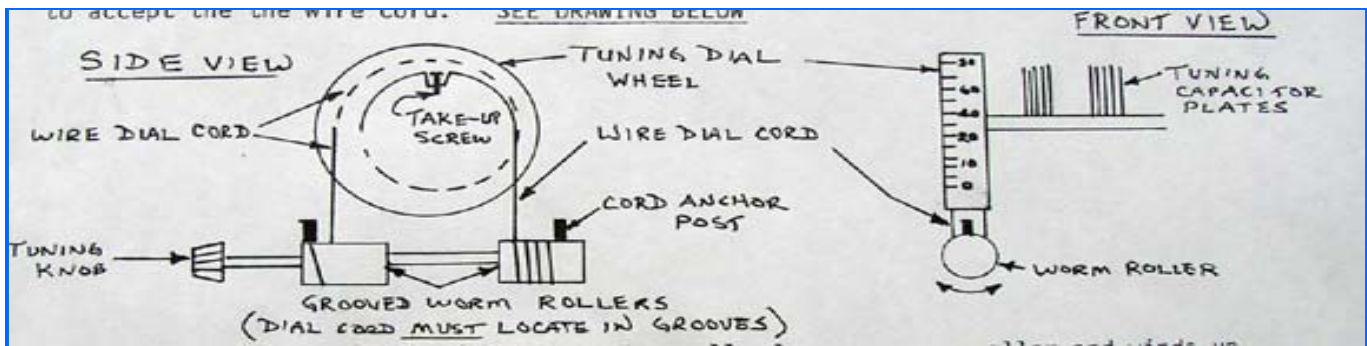
Finally it was playing and I was trying to align the trimmers and padders, but sometimes it would howl! I should have known, from past experience, [maybe 30 years ago!] - a Rogers tube, with its loose metallic coating, was the problem. I pulled it out of the IF amp place and put it into the RF socket where it didn't affect things, and replaced it with a 6K7G.

Last thing was to make two knobs. After two hours I came up with two crude facsimiles, made from Mahogany. As I was turning the cabinet over I noticed on the bottom, professionally burned into the wood: "TEN-60" "KNECHTEL 101735"



## Replacing a Radiola 60 Dial Cord—Elmer Rudolph

The air in my basement was blue with the above sentiments when I tried recently to replace the wire dial cord on my 1928 Radiola 60. I had broken this normally indestructible cord when I attempted to free the seized main shaft of the multi-stage tuning capacitor. The dial tuning mechanism is actually a thing of precision mechanical beauty; the cord winds around a large wheel at the end of the tuning shaft in a normal manner, but the two ends of the wire coming off each side of the large wheel wind onto two worm roller drums, grooved to accept the wire cord. Please see drawing below:



As you rotate the tuning shaft, the cord unrolls from the one worm roller and winds up on the other. So what's the problem? The problem is that the length of new wire cord must be cut very accurately – there is no take-up spring to compensate.

In a length of about 29 inches, measured against the old, mangled wire cord, the take-up adjustment on the large wheel is only ¼ inch. Cut a little too short and you have to start over again. Cut a little too long – ditto. You can't just trim it down because each end of the cord has to have a pre-soldered loop connected to it before you start to string the cord. These loops fit over steel anchor pins on each roller. You don't know whether or not you've screwed up until you get it all threaded around and through and try to slip the soldered loop over the anchor of the second roller. If it's too long, the slack allows the cord to slip out of its grooves on the rollers and bunch up on itself, resulting in a completely unusable tuner.

Oh, did I mention stringing the cord? I needed a bench vise to hold the chassis in a vertical position, a pair of vise grips on the worm roller shaft to keep it from turning just at the critical time (thereby unwinding all my laboriously wound cord on the worm roller), an extra hand to help wind the cord on its tortuous route around the large wheel and someone to remind me, between screamed oaths, that I do this because I enjoy it.

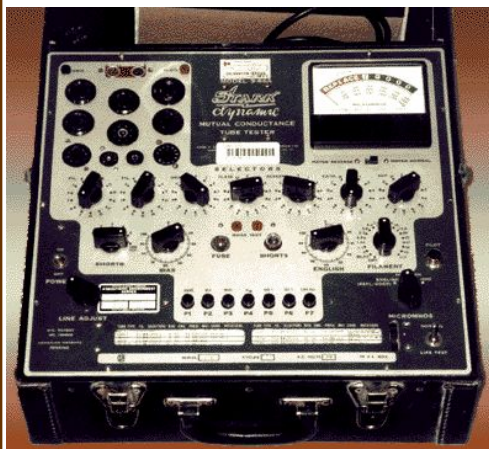
My first attempt yielded a cord ¼ inch too long, resulting in very sloppy tuning. I agonized whether or not to accept this unsatisfactory effort, knowing what awaited me if I decided on another attempt. Some weeks later, after reviewing the mistake of my first attempt, I gritted my teeth and plunged in. Happily, my second try was much more successful and I cut my installation time to one hour from the previous two! So if you're contemplating replacing the broken wire dial cord on your Radiola 18 or 60, I am in a position to give you some timely and critical advice.

**GET PROFESSIONAL HELP!!!**

**Starting Next Issue** — A series of articles by Murray Dickerson, President of the Alberta Chapter on

### The Stark Model 9-66 Tube Testers and Optimization Ideas

This first of a series of articles will introduce you to a modification that will convert your Stark 9-66 or 9-66A into a 9-66AU, which was the most comprehensive variation of this very desirable tube tester. Even if you have the 9-66AU, keep up with the articles that follow, since Murray will show you how to make significant improvements to all the 9-66's, even the AU. And don't feel left out if you own a dif-



ferent type of tube tester. In subsequent articles, Murray will show you how to improve any tube tester you might be using.

Sound useful? Then stay tuned for Part 1 next issue which will start us off with the Stark 9-66. In the meantime you can do a little background 'homework' at 'Tales from the Tone Lounge' (<http://www.tone-lizard.com/Stark.htm>), where the cartoon and rather poignant comment below were taken from—an interesting site, and/or check out the 9-66 manual for free at <http://bama.edebris.com/manuals/stark/9-66>.

Most folks have an opinion on the worth of tube testers in our hobby—though most rational folks would probably agree that they have a place, even if that is just in 'sorting out the real duds'. Your thoughts on this topic would be much appreciated—Ed.



**Useless Information #8**

The original purpose of the tube tester was to provide tube sellers with a means for making on-the-spot proof of tube operability. Because tubes were sold on a no-exchange basis, it was necessary to show the customer that the tube was working when he purchased it. For this purpose, early tube cartons were made in such a manner that the 'prongs' could be inserted into a tube tester without removing the tube from its factory-fresh carton!

**NOW YOU KNOW!**



"The purpose of the tube tester today is make money for the person selling the tester on eBay"

### Website & Forum News

- Phil Mijo

After several months of the CVRS web forum being down we now have new and improved software installed and the site is up and running, available at <http://www.canadianvintageradio.com/phpbb3/phpBB3/>

Please keep in mind, since we are starting again from scratch, the forum may not appear to be very active yet.

Please don't let this discourage you from signing in and posting. Users who are signed in will have more sections available. The look of the forum has changed slightly, as have the options available. If you have trouble signing on or posting please contact Phil - [phil@canadianvintageradio.com](mailto:phil@canadianvintageradio.com).

## Chapter News

### British Columbia Chapter

#### January Meeting - Gerry O`Hara

A well-attended meeting of the BC Chapter was held on Sunday, January 20, 2008—maybe helped by the clear blue skies so unusual for this time of year in BC... Ken Petanaude brought along a very nice Collins 75A-3 amateur bands only communications receiver and received some sage advise from Ralph Parker (photo, right). Ralph brought along some interesting items—some for sale, some free to a good home, including a couple of 'scopes and an unusual tuner unit with a large 'airplane' dial and eye tube manufactured by 'Sound Sales' (photo, below). Keeping up the communications set theme (see page 6 of this issue), Gerry O`Hara brought along a restored 1950 vintage Eddystone 750 double-conversion superhet as a 'show and tell'.



In line with recent tradition, Ted Mitravitz brought along another truck load of 'freebies' which were gratefully received by the members.

The next meeting of the BC Chapter of CVRS is scheduled for Sunday, March 16, 2008 at noon at Charles Rummel Park, Burnaby. Also, the Burnaby Amateur Radio Club Fleamarket is scheduled for February 28, 2008 (details from <http://www.ve7bar.org/swapmeet.htm>) — well worth a visit.



## Manitoba Chapter

- Brad Larson

Nothing to report this issue.

## New Brunswick Chapter

- Bill Gentleman

Nothing to report, but I had a request from the Blackhorse Garage in Bridgeport, Connecticut asking for any information on an EKCO car radio of 1934 vintage. I did some searching but found very little that would help them. I have some correspondence which I will forward to anyone interested. Check out the website, [www.blackhorsegarage.com](http://www.blackhorsegarage.com) and see their \$1M project of restoring a 1934 SS Jaguar (that's what the radio is for!).

## Alberta Chapter

- Rick Williams

CVRS Alberta records our training seminars and makes them available on DVD. The cost is \$7.00 each, plus postage. A list of currently available titles and contact details is provided on the attached 'flyer'.

## Saskatchewan Chapter

- Stan Marlin

The time and date for the combined Regina Antique Auto Association and CVRS Saskatchewan Chapter Vintage Radio meet is now set for April 26, 2008. The event will be held at the Canada Centre Building, Regina Exhibition Grounds. Details can be found in the attached 'flyer'. All are welcome!!

We are slowly climbing out of a deep freeze that blanketed our area this week (last week of January). Warmer temperatures are more than welcome....

## Nova Scotia Chapter

- Brian McKeigan

Unfortunately there is a lack of activity in NS regarding antique radios. I hear about people that have a collection but have never seen any. No swap meets either — not enough population I guess. The only places that I seem to pick up antique radios are at second hand stores or on Ebay.

*The above note from Brian highlights the importance of networking and information exchange such that the CVRS can provide by the website, the new forum and this newsletter: go on, pass a copy to friends that have an interest in radio and do a 'sales job' - the more members we have the stronger we are and the more enjoyment we will reap from this great hobby! - Ed.*

## Quick Tips—Contributed by members

Do you have any favourite tips to pass along to CVRS members? - if so please send them to the editor for inclusion in this column.

\* **Lubricating mechanical parts:** When re-assembling mechanical components of dial drives etc, ensure that all parts are cleaned and that the correct type of lubricant is applied only where appropriate. Use high-grade light machine oil (not 3-in-One) and molybdenum disulphide (moly) grease as lubricants, although white (lithium) grease can be used, especially for plastic parts. Check that the main tuning gang ball bearings are cleaned and re-packed with molybdenum grease and that the spring contact arms are cleaned and lubricated with De-Oxit or other contact cleaner. Use any lubricants very sparingly. Also, take care in adjusting friction drives/clutches and ensure no lubricant is inadvertently applied to the friction surfaces.

\* **Safety First!** Before you even think about applying power to a newly-acquired set (never mind switching it on!), re-check the power lead, connectors, fuses etc, ensuring they are safe to use. Pay particular attention to where cables pass through holes in the chassis or enter plugs, looking for frayed, broken or worn insulation - replacing as necessary.

**Remember - Safety is paramount: tube radios contain lethal voltages and must at all times be treated with respect and caution. Therefore always double-check whether power is being applied to the set, on any temporary connections made for testing purposes, and never**

**hold on to/touch the receiver chassis with one hand when probing around with the other (put your 'spare' hand in your pocket). Even after power is removed, electrolytic capacitors can hold a charge for long periods that can shock you when your guard is down.**

\* **Vanishing tube markings?:** If this happens and you do not know the tube type, try chilling it (fridge or freezer) and then breathing gently on it - the markings often re-appear momentarily - then write it on the envelope with an indelible marker. If this does not work, try a version of a trick a tech taught me many years ago: he used to swipe the tube quickly through his well-'Brylcreemed' locks and lo-and-behold following a quick 'huhh' onto the tube the markings would (sometimes) re-appear. No Brylcreemed locks? - then place a light smear of Vaseline onto a cloth, take a dampened watercolour brush, run it over the greasy cloth and then across the glass of the tube - breath on the tube at this point to coax the markings to appear.



## Canadian Vintage Radios Operating a Communications Receiver—Part 1

Many of us have at least one communications receiver in their collection, but do you know the basics of using all those extra controls, or even what some of them actually do? In this short series the controls of such a radio are described and their use in reception of different modes of transmission are discussed.

**RF Gain:** varies the gain of the RF stage (s) of the receiver (usually) by varying the DC bias conditions of the RF stage, sometimes combined with a similar function for one or more IF stages and, sometimes, the mixer stage. The control is typically a 10k ohm linear-taper wire-wound potentiometer in the cathode of



of the variable-mu valve(s) effecting the control. Sometimes a high positive DC voltage, derived from the HT line, is applied at the minimum settings to allow a greater range of control. The RF gain control is very useful in preventing overload of subsequent receiver stages, especially the mixer(s) and the detector – particularly when receiving SSB signals without a product detector (see below). **Above: my sort of garage sale!....**

**IF Gain:** varies the gain of the IF stage(s) of the receiver by varying the DC bias conditions as noted above. The control is typically a 10k ohm linear-taper wire-wound potentiometer in the cathode of the variable-mu valve(s) effecting the control. As for the RF gain control, a high positive DC voltage, derived from the HT line, may be applied at the minimum settings to allow a greater range of control. The IF gain control is also useful in preventing overload of subsequent receiver stages – except, of course, the mixer stage(s).

**AF Gain:** here a potentiometer is normally placed in the signal line, usually between the detector(s) and the 1<sup>st</sup> AF amplifier stage.

**Tone:** not present on many sets, but when it is, usually acts as a variable high audio frequency roll-off control. It can be useful for reducing annoying high frequency whistles and heterodynes.

**Band Switch:** this is a multi-pole, multi-way switch, normally comprising several switch wafers. The switch connects the appropriate RF, mixer and oscillator coils into the circuit for each band selected and usually simultaneously shorts the unused coil units to earth, thus preventing unwanted parasitic resonances from absorbing RF energy from the tuned circuit actually in use causing 'dead spots' in the set's tuning range.

**Tuning:** operates the main tuning capacitor gang, often through a flywheel-loaded friction drive and gearbox assembly, which also operates the tuning dial to indicate the received frequency. Communications receivers are often fitted with a high-ratio gearbox and a logging scale to allow precise repeat positioning of the dial., and/or a separate incremental or 'bandspread' tuning control to allow easier tuning of sections of the receivers frequency range, eg. the amateur bands.

**Selectivity:** being able to vary the selectivity of a receiver is extremely useful – this feature can be used to reduce adjacent channel interference or select a wider bandwidth for better audio fidelity. Two main methods of allowing variable selectivity: a mechanical arrangement that moves the IF transformers primary and secondary windings relative to each other, the other involves the switching of a tertiary coil(s) in/out of circuit in one or more of the IF transformers. Some sets automatically adjust the receiver IF gain with selectivity in order to help equalise receiver output when varying the selectivity. Both of these forms of variable selectivity methods result in very effective and useful controls.

Continued in the next issue...

## Classified Ads

Free to members in good standing

**For Sale:** CVRS Alberta records their training seminars and makes them available on DVD. Most DVDs are approximately 1 hour long and cover a wide variety of subjects. The cost is \$7.00 each, plus postage. To order contact [cvs.alberta@gmail.com](mailto:cvs.alberta@gmail.com) (see 'flyer').

**Wanted: Eddystone receivers/accessories** (especially speaker and S-meter units). Gerry O'Hara Tel. 604-671-6062. Email: [gerryohara@telus.net](mailto:gerryohara@telus.net)

**Can You Help?** - Brian Carusella of Texas has contacted the CVRS to see if we can provide any information on 'foxhole radios' (photo, right) used by Canadian troops in WWII as a contribution to a book he is writing on improvised radios. If you can help in any way, please contact the Editor.



Please note that ads will run for one issue unless otherwise specified.

## Schematic Services from the Canadian Vintage Radio Society

The CVRS offers a free copy service for Radio College of Canada (RCC) schematics (only) to members currently in good standing. A pdf file of an RCC schematic can be obtained by emailing Don White, [don@canadianvintageradio.com](mailto:don@canadianvintageradio.com) with the manufacturer and model number of a radio made in Canada between 1927 and 1980.

Members wishing a printed copy of a schematic should send a SASE (self-addressed, stamped envelope, Canadian postage) to:

*CVRS Schematics  
10271 Algonquin Drive  
Richmond, BC V7A 3A5  
Canada*

If you wish to make sure that an RCC schematic for your radio exists before sending a SASE, email Don at the above address.

## Joining the CVRS

The CVRS Newsletter is published five times a year, in the first week of February, April, June, October, and December. There is no July/August issue.

Membership is \$24 CDN per year. Overseas membership is the equivalent in local currency. An e-newsletter is available in PDF format for \$15 CDN.

Those paying by cheque should make the cheque payable to the CVRS and mail it to CVRS Membership, 10271 Algonquin Drive, Richmond, BC, V7AS 3A5. Those wishing to pay electronically should contact [don@canadianvintageradio.com](mailto:don@canadianvintageradio.com).

## New to the CVRS

The Society welcomes the following new members who have just joined the ranks:

Andy Arnold	Mission, BC
Dave Brown	Sechelt, BC
Job Goudie	Grand Falls, NL
Robert MacIntyre	Winnipeg, MB
Robert Murray	Vancouver, BC
Cor Vandenbos	Castlegar, BC
Ross Gordon	Edmonton, AB

## Who's Who in the CVRS

It doesn't have to be long, just a short fill-in-the-following-categories and send us a picture. Here are the subject headings which we would like people to fill in:

- Name:
- Location (Specific Address Optional):
- E-Mail Address (optional):
- Occupation:
- How long involved with vintage radio:
- How got involved with vintage radio:
- Areas of special interest:
- Current Projects:
- Other:

## Vintage Radio Websites to try:

- <http://www.theradionut.net/>
- <http://www.sparkbench.com/>
- <http://tri.net/~rrogers/radio/>
- <http://www.qsl.net/n1ocj/antique.html>

If you know of any good websites for information on radio topics, spare parts etc, please drop Gerry a line.

## A Technical Short - Eddy Stone

### Basic Fault- Finding Techniques (Part 1)

So what are the basic fault finding techniques? and are some better than others? – the short answer is that a combination of techniques is usually the best approach to most fault finding in electronic circuits. The basic techniques are: ‘Hunches’, ‘Educated Guesses’ and ‘Diagnostics’, the latter including voltage measurements, current measurements, resistance measurements and signal tracing (several techniques for this exist—all useful in their own way).

Hunches and educated guesses can actually work very well for experienced service technicians: they have seen the same set in their workshop many times with similar ‘symptoms’ and recall what was wrong, or apply knowledge of one set type to similar symptoms exhibited by another. This level of experience can pay dividends in terms of saving time in a commercial repair business. The average amateur set repairer, however, will only work on a radio once every few weeks or even much less frequently, and such a ‘second-nature’ or ‘sixth-sense’ is not formed. Also, the time element is probably not such a pressing issue (and the frustration of making non-educated guesses and bad hunches is depressing). Therefore diagnostic techniques are really the only way for most mere mortals to go.



Like most processes of investigation, the more general background knowledge you can acquire the better. However, once you have a set to repair, it is time to ‘get specific’: try your best to obtain at least the circuit diagram for the set, preferably a manual, with alignment instructions and published specifications – this information is invaluable in assisting in understanding how the radio should work. Sources of such information are many and include:

- Riders ‘*Perpetual Troubleshooters*’ – for US Domestic Sets
- Beitman ‘*Most Often Needed Circuit Diagrams and Servicing Information*’ series – for US Domestic Sets
- Marconi Service Manuals – for US and Canadian Domestic Sets
- RCA Service Manuals – for US and Canadian Domestic Sets
- Radio College of Canada publications – for Canadian Domestic Sets
- Canadian Radio Circuits Database Vol. 1 and 2 – CD ROMs (Whirlwind software)
- Just Radios (<http://www.justradios.com>) for Canadian, US and some UK domestic sets (also stock a supply of components, in particular good quality capacitors at reasonable prices)
- Mauritron Technical Services (<http://www.mauritron.co.uk>) for a huge selection of UK, US and European sets
- The CVRS Schematics Service (details on previous page!)

Many of the above can now be sourced on CD ROMs or as original paper volumes on EBay. If the set’s manual and/or the circuit cannot be obtained from any source, then the ‘last resort’ is to ‘trace’ the circuit, ie. based on your background knowledge of radio circuitry and component types and layout, identify the main circuit elements and then painstakingly draw-out the circuit by identifying components and the connections between them – a form of ‘reverse engineering’. This can be an interesting, if a bit frustrating, intellectual experience that I have repeated many times and is really for the more masochistically inclined, though I must admit that a smug smile appears once I have ‘sussed it’. **Next time:** More ‘homework’ and stage identification



### And finally.....

We encourage all CVRS members to submit articles or letters that relate to vintage radios or associated items. Please send any editorial mail to:

**Gerry O'Hara**  
1529 Eagle Mountain Drive  
Coquitlam  
British Columbia  
V3E2Z3  
Canada  
Email:  
[gerry@canadianvintageradio.com](mailto:gerry@canadianvintageradio.com)

