

A Brief History of Collins-Canada - Part 1

by Peter Lower, VE3URO

In 1953 with the post-war boom in full swing and the prospect of military and government contracts in Canada, the Collins Radio Company opened a sales office in Ottawa, the nation's capital. It was the height of the Cold War and the Distant Early Warning (DEW) Line radar defence system was under construction in the Canadian arctic as a joint Canadian\U.S. undertaking. It was a multi-million dollar project and the demand for high quality communications systems was high. The Collins Radio Company was successful in winning a number of lucrative contracts and it made good sense to set up a plant dedicated to filling the Canadian orders. In July of 1956 a manufacturing plant was opened in Toronto employing 550 production, engineering and office staff. Toronto offered skilled technical personnel, direct and efficient transportation links to the U.S. and a manufacturing infrastructure that could accommodate the needs of the Collins Radio Company. The Bermondsey Rd. plant became the first major manufacturing operation outside of the U.S. for the Collins Radio Company.

Production began with military contracts for UHF radios (UHF Duplex transceiver,

205G1) and DewLine installations, the 240E-1, a "lateral communications system" for communications between the various DEW Line stations strung out across Alaska and the Canadian Arctic. Because conventional HF communications could not be relied upon in the high arctic due to the effects of magnetic storms and aurora borealis, Collins developed and installed high-power transmitters and receivers incorporating trans-horizon or "tropo-scatter" technology. Collins-Canada quickly became expert in the design, manufacture, installation and operation of communications systems in a multitude of harsh environments. Other products included the 32MS-1 and 32RS-1 HF single sideband transceivers; the 51M-8G VHF receiver; the AN/ARC-552 airborne UHF receiver/transmitter; the 618T and 618W series of HF and UHF airborne communications system; the An/URC-32 marine HF transceiver; the HF-80 communications system; the PRC-66, a 3500 channel UHF transceiver incorporating "thin film" circuitry; the 437P-1 mobile antenna and Broadband Log Periodic antennas.

Arnold Ferguson (VE3AZF), a former Field Service Technician, recalls the spirit in the Collins plant in Toronto: "I can't emphasize too strongly the good rapport between the upper echelons and the working men and women. Being a small plant the executives would often walk through and took a great interest in our work. The working conditions were ideal, the plant was very clean and well organized and neat, so everybody was very happy. I sure enjoyed it while I was there." Licensed as a commercial radio operator in 1946, Arnold was working in avionics for Air Canada when the opportunity came along to work for Collins. Arnold started in the "final test" area in April of 1956. After five years in production Arnold was invited to move into the Field Service department and was sent on course to Cedar Rapids. Upon his return to the Toronto plant Arnold serviced everything from avionics and VHF gear on board executive jets, to KWS-1's used to provide radio-telephone links in northern Quebec, to radar site base stations in the Arctic. He was also



made responsible for the servicing of the amateur product line. Former engineer and sales manager Doug Joyce (VE3MV): "If ham equipment showed up at the plant (for repair) it usually ended up with Arnold".

Amateur radio equipment was never the economic engine that drove Collins Radio but it had always been the heart and soul of the company founded by Art Collins in 1932. But hams being hams—knowledgeable, picky, persistent and demanding—they weren't always welcomed with open arms as they carried or wheeled their ailing rigs up to the plant gates. "The amateur line was a thorn in many peoples' sides", recalls Doug. "The publicity wasn't worth the hassle. People expected personalized service and we weren't set up to give it". Nevertheless there was a strong amateur contingent in the plant including Arnold who recalls going easy on some of the hams who brought their rigs in for servicing. "The commercial gear was all boards which made them fairly easy to service. Amateur equipment was all point to point wiring of course, and occasionally it could take a while troubleshooting some of the gear and we charged by the hour. I'd shave a bit off here and there when the bill started to add up."

The production of amateur gear at the Toronto plants was limited to two periods and took place at two different locations—the first in the late 50's when the 74A-4 and related accessories was produced at the Bermondsey Rd. site, and the second in the 70's when the KWM-2, 2A and S-Line were manufactured at the larger 111,000 square foot plant at 150 Bartley drive where the company moved in 1963.

(continued on page 4)

In this issue...

History of Collins-Canada	1
Net News	2
Treasurer's Two Bits	2
At the Mike	2
Editor's Operating Desk	3
Call For Nominations	3
In the Shack	4
Members Honored at Banquet	4

The Collins Collectors Association will be electing two new members to its Board of Directors in September. Your nominations must be submitted by August 25th.



CCANet Theme Nights

by Peter Lower, VE3URO E-mail: pslower@interlog.com

On March 4th, Jim W0NKL presided over AM Night on 3.875 with resounding results: 45 check-ins from 23 States and Canada! The Collins gear included six KWS-1s, twelve 32Vs, four S-Lines, one KWM-2, one 30K-4, one 30K-5, four R388/R390/51J-1s, fourteen 75A-2/4's and two KW1s (one of which belongs to Jim). In addition, there was a good cross-section of other classic AM transmitters.

KWM-2 week got off to a great start on Tuesday, March 16th on 3.805. It was my turn to run the net and we had a great turnout with all kinds of informative discussions, including a clarification from Gayle (K0FLY) in Cedar Rapids and John (WA5VVT) on the difference between Serial Numbers and "MCN's" (Manufacturing Control Numbers).

It turns out that some of the later KWM-2s and 2As have both. In some cases the last three or four digits of the two numbers are identical and in some they're not. Bruce, WC1E in Maine, raised the question that his KWM-2 had a serial number and MCN both ending in 773. Gayle said the MCNs came into being with modularized equipment in

order to track specific modules regardless of what mainframe radio they might end up in.

We had a total of 35 check-ins which included 15 KWM-2s and 10 KWM-2A's. Serial numbers ranged from Jim's, (W0NKL) #36, the low number champ, to Bill's, (W0GM) #460, to Max's, (WA9KAP) #1126 in continuous use from the day he bought it in 1963, right on up to the high 38,000s with plug-in relays and plug-in filters. The plug-in filter in very late RE's was another revelation to many of the guys and is worth following up on.

We had a number of first time check-ins including Alex, AI2Q in Maine, who said he'd serviced KWM-2s in Vietnam in the early 60's; and Craig, VE3CL from St. Catharines, Ontario who is a long-time collector and knowledgeable technician. We hope they both check-in again. John, WA5VVT stood by with his wealth of technical knowledge and shared it generously as usual.

73 Peter, VE3URO



At the Mike with KW6KW

Sandy Meltzer - President, Collins Collectors Association

Please join me in welcoming Michael Crestohl, W1RC as the new Editor of *The Signal*. Michael is a long time ham and Collins Collector and we're excited to have someone with his technical and editorial skills helping us with our newsletter. If you have articles or technical tidbits you would like to offer for future issues of *The Signal*, please contact Michael at 802-658-9554 or via e-mail at w1rc@amsat.org.

Dayton has come and gone and everyone seemed to have a wonderful time this year. This was my first Dayton Hamvention and I'm already looking forward to next year. The CCA banquet was outstanding...with over 130 attendees, a fun program, and lots of great food. The Saturday night CCA membership meeting was well attended with organized discussions and many interesting suggestions. I will post the minutes of that meeting and a general CCA Status Report in the very near future.

Finally, I want to remind all members that this is an all-volunteer organization and we need your help to keep us moving forward. If you would like to help in any capacity, please contact me. To paraphrase John F. Kennedy "Ask not what the CCA can do for you, ask what you can do for the CCA". Production of *The Signal* should be back on schedule with the 3rd quarter issue...it is due to be mailed on or about September 15th. Until then, keep those tubes glowing, enjoy the sunspots, and have a great Summer. 73 Sandy, KW6KW

CCA Hot Line

507-282-2141

Sorry, no call-backs available!

The CCA web site can be viewed at:

www.collinsradio.org

Join Us on the Air!



• Sunday 14.263 MHz
at 2000Z

• Tuesday 3805 kHz
at 8pm CST

• Thursday 3875 kHz
at 8pm CST

• Friday (West Coast) 3895 kHz
at 10pm CST

Sunday for Technical, Buy, Sell and Swap.
Tuesday, Thursday and Friday for Ragchew.

Treasurer's Two Bits

by Ron Freeman, N7UR

The treasurers report, as of July 14, 1999 is as follows: Our checking account is \$3,231.23. Our money market account is \$10,071.70. Total cash funds \$13,302.93.

All liabilities incurred by the association as of July 14, 1999 have been paid as of such date. We are in the process of completing the accounting necessary to file a federal income tax return for 1998.

The application for exempt status will be filed subsequent to the completion of our return. The process of applying for exempt status may require amendments to association bylaws.

n7ur@dancris.com

The **Signal** is published quarterly by
The Collins Collectors Association
Copyright 1999, all rights reserved.

Sandy Meltzer, KW6KW, President
John Bess, WA5VVT, Vice-President
Butch Schartau, K0BS, Vice-President
Floyd Soo, W8RO, Vice-President
Jim Stitszinger, WA3CEX, Vice-President
Ron Freeman, N7UR, Treasurer
Mac McCullough, W5HPM Mem. Secretary

The Signal

H Michael Crestohl, W1RC/VE2XZ, Editor
tel: 802-658-9554 - w1rc@amsat.org

Sandy Meltzer, KW6KW, Production

The CCA is not related in any way to the
Collins Radio Divisions of Rockwell Intl.

The Collins Collectors Association

P. O. Box 10459

Phoenix, AZ 85064-0459

Editor's Operating Desk

by Michael Crestohl, W1RC

G'day, Eh??? I am Michael Crestohl, W1RC, (also VE2XZ) new Editor of THE SIGNAL. I'm proud to have been offered this position and hope that I can keep up with the fine tradition of high quality publications produced on a regular basis; one that members look forward to receiving as just one of the many benefits of membership in this organization.

I live in Burlington Vermont with my wife Cynthia (VE2QF) and daughter Yettive, age 1. I have only been a member of this organization for a short time; 18 months to be exact. I'd like to take this opportunity to thank Bill Wheeler, K0DEW, C.C.A. Founder and President Emeritus, for introducing me to the club at Dayton in 1997 and inviting me to join. I have been interested in Collins Radio equipment for over thirty years. My first piece of Collins gear was a WW-II Navy TCS-12 station shortly followed by a KWM-1 (yeah, I know, they were cheap back then). I now have just about every piece of Collins equipment I ever wanted except for the KWM-1 which I sold to buy the KWM-2A I still have. Wonder if I'll ever get another one?

We must never lose sight of the fact that we are not just dealing with radios here, but with true artifacts—museum-grade pieces, if you will. We may have purchased them and possess them but we don't own them. We merely have temporary custody of them.

Call for Nominations: CCA Board of Directors

The Collins Collectors Association will be electing two new members to its Board of Directors in September. Board members whose terms expire are John Bess, WA5VVT and Floyd Soo, W8RO.

Anominating committee consisting of Peter Lower, VE3URO (Chair), Gayle Lawson, K0FLY and Dirk Scholten, W8IQX has been appointed to co-ordinate the nominations and elections.

All members in good standing of the CCA are invited to submit nominations for the above vacancies on the board. All Nominees must be members in good standing of the CCA. All nominations require a nominator and a seconder. All Nominees must be contacted in advance and their willingness to stand for office confirmed before their names are submitted.

All Nominees who accept a nomination MUST prepare a bio (250 words) briefly describing relevant personal history, ham activities, their vision for the future of the CCA and, most importantly, a clear statement of what their presence on the Board of Directors

A great responsibility comes with this first-generation custody—we must take care of them, maintain them, use them and respect them and the men and women who designed and built them. It is also our responsibility to document them—if not for ourselves but for the future enthusiasts who will hopefully treasure them as we do once we no longer have need for them.

When dealing with documents and copies thereof, the matter of copyright will be of great concern during my tenure as Editor. Consequently a copyright policy has been formulated to address the concerns regarding reprinting material published in THE SIGNAL. We must respect each other's rights as well, including the rights derived on creation of an intellectual property. If you or your club want to reprint something you read in THE SIGNAL you must ask permission from the person who owns the rights to that article. This is usually the person who wrote it but if you are not sure please contact me and I'll see to it that your request goes to the right party.

Speaking of copyright issues, I am pleased to announce The Board of Directors has successfully negotiated an agreement with Rockwell Inc., whereby now the CCA has been given official authorization to reprint and distribute Collins Amateur line manuals and documentation. Plans are underway to

will bring to the CCA. Since your bio is often the only information other CCA members have about you, it is vital that you submit a bio in order to be a viable election candidate.

Membership on the CCA Board of Directors requires a major commitment of both time and energy. The Directors are responsible for the overall operations of the CCA including the planning of all CCA gatherings, the care and feeding of the CCA Web site, the publication of the Signal and the recruitment of members to fill key positions such as Treasurer, Membership Secretary, etc. They set the tone of the organization and set its course for the future. Directors must be able to attend key CCA functions including the annual Dayton gathering plus at least one other national gathering per year. Prospective Nominees are urged to give strong consideration to the high level of activity and participation that will be expected of them should they be elected. They are also asked to consider whether or not a conflict of interest might arise between their position on the CCA board and any other undertakings should they be elected.

Election ballots will be mailed to all members with the Fall issue of the Signal, on or about September 16th, 1999. A deadline

scan these manuals and documents and make them available on a "Members Only" level to the CCA Web site as a new added membership benefit and in the near future any member with Internet access will be able to download lots of good stuff for his or her library.

One of the goals I have set during my tenure in this position is to help produce issues of THE SIGNAL that are worthy of being kept for the information they contain regarding the care and feeding of Collins amateur radio and selected military equipment so future enthusiasts might enjoy them as much as we do.

Yes folks, things are happening at the CCA and I cordially invite you to participate. In order to achieve my goal I need help—your help. The manual scanning project will need volunteers. Also a technical review committee will soon be formed to review any technical articles or modifications to determine their validity and usefulness. I would be very happy to receive articles, suggestions and other material for this newsletter. Remember this is YOUR club and newsletter but it is only as good as YOU make it!

I can be reached by telephone (802-658-9554) or e-mail (w1rc@amsat.org). I look forward to working with many of you on some of the above projects.

for receipt of completed ballots will be announced at that time. The ballots will be received and tabulated by the nominating committee who will convey the results to the President and the Board. Election is by majority vote. The results will be announced on or about October 16, 1999.

Please forward all confirmed nominations directly to any member of the nominating committee by e-mail or by "good-in-the-book" snail mail. This "call for nominations" will be posted to the Reflector and CCA Web site, please spread the word. The deadline for the receipt of nominations and bios is FRIDAY, AUGUST 20th, 1999.

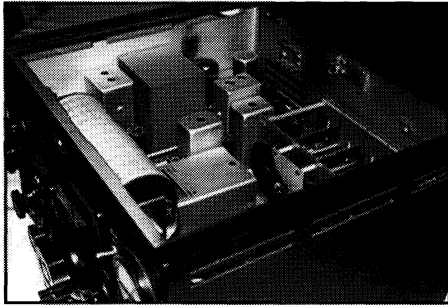
Let's beat the bushes for our best and brightest!



Dayton Hamvention '99 - "Only Dollars Away"

A Brief History of Collins-Canada - Part 1

(continued from page 1)



75A-4...made in Canada

The 75A-4

The 75A-4, last in the illustrious line of receivers designed by Roy Olson at Collins, was the fifth generation of the A series beginning with the 75A proper in 1946. The 75A-4 was the first piece of amateur radio equipment produced at the Collins-Canada plant. It was produced from 1957 through 1959 and was moved to Toronto to make room for S-Line production which was gearing up in Cedar Rapids.

The Bermondsey Rd. plant had a single production line dedicated to the production of the 75A-4 Receiver. This line was staffed by twelve or so "girls" who assembled an estimated three to five receivers per day. Jack Gutman did the final tests on the rigs as they came off the line and recorded the relevant data on the sheets. All 75A-4's produced in Toronto have "Collins Radio Company of Canada Ltd." stencilled on the rear of the cabinet. The serial numbers of the A-4's produced in Canada have proven a challenge to trace and confirm.

As the CCA Technical Data Sheet (A97-001) compiled on the A-4 indicates, the serial numbers of existing 75A-4's produced by Collins-Canada are above 4000 with some reports of Toronto-built radios bearing 5000 series numbers. A survey undertaken for this article confirms the existence of a number of 75A-4's made at the Collins-Canada plant with serial numbers above 5000 including S/N 5234 and S/N 5309. Additionally, a number of radios also with serial numbers above 5000 have been confirmed as originating in Cedar Rapids. Serial numbers 5555 and 5749 have been reported. So were the A-4's of Toronto vintage built between 1957 and 1959 truly the "last of the line"? An ad placed by the Harrison Radio Company of New York City appearing in the November, 1959 issue of QST, highlights the fact that the 75A-4 was in demand but becoming scarce and that the most recent units had been built by Collins-Canada:

"Right now we have a limited supply of the more popular-than-ever 75A-4 receivers.

Collins made them in their Canadian factory to the very highest standards....We bought all they had and, to pass the savings along to you, we have just been authorized to reduce the price. Every one is brand new, with all the latest production improvements. In factory sealed cartons and fully guaranteed by Collins and by us." The new-in-the-box price? \$785.00 including the 3.1Kc filter. The stuff that dreams are made of!

We know that the A-4 production line in Toronto shut down in late 1959. What we don't know for certain is whether additional A-4's were built after that date in Cedar Rapids. Gene Robinson, N5L DX, who owns #5555, worked in the Cedar Rapids broadcast division from 1962 to 1967, and believes that an additional 500 units were built in Cedar Rapids following the closure of the Toronto production line. This would mean S-Line production and 75A-4 production overlapped at Cedar Rapids somewhere around late 1959 and early 1960 and would certainly explain the existence of high 5000 serial numbers on Cedar Rapids-built radios. Of course it's also possible that the serial numbers appearing on the Toronto and Cedar Rapids radios were not consecutively assigned. Further research is clearly in order to solve this minor mystery.

Collins-Canada did no production runs of the KWM-1 or the KWS-1 both of which were produced exclusively at the Cedar Rapids plant. Some A-4 accessories were manufactured in Toronto including the 312A-1 speaker console, 270G-3 matching speakers and the SC-101 station control system. The owners manuals were also published by Collins-Canada and shipped out with the finished units. A price list published by Collins-Canada in June of 1959 lists the 75A-4 for \$702; the SC-101 for \$702; the 270G-3 speaker for \$40; the 312A-1 speaker console for \$40 and a 6kc. filter for \$63.85! All mechanical filters were manufactured in Newport Beach, Ca. and trucked to the Toronto plant. And while the majority of the parts that went into the 75A-4 were trucked in from Cedar Rapids, some key components were Canadian-made. The Hammond Transformer company of Guelph, Ontario manufactured the power transformers and cabinets. The actual number of 75A-4's built by Collins-Canada has proven difficult to confirm. Estimates range from 400 to 500 up to 1500.

Part 2 continues in the next issue!

Send us a picture of your shack, along with you callsign, and any shack information and we may use it in a future issue of the Signal. Just mail it to the CCA address.

Members Honored at Dayton Banquet

The following members were recognized at the CCA Banquet in Dayton for their many contributions to the CCA:

- Bill Wheeler, K0DEW - for founding and fostering the CCA.
- Dave Kelley, A17R - for helping to create and maintain the Collins Reflector.
- Norm Drechsel, WA3KEY - for allowing the CCA to use portions of his Virtual Collins On-line Museum for our web site.
- Jay Miller, KK5IM - For his outstanding contributions to the CCA including his publication of The Signal, technical data sheets, and for organizing the first annual CCA convention.
- Gary Leininger, W7YO - For his outstanding effort in providing a smooth transition of the Treasurer's responsibility as well as acting as Membership Secretary.
- Art Lewis, WA8V SJ - for organizing the hotel arrangements at Dayton this year, for assisting Gary W7YO with various Membership activities and for helping us as a net control station on our Sunday nets.

In the Shack



K7ER - Elliott Klein's "Collins Dream Shack"

The basic design concept and layout of the K7ER ham shack is based on the modern design of a commercial radio station broadcast control studio. The main operating position features a Collins 212G-1 broadcast audio control console. This control console is equipped with spring loaded lever keys that are wired to "key up" each operating station. There is a separate S/Line and matching linear for each of the HF amateur bands. All stations are controlled from the one operating position. The equipment turret to the left of the operating position houses external audio processing and distribution equipment, so one microphone feeds all operating positions. The equipment turret to the right houses RF power, frequency and modulation monitoring equipment. Mounted into the wall a Collins 20V-3 and a Rockwell/Collins 820D-2, both are for use on AM.