October 30, 2007

This is the Twelfth and Final Section of the manuscript "Radio Stations Common? Not This Kind"

by Spurgeon G. Roscoe
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Coast Guard Radiotelegraph Operators Certificate # 054
Amateur Radio Station VE1BC

I felt I should have known these ships well enough to locate the call sign for each. As can be seen I failed to locate a portion of this information. Years ago the VCS station was one of the few organizations in the country to receive a list of the radio call signs and equipment fitted in Canadian ships. Due to budget restrictions this publication was terminated. Every vessel of every description should have been listed correctly in the International Telecommunication Union Publications. There were so few, including our yachts, fishing vessels, warships, any vessel registered in Canada that any one person should have been able to easily keep this information up to date if they stayed awake at least half of the working day. The lists of many of the Canadian ships in the International Telecommunication Union Publications were incorrect, such as the fishery patrol vessels were listed as cargo vessels and so on. Our warships were not listed for security reasons. One can easily get their call signs because they "make their number" while entering and leaving port and for this reason it makes this excuse a bit ridiculous. The Canadian warships were listed in the International Telecommunication Union Publications until the 1960's. All Canadian call signs should have been listed randomly from our international blocks of call signs. Our warships, coast guard ships, and so on that have been issued special prefixes over the years stand out like a sore thumb. If they had been mixed up with all the other ships no one would have paid any attention to them.

To give an example of what it was like for foreign stations to communicate with the Canadian fleet we had no better example than the evening of January 25th, 1980. For some reason the M.V. ALGOSEA with call sign VODB wanted to communicate with the United States Coast Guard and called same on 2182 kilohertz. 2182 kilohertz was radiotelephone only. The U. S. Coast Guard kept answering each call but to our knowledge communications was never established. An hour or so later Chatham Radio WCC called ALGOSEA (on 500 kHz radiotelegraph) but she did not carry a radio operator so no contact was made, and another telegram had to be paid for and go undelivered.

Wayne Farrar, George S. Butts Photographs Limited

MV ALGOSEA.

The flags flying mean nothing other than those on board knew a photograph of her was to be taken and they simply flew the flags to add some colour.

Another good example of the confusion that took place then was with the Captain of the BAIE COMEAU 2 with call sign VCBD. He was phoning the Canadian National Telegraph Office direct with any messages. On top of the regular message charges there were the marine telephone duplex charges. A bit ridiculous to say the least! Whatever prompted this practice must have been something stupid or at least involved a lot of ignorance to say the least.

Call signs have always been a point of interest to me. As you can see from the above list of ships, there was no rhyme or reason behind the practice of issuing these important characters of our day to day job. The assignment of call signs to the Canadian Broadcasting Corporation transmitters from the international block of call signs assigned to Chile, and the assignment of call signs to the Canadian National Railroad transmitters assigned to Morocco made absolutely no sense and actually defeated the purpose of these call signs.

The Canadian Coast Guard made it mandatory for all ships of sixty-five feet or longer to advise the past history of the vessel and any move they so much as contemplated while in Canadian waters. This would have made for an excellent point to use as the division for all Canadian vessels between the four letter call sign and the other thing, two or three letters and four digits. As near as I can determine the six character call sign came about in this country in order to copy the call signs of the United States. At least that is as close as I can come to an explanation for the first of these. At the time we had plenty four letter combinations so there seems to be no other reason. Right after World War II the United States went to this system because of the number of call signs it needed for the many small pleasure craft being fitted with radiotelephone. Canada followed suit with a call sign consisting of a CY prefix followed by four digits. Since, this had been broken down as follows: CG and four digits – Government vessels, CZ or VG and four digits – West Coast, VA and four digits – Great Lakes, and VC or VY and four digits – East Coast. This would be quite adequate providing they had been assigned permanently (they were not), providing they had not been assigned to radiotelegraph stations (they had been), and providing they had been properly entered in the International Telecommunication Union Publications.

Shortly after this system of two letter prefixes the Department of Communications came out with another call sign, the one with a three-letter prefix and four digits. The first two letters of the three-letter prefix were taken from Canada's international allotment of call signs. These call signs were assigned from Regional Offices. If a licence was allowed to lapse for a period a vessel was often assigned a new call sign

when its licence was renewed. The same applied to a vessel that was licensed in one area and then renewed its licence in another area. Rather confusing for those who had to use them. There were many just plain errors. Several vessels were assigned a Land Station Licence with three letters followed by three digits. Sable Island was assigned three letters and three digits as an amateur radio station licence when VE1MTA had already been assigned for that purpose. This would not have occurred if there had been a licensed amateur operator in charge. The problem was that this confusion was not contained within our national borders, but was broadcast around the world for all to hear.

One could go on forever describing these call sign allotments and the advantages of radiotelegraph over radiotelephone. It is all a waste of time now because it has been replaced. The cliché that all ships used English as the international language of the sea could be accurate, but much of the English we heard sounded nothing like English to us. Many a duplex radiotelephone call was made whereby the operator, after many attempts, managed to decipher the phone number only, and the ships call sign. Fortunately the ship was listed in the International Telecommunication Union Publications and the guesstimate on the phone number proved accurate.

One evening I witnessed an incident. Our Chief Engineer asked our Captain, “How in hell can you talk over that thing?” meaning the single side-band in the chart room. The Captain answered to the effect that he sat in front of it and closed his eyes very tight, concentrated real hard, and managed to get the most of what was being said. Is that communications? It was unreal, when all the Captains had to do was write on a piece of paper, hand it to their radio officer and wait for a reply. It was amazing that they would put up with it for hours on end to get a brief question answered that a radio officer could get in seconds.

Linda Mason

This is the MV GERMA LIONEL leaving Bridgewater, Nova Scotia, for Belfast, Northern Ireland, with a lumber cargo December 1979. The village of Dayspring is in the background. The ship has a pronounced list because it needs some water ballast for trim. Captain Jan Larsen did not want to use the silted water of the LaHave River and waited until he reached the clean water of the Atlantic. This was GERMA LIONEL’s maiden voyage. These small ships that came for wood products in one form or another have disappeared. They all carried a Radio Officer.

Linda Mason

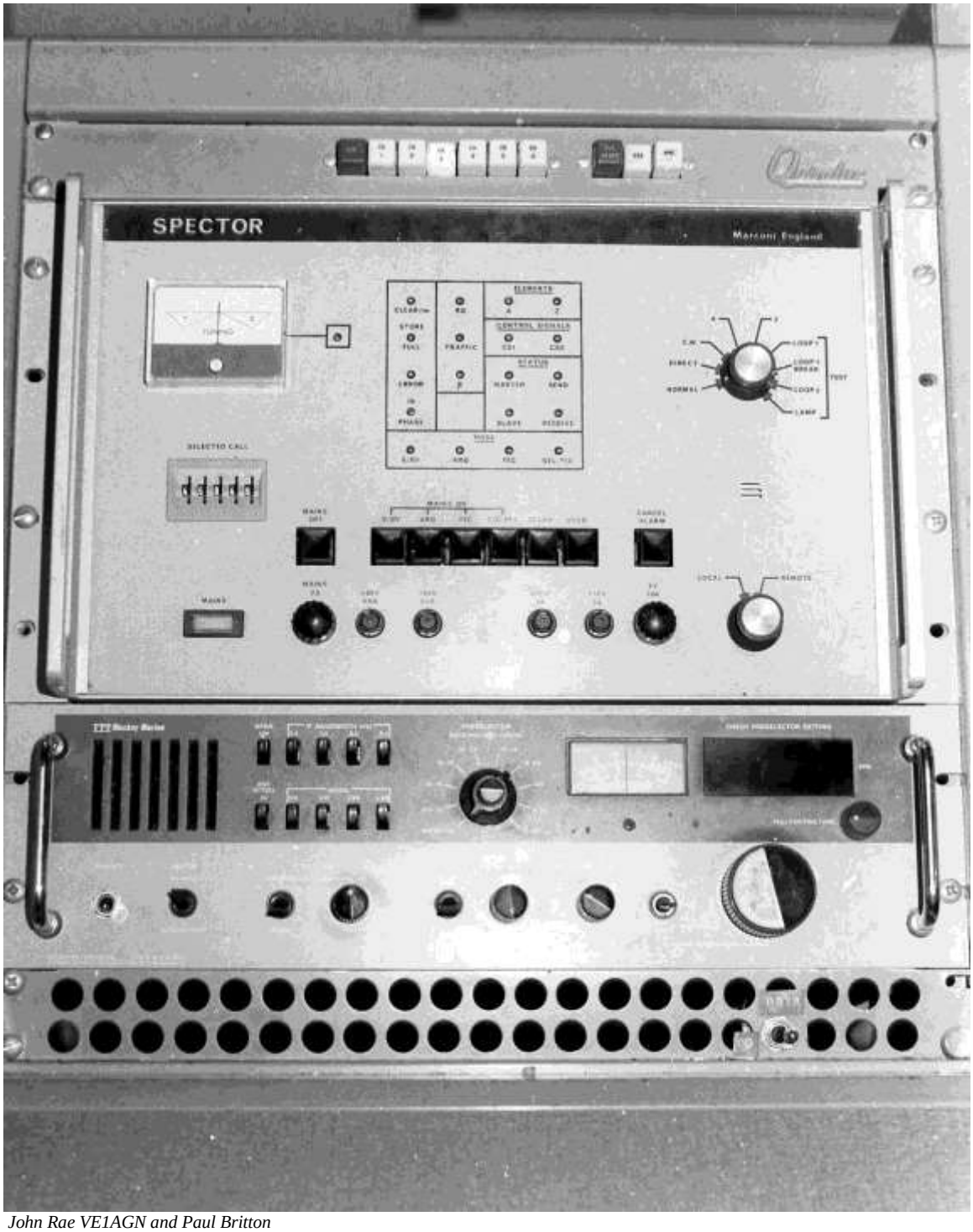
This is Radio Officer Alf Ditleff operating the radio station in MV GERMA LIONEL that had international call sign LHXK.

SITOR

They claim one piece of equipment performed better over the radio spectrum than radiotelegraph. This equipment was known as Simplex Telex over Radio and abbreviated SITOR. It was a form of radio Teletype or telex and outshone an operator for two reasons. One, it would operate on signals so poor the average operator could hear nothing. The other was the simple fact that when it was in the Automatic Request for Repetition mode, ARQ, before the receiver printed anything, it confirmed that it was received correctly from the transmitter. There were several forms of this unit created around the same time, but it had to be accepted on an international basis. After all forms had been assessed it was decided to accept the design of the Dutch Philips Company. It was an amazing piece of communications equipment, but to be honest the only thing I can think of that could make good use of it would be the old passenger liners, that have long since joined the Dodo birds and many other articles. It was something of this nature that Marconi was hoping to put into service when he first fitted ships with wireless. SITOR was faster than radiotelegraph and therefore capable of handling much more traffic. It still required an operator that knew how to tune it to the proper frequencies. Therefore, why any ship owner would go to the expense of installing it was a bit of a mystery.

The VCS station was fitted with one of these SITOR units and the first contact was with the tanker M.V. CLYTONEUS at 1400 GMT, October 6th, 1978. At the time she was estimating Holyrood, Newfoundland, by 0500 GMT, on October 11th, coming in from Puerto La Cruz, Venezuela. When this VCS SITOR was placed in service it did little to justify the electric power it consumed. Some of this lack of use was the VCS stations fault. It was not hooked into the regular telex system so that the ship could call directly into any office telex machine ashore and be billed for the time it was connected to any landline telex machine. The VCS station charged for any service via SITOR by the word as though the ship had used radiotelegraph.

John Rae VE1AGN and Paul Britton



John Rae VE1AGN and Paul Britton

This is the SITOR operating position at VCS on May 19th, 1980. The cage over the standard telex machine was to reduce the noise from this machine. The main unit is the Marconi Spector via a Sweep-tuned ITT Mackay Receiver. The push buttons above the Spector unit select the various transmitting frequencies.

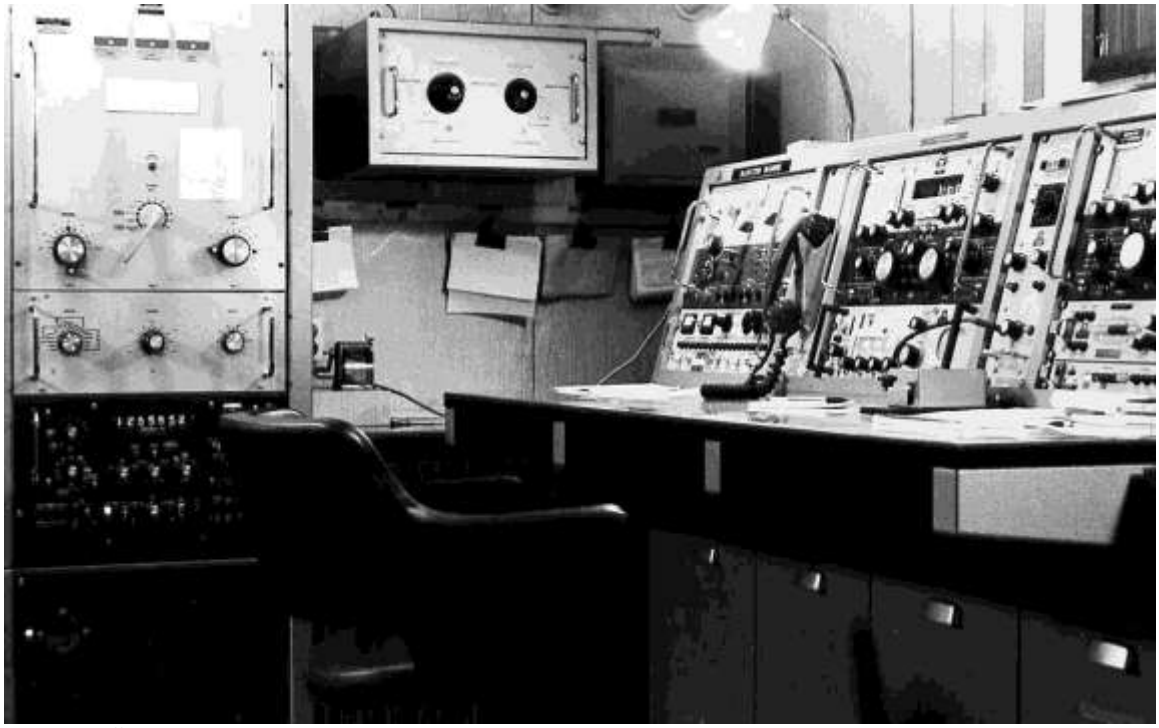
John Rae VE1AGN and Paul Britton

This is the Aircom five kilowatt SITOR transmitter at the VCS transmitter building, Pennant, Nova Scotia on May 19th, 1980.

Skyfotos Limited, Kent, with compliments Ocean Transport and Trading Limited

MV CLYTONEUS

Electrical Officer Terry Trueman MV Clytoneus



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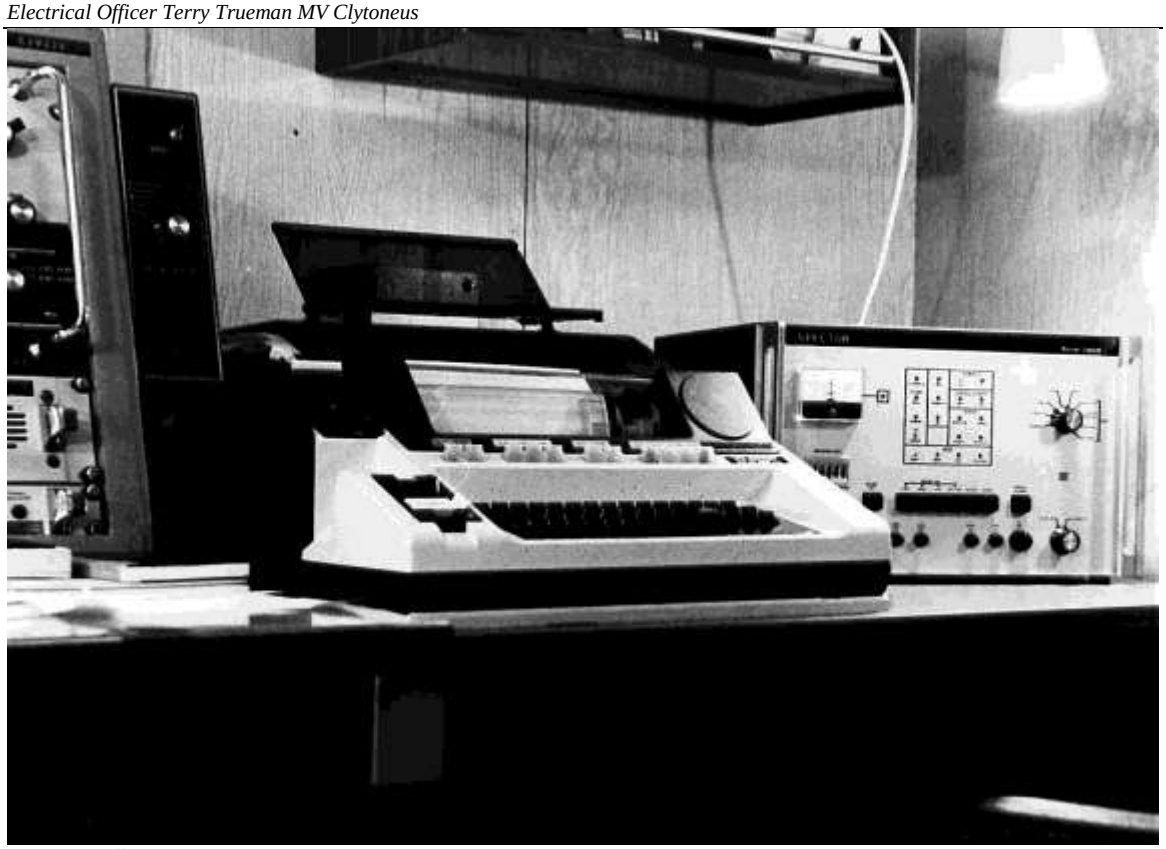


Electrical Officer Terry Trueman MV Clytoneus

This is the Radio Room in CLYTONEUS with call sign GUWG showing the first ship station to contact Halifax Coast Guard Radio VCS via SITOR.

The VCS station did broadcasts via SITOR and the weather was broken up in various parts rather than the two complete forecasts. Learning that anyone copied these first broadcasts was a shock because the basic behavior of the beast produced this problem or characteristic. Any operator at sea did not leave it tuned to the VCS station frequencies. For example, Les Sells, the operator in the CLYTONEUS left his SITOR tuned to Bermuda Radio VRT where he received the majority of his operational traffic. When this SITOR was first put on the air in what was known as the FEC mode, it was transmitting in an advanced form of radio Teletype. When it was used with the ARQ mode with the self call numbers assigned to each unit, it performed in a more or less confidential condition. At least the amount of secrecy that mode provided should have been ample for any commercial communications. While in the ARQ mode the receiving unit confirmed each character with the transmitting unit to assure accuracy. This was known as the hand-shaking method.

The third mode available was a combination of the other two. This mode, the SEL FEC mode used the self-call numbers but the messages were sent in the same way as the FEC mode. The difference was that the receiving unit with the self-call numbers placed on the transmitting SITOR was the only unit that would receive any messages transmitted.

In other words, the receiving SITOR used its transmitter in only the ARQ mode. The receiving SITOR alarms were activated in the ARQ and SEL FEC modes only (the two modes that required the self call numbers). These alarms alerted the operator at the receiving SITOR of incoming traffic.

The first VCS station SITOR boiled down to the lack of a fleet of Canadian ships fitted with these SITOR stations. We could have made use of this unit transmitting the lengthy competition messages to the Coast Guard ships, but by the time the various bureaucratic departments produced these units aboard these ships and had them working properly it would have taken many years. Transmitting these lengthy messages would have left the other radiotelegraph circuits available to the merchant ships, those that were paying for the service. Those government messages were free from charges and that was a poor way to look at any of the service at the VCS station. If that had become the deciding factor on the station's operations it would have been a different station entirely. Canadian National planned to fit all their ferries with these SITOR units and some of them actually did call the VCS station with these units. It was one frustrating piece of equipment at first because the majority of those who tried to use it managed to activate the VCS station SITOR alarm only. A few of the Coast Guard ships were fitted but before it amounted to anything the Coast Guard ships were fitted with SATCOM – satellite communications.

Apparently others felt the same towards SITOR as I did. The Federal Communications Commission in the United States issued licences to six amateur radio operators with the idea that they would be able to improve this system so that it would be more practical. The basic system did show a lot of potential and should have been an excellent means of passing large quantities of messages over the radio spectrum in a more reliable fashion. It would be hard to believe that the average merchant ship would have any use for such equipment and once again amateur radio had to step in and make the improvements for the commercial radio world. The amateur system was known as AMTOR for Amateur Telex over Radio.

It is interesting to note that one Greek ship arrived in Halifax with a huge pile of paper piled up behind his SITOR unit. No one could possibly read all that this entailed because he had simply left his SITOR tuned to the VCS station SITOR and had copied all that this station had transmitted – mainly weather and NOTSHIP broadcasts during his voyage or probably over a week. One could only wish that they had the contract to provide this ship with the telex paper it used.

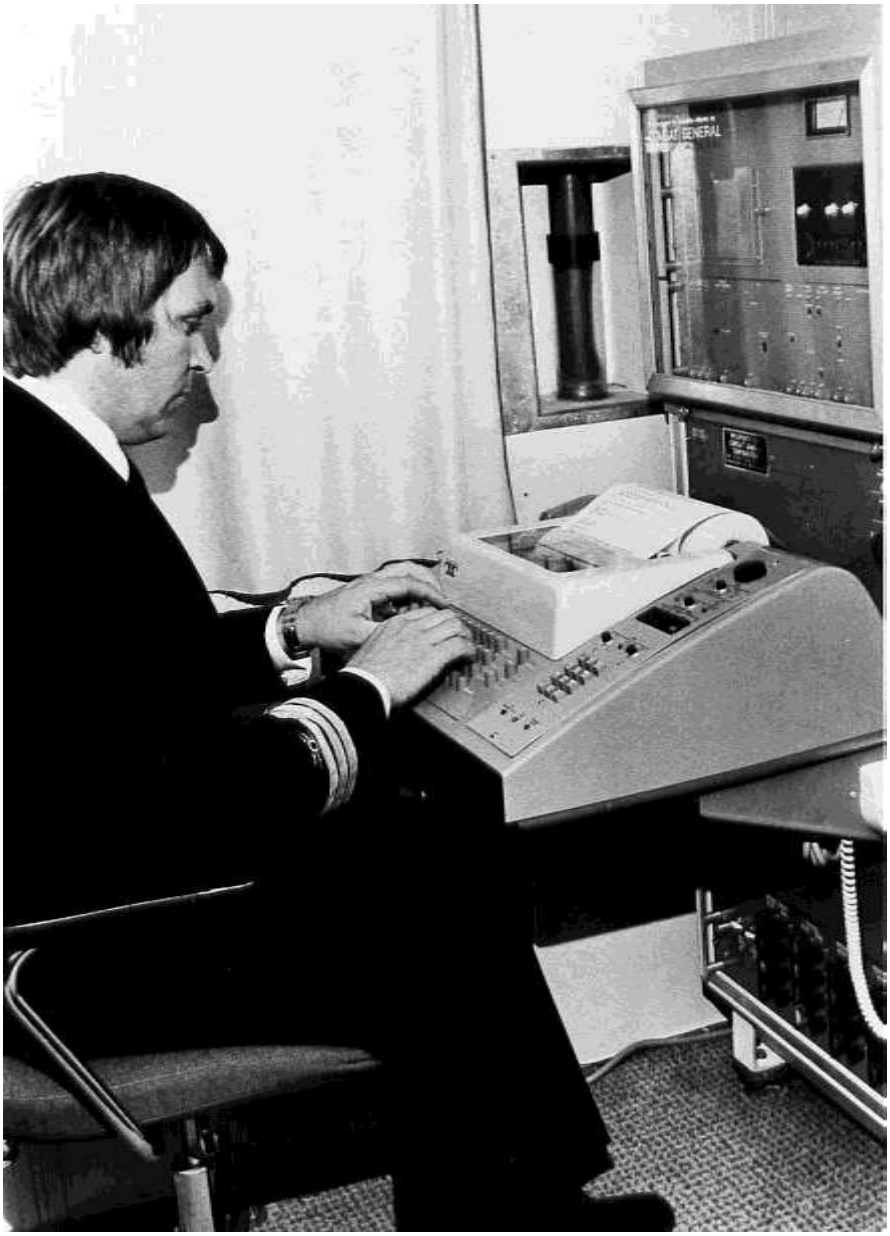
During the winter of 1987-1988 the VCS station received another major up-grade in the form of a more or less new station. Actually a new section was built right over the top of the old station and one resident of Sambro stated that he did not realize the old building was so ugly until they made this modification. When this new station, one might say, opened in May 1988 the SITOR was connected properly. It was hooked into the landline telex system and any use made of it was charged on a time factor only. It then worked much better and by this time those at sea were more familiar with their equipment and managed to make some use of this service.

SATELLITE

The satellite communications for ships deserves a brief mention. The VCS station had nothing whatsoever to do with this system. We had a few ships call us on our regular telex machines using this equipment when it first became available. This was the future means of communicating with most anything that was capable of traveling great distances. There are several basic facts worthy of note. The first and foremost is that the ship is not like the aircraft and capable of high altitudes and thereby long distances on the very high frequencies. Satellite communications is more or less the reverse of this feature. Hang the radio equipment at a high altitude and let it relay anything it hears. This of course provides for a very clear or interference free means of communicating. It also makes it very convenient for regular telephone conversations, telex, facsimile, and the multitude of these various electronic gadgets that have been made available over the years and require much radio spectrum space.

Providing I have interpreted my research correctly, this system had problems when first placed in service. The major naval powers became rather frustrated over the use of this communications system because it was so easy to put the satellite out of commission. Apparently it takes little to knock one of these satellites out, and if we can believe the information we were permitted on the subject, this is exactly what had been taking place with a number of these units over the years when first placed in service. For some time I felt that the United States Navy was going to have as little as possible to do with this system. Then an article on the subject claimed the U. S. Navy was having a change of heart and was going to agree on absorbing much of the cost for this satellite system, whereby it would use half the circuits available and leave the other half for the world's merchant fleet. The U. S. Navy planned to absorb most of the cost of the merchant fleet's half of the satellite in order to see much of the world's merchant fleet fitted by the year 1985. I would say that they achieved this goal from the decrease in message traffic handled at the VCS station. There were many Canadian ships fitted with Satellite Navigation equipment at this time but that was a different system completely. The first two Canadian ships fitted with satellite communications were the Canadian Coast Guard Ship JOHN A. MACDONALD with call sign CGBK, and the CANMAR KIGIORIAK with call sign VCFN. These two were no different from the foreign ships, such as Britain's QUEEN ELIZABETH 2, with the old QUEEN MARY's call sign GBTT. They complained bitterly of the very high cost involved in using the equipment and therefore ignored it as much as possible. In other words, why should one group of people, mainly the American taxpayer, be expected to pay so much for so little? It was rather ridiculous when one looked at it realistically.

CANMAR KIGIORIAK on her way north to the Beaufort Sea wanted to know if the weather service would reimburse the cost of her sending weather observations on this unit, and if not they would transmit them when in range of a radiotelephone station only. She did not carry a radio officer on this trip although the company apparently planned to put one on board. The same old excuse we heard over and over.

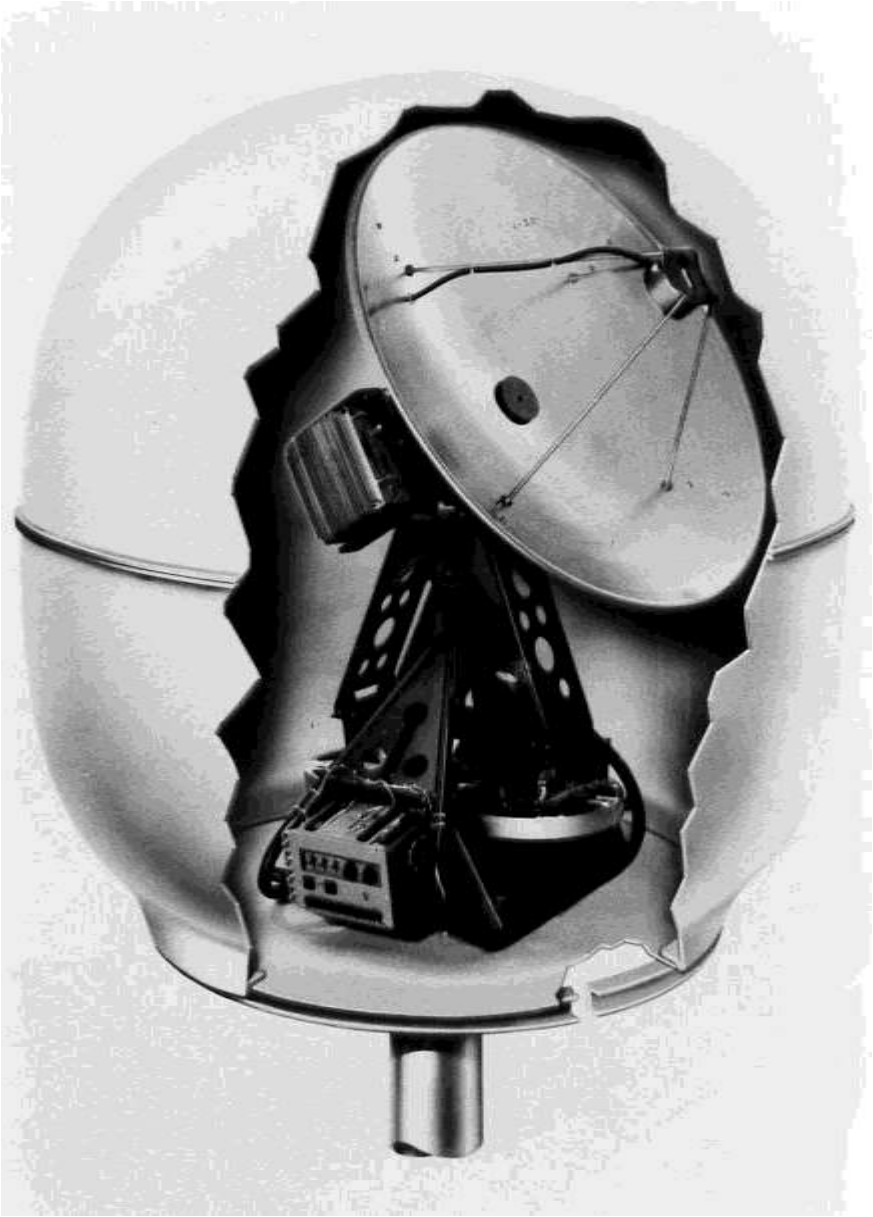


Marine Engineering/Log

This is Chief Radio Officer Per A. Mikalsen of the ROYAL VIKING SEA testing the below-decks terminal unit of the cruise vessel's new MARISAT satellite communications system around 1979.

Marine Engineering/Log

The MARISAT Antenna on ROYAL VIKING SEA designed by Scientific-Atlanta Inc. was housed in a protective fiberglass cover. The antenna is continuously pointed to the satellite.



Marine Engineering/Log

This is a cutaway view of the above-decks system of Magnavox MX 111 MARISAT communications terminal. System allowed operation with roll angles of up to 27 degrees and pitch of 10 degrees.

Wamboldt-Waterfield, Halifax, Nova Scotia

This is the ROYAL VIKING SKY docking at Halifax, Nova Scotia, on May 15th, 1980. The three cruise ships, ROYAL VIKING SEA, ROYAL VIKING SKY and ROYAL VIKING STAR were identical. The above-decks unit of the Satellite Communications System fitted in ROYAL VIKING SKY can be seen at the base of the mast along with her Direction Finder Loop Antenna.

Stan Cairns, the Station Operations Supervisor at VCS at the time, asked me if I knew of any way the JOHN A. MACDONALD could communicate with the Dartmouth Office other than by the satellite system while she was in the Beaufort Sea. Apparently he had received this request from somewhere higher up the bureaucratic ladder. Needless to say this request did not sit too well with me. God knows my good friend

Bill Demish worked hard in order to get radiotelegraph installed at Inuvik Radio VFA when we were stationed there. In other words the question made no sense to me. The same ones that were looking for the answer were the same ones who were already paying for an excellent system and not using it. They had two operators in JOHN A. MACDONALD, telex in Inuvik, and operators there. All they had to do was get on the ball and get these characters working. Needless to say, I then went "around to the back door" and checked this from that area. There were a number of these CANMAR ships that had been in the Beaufort Sea for a few years looking for oil. A number of them carried radio officers. These operators told me that when they first went up there they tried to use VFA Inuvik but the station was completely hopeless so they installed their own station. Some consideration should have been given to sending a few good radiotelegraph operators to the various northern stations so that these ships could have had good communications.

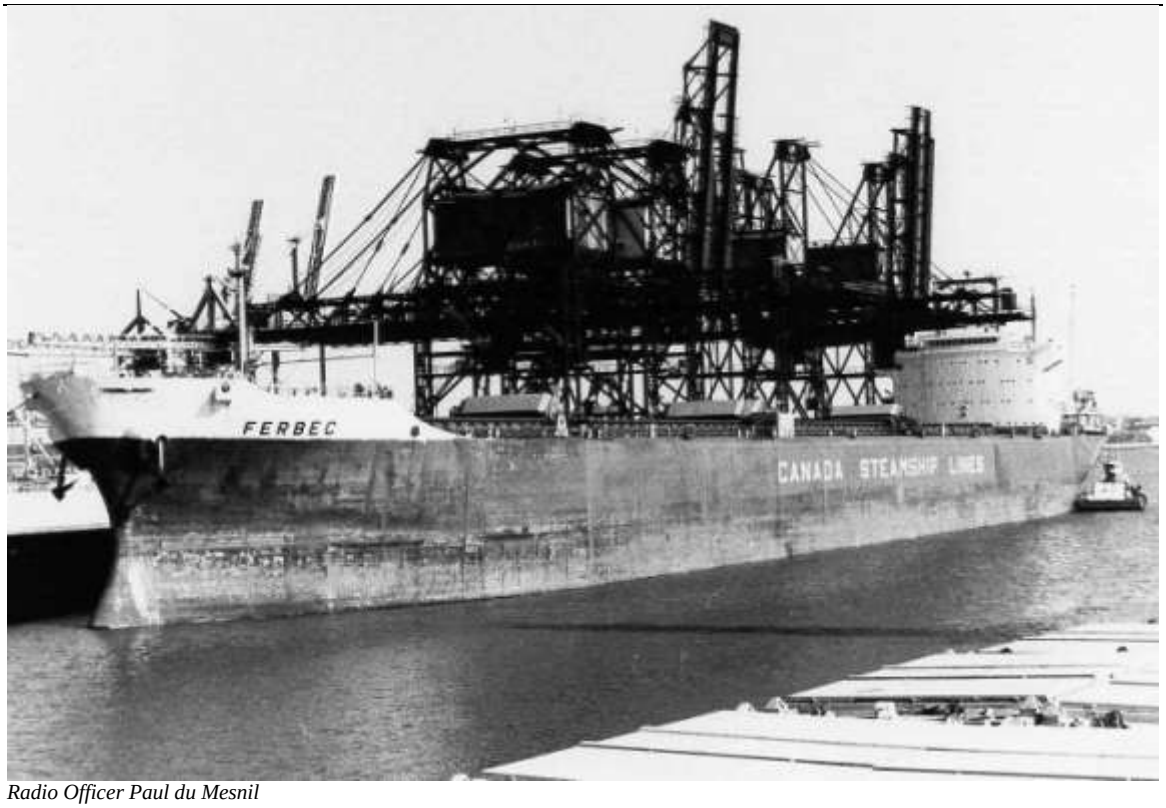
The landline-telegraph operator, the aeradio telegraph operator and the marine radiotelegraph operator have all joined the Dodo birds and many other obsolete objects. Many of them can be heard on the radiotelegraph portion of the amateur radio bands keeping the dust off their old keys. Many of the landline operators formed their own clubs and once a year or so hooked up their equipment and did some reminiscing. A few of these occasionally phoned a former friend on the line and had a chat via their sounders over a standard telephone.

The Russians and the Japanese were probably the ones with the best radiotelegraph stations fitted in ships. The Russians apparently used radiotelegraph to the point their vessels on their inland rivers and lakes carried operators. These guys were good. When I visited the operators in the VASYA KOROBKO with call sign USDU I found them making a modification to their Direction Finder. They had received word from home to make this change and they were down to removing resistors and capacitors, shifting them about to accomplish this change. VASYA KOROBKO was a small general freighter but she carried two operators. The Chief had a number of years in the trade including some time in a Russian Icebreaker. His junior had not been long out of school. They told me they came from the Leningrad area and had to spend five years in radio school before they were allowed on a ship. As I received my second class certificate from less than one year in radio school, there has to be something to be said about who is likely to be the more efficient. Having contacted the Chief over the air prior to my visit, I well knew that I would need my seat belt hooked up if I intended to stay with him at the top of his limit on the key. Actually he could have quite easily buried me in the dust from my own speaker if he had opened up on me. But there were two items I found more interesting than the others from this visit: Their tools were no better or no worse than ours and the soft rubber handle grips on his pliers appeared not only the same material as ours, but they were the same shade of red. The big surprise was when he let me sit in his operating position. Whoever designed that had done some operating. I never felt more at home in any operating position. Even the transmitter meters were tilted so that a mere glance would indicate the full details of what was taking place within her innards.

VASYA KOROBKO was fitted with two main transmitters and two main receivers at the operating position. There was a choice of an ordinary hand key, two sidewinders – a form of semi-automatic key similar to our bug, or a keyboard key – a typewriter keyboard that sent Morse code. The latter was stowed away because the operators preferred the sidewinders. In addition to this she was fitted with the standard equipment: radar, loran, direction finder, and facsimile for copying weather maps transmitted over the regular radio frequencies. All this equipment was well constructed and looked as though it had been built for an Army tank rather than a ship. It looked reliable and as though it could be easily operated and maintained.

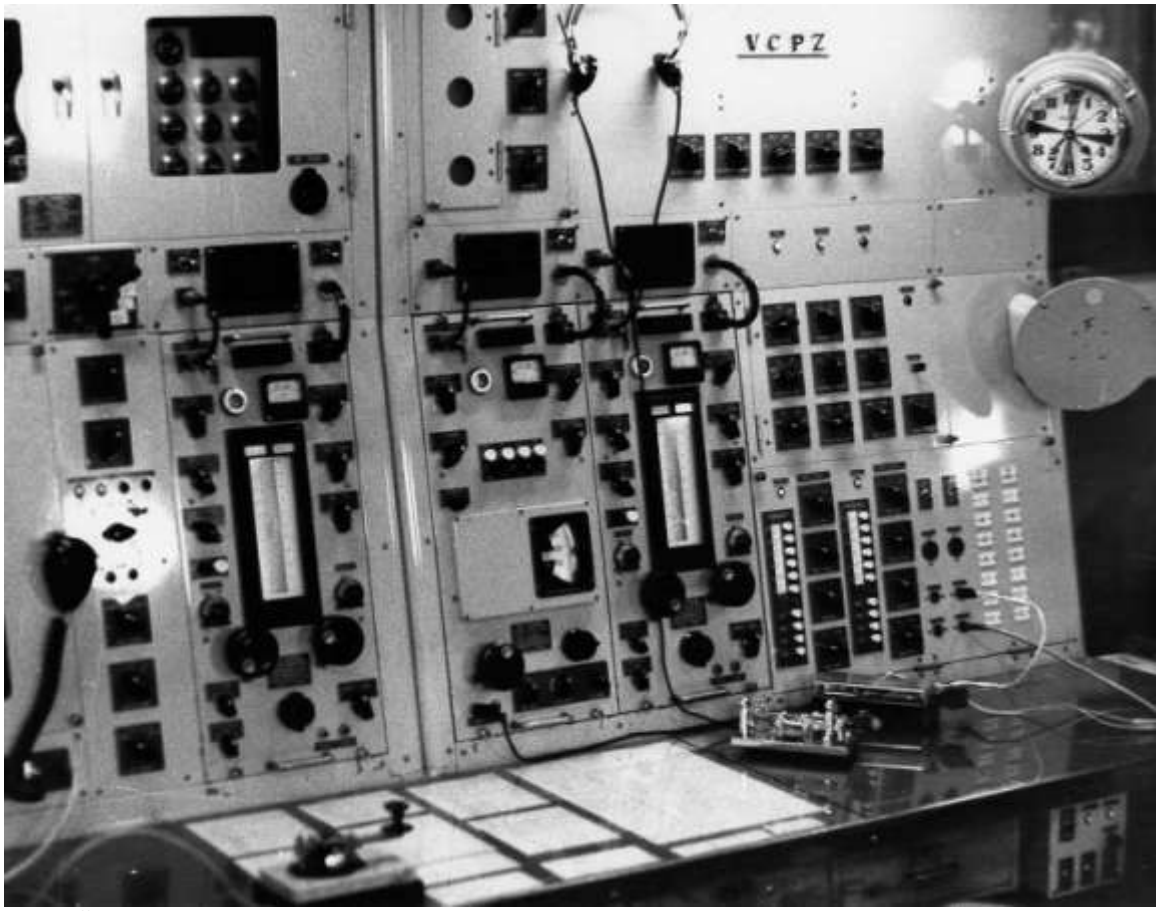
I had taken some old radio publications and had copied all the latest weather maps on my facsimile with hope this would give me access to her radio room. My British Mufax Facsimile had been working at its best but on seeing the maps this Russian Chief had copied from the same transmissions (CFH), I then wished I had thrown mine overboard. His were much better. I was most impressed by this visit. The ship was most impressive; clean, carpeted throughout, house plants in the various cabins, even a small theatre with a movie showing Momma with tears in her eyes while her son went off with the Army to machine-gun the hell out of someone or something.

The Canadian vessel FERBEC with call sign VCPZ started out in 1966 as the Japanese vessel FUGAKU MARU with call sign JFFM. Paul du Mesnil spent some time as her radio officer and also on the VCS station staff. Paul was the last Canadian seagoing radio officer as well. He was most impressed with the Japanese radio station that had been retained in the transfer of FUGAKU MARU to the Canadian flag. The direction finder of this station was fitted in the chart room as most were. A jack was fitted next to this direction finder. This jack permitted the operator to take his telegraph key from the radio room and plug it in at the direction finder, in order to key his main transmitter and use the direction finder as a receiver. This arrangement was a big asset in handling the communication involved in a distress situation.



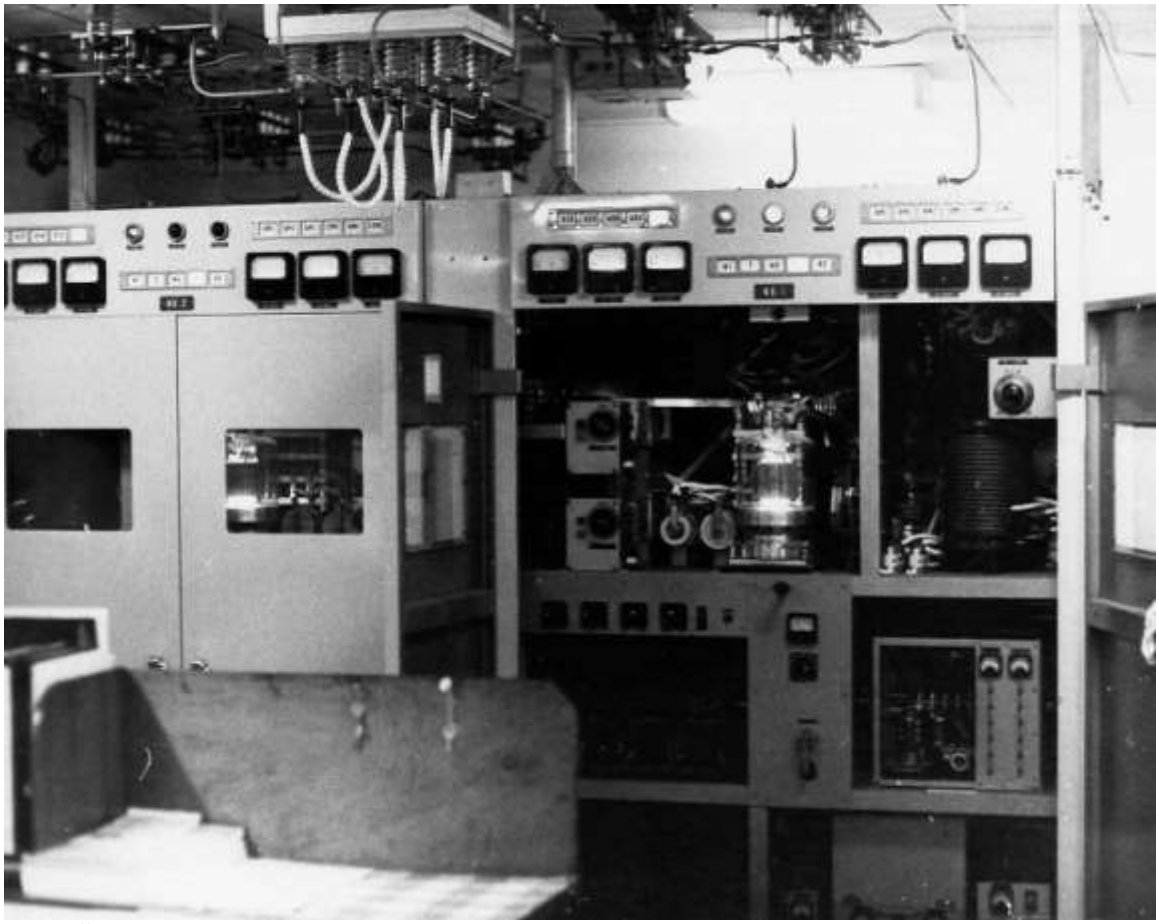
Radio Officer Paul du Mesnil

This is the MV FERBEC the largest ship in the Canadian Merchant Fleet 1979.



Radio Officer Paul du Mesnil

This is the main operating position in MV FERBEC.



Radio Officer Paul du Mesnil

This is the main transmitter in MV FERBEC.

The station in FERBEC was the older model containing many tubes in the circuits rather than transistors. I managed to visit the SUN BEGONIA one of the last of the small freighters to load lumber products at Weymouth North, Nova Scotia. SUN BEGONIA was a small tramp freighter registered in Panama and was assigned call sign H3IM. Her station was a transistor or solid-state Japanese station. She had mainly the bare essentials required by law. Her main radio station contained tape recorders on timers whereby the operator could copy anything he wanted while off duty. For example he could set a tape recorder to copy a traffic list transmitted just before he was to go back on duty. If there was a message he could get it when he first went on duty without having to wait for the next traffic list. He could record a weather broadcast made while off duty. He could also record anything and retain it for future use and that was another big asset in the operation of an efficient radio station. This station had a most pleasant musical sound while transmitting. One most pleasing that made transmitting most enjoyable.

This all goes to prove that those nations that fully appreciated radiotelegraph communications went to a lot of trouble to make the job as convenient as possible for their operators. Many of the stations that I sailed with often left me feeling they were built as cheaply as possible with no thought given to operation or maintenance. Many of them appeared to have been thrown into the radio room and bolted down where they landed.

Not only the Russians and Japanese, but many other nations such as the United States, Australia, France, Italy, Spain, Germany, and the United Kingdom put a lot of effort into fitting their ships with good radiotelegraph communications.

CANADIAN COAST STATIONS

The following is a list of the last of the Canadian Coast Stations. All were identified by the suffix Coast Guard Radio via radiotelephone. Those with an * were fitted with radiotelegraph when closed and therefore used the call sign for identification.

VAF Alert Bay, British Columbia
VAG Bull Harbour, British Columbia

David Conrad

Bull Harbour Coast Guard Radio VAG 1978

David Conrad

Bull Harbour Coast Guard Radio VAG 1978

David Conrad

Bull Harbour Coast Guard Radio VAG 1978.
This is Pam Conrad coming from a visit with her dad Radio Operator Dave Conrad.

VFC	Cambridge Bay, North West Territories *
VAX	Canso, Nova Scotia – VAX Closed at 201100 GMT June 1984
VDQ	Cardinal, Ontario
VOK	Cartwright, Labrador *
VCA	Charlottetown, Prince Edward Island
VAP	Churchill, Manitoba *
VOO	Comfort Cove, Newfoundland *
VAC	Comox, British Columbia
VFU6	Coppermine, North West Territories
VFU	Coral Harbour, North West Territories *
VFF	Frobisher Bay, North West Territories *
VFZ	Goose Bay, Labrador *
VCN	Grindstone, Quebec *
VCS	Halifax, Nova Scotia *
VAL	Inoucdjouac, Quebec
VFA	Inuvik, North West Territories *
VAW	Killinek, North West Territories *
VCF	Mont Joli, Quebec *
VFN	Montreal, Quebec *
VBF	Port Burwell, Ontario
VAV	Post-de-la-Baliene, Quebec
VAJ	Prince Rupert, British Columbia *
VCC	Quebec, Quebec *
VFR	Resolute, North West Territories *
VCG	Riviere-au-Renard, Quebec *
VCD	Riviere-du-Loup, Quebec
VAH	Sandspit, British Columbia
VBE	Sarnia, Ontario
VBB	Sault Sainte-Marie, Ontario *

David Conrad

Dave Conrad operating Sault Ste Marie Coast Guard Radio VBB 1990

VCK Sept Iles, Quebec *
VOJ Stephenville, Newfoundland *
VCO Sydney, Nova Scotia * VCO was the last Canadian station to use radiotelegraph.
VCM St. Anthony, Newfoundland *
VAR Saint John, New Brunswick * Radiotelegraph was removed several years before the station closed.
VON St. John's, Newfoundland *
VCP St. Lawrence, Newfoundland *
VBA Thunder Bay, Ontario VBA operated radiotelegraph remotely for VAP Churchill, Manitoba, for a few years before it closed.
VAE Tofino, British Columbia *
VBG Toronto, Ontario *
VAI Vancouver, British Columbia *
VBC Wiarton, Ontario
VAU Yarmouth, Nova Scotia *

Radio Officer David Vail VE1GM
This is the old VAU Yarmouth radio station operating position at Rockville, Nova Scotia

THE CRUISE SHIPS

The following is a list of most of the cruise ships sailing the world's oceans at the time radiotelegraph was terminated. One will note that some of these are the last of the old passenger liners. They all carried radio officers and called the VCS station occasionally. This was mainly while carrying Canadian passengers. It was a shame we did not have a better telegraph service to offer them – something like the one available via Portishead Radio GKA at the time.

The following list includes call sign, name, year built and country of registry. The former call signs, names, and country of registry appear just below the present name if applicable.

UERU ALEEXANDRE PUSHKIN 1965 Russia

SXXE	AMERIKANIS		1952	Greece
Former:				
GNCF	KENYA CASTLE	United Kingdom		
IBBO	ANGELINA LAURO		1939	Italy
Former:				
PGOF	ORANJE	Netherlands		
GRFP	ARCADIA		1954	United Kingdom
SYMB	ATLAS		1951	Greece
Former:				
PHFR	RYNDAM	Netherlands		
DLCT	BOHEME		1968	Germany
LKCL	BOLERO		1972	Norway
SZWE	BRITANNIS		1932	Greece
Former:				
WHEX	LURLINE	United States		
WHEX	MATSONIA	United States		
WHEX	MONTEREY	United States		
GBVC	CANBERRA		1961	United Kingdom
DECC	CARIBE		1968	Germany
Former:				
----	SVEA STA			
ELUU	FREEPORT 1	Liberia		
ICCO	CARLA C		1952	Italy
Former:				
FNRY	FLANDRE	France		
HOKL	CARNIVALE		1956	Panama
Former:				
SYYX	QUEEN ANNA MARIA	Greece		
GVCN	EMPRESS OF BRITAIN	United Kingdom		

Canadian Pacific 18656

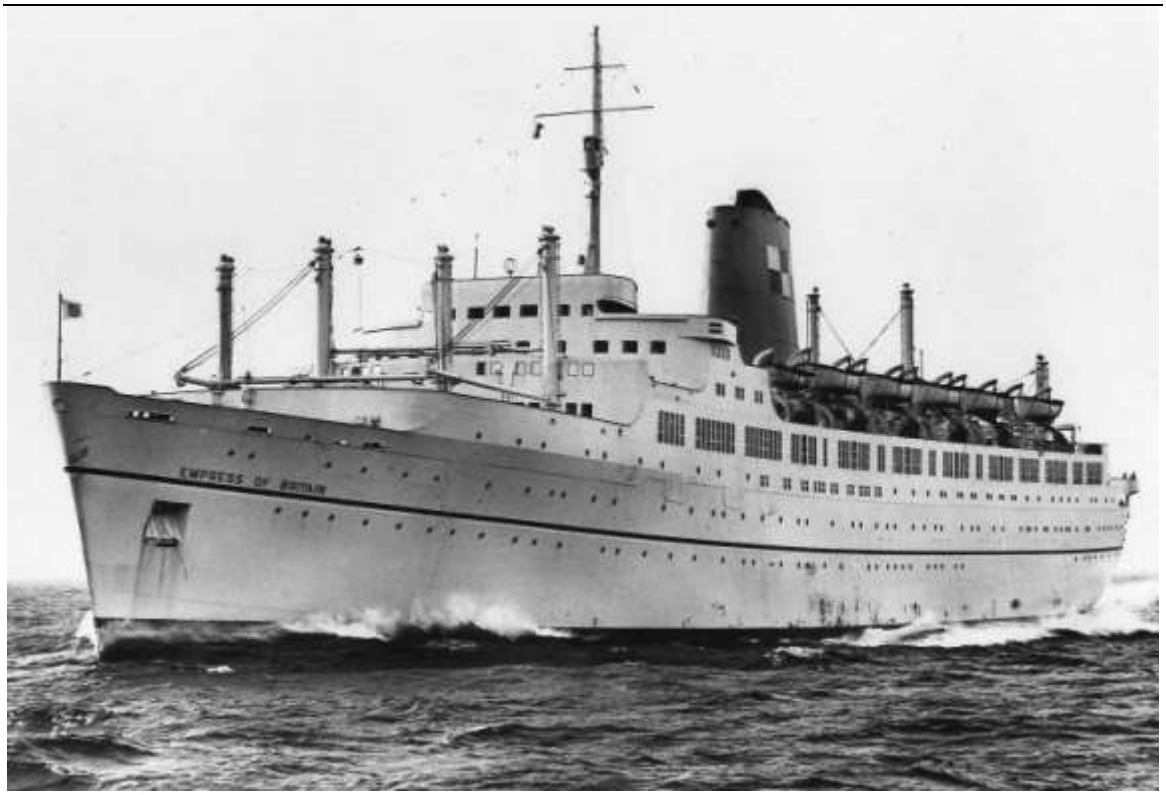
This is a portion of the Radio Room in Canadian Pacific's EMPRESS OF BRITAIN with call sign GVCN. This photograph was taken when this vessel was first launched in 1956.

Canadian Pacific 18678

This is the Radio Room in Canadian Pacific's EMPRESS OF BRITAIN taken from the opposite direction. Note the Lodestone Direction Finder in the Radio Room the proper place for the direction finder.

World Ship Society

EMPRESS OF BRITAIN in 1956



Canadian Pacific 8429

Another view of the EMPRESS OF BRITAIN

GUNP	CUNARD COUNTESS	1975	United Kingdom
GUNN	CUNARD PRINCESS	1974	United Kingdom

The last time I worked this one she had quite a chirp to her transmitter and this made her call sign sound even better.

SYVX	DANAE	1955	Greece
Former:			
----	THERISOS EXPRESS		
GTFF	PORT MELBOURNE	United Kingdom	

SYWX	DAPHNE	1964	Greece
Former:			
----	AKROTIRI EXPRESS		
GSXQ	PORT SYDNEY	United Kingdom	

3FYT	EMERALD SEAS	1944	Panama
Former:			
----	ATLANTIS		
KNBY	PRESIDENT ROOSEVELT	United States	
----	LEILANI	United States	
----	LAGUARDIA	United States	
----	GENERAL W. P. RICHARDSON	United States war brides' ship.	

ELMQ	FAIRSEA	1956	Liberia
Former:			
----	FAIRLAND		
GVDQ	CARINTHIA	United Kingdom	

ELPH	FAIRWIND	1957	Liberia
Former:			
GVTF	SYLVANIA	United Kingdom	

IBFW	FEDERICO C	1958	Italy

IBWQ	FLAVIA	1947	Italy
Former:			
GSWR	MEDIA	United Kingdom	

SXTD	GOLDEN ODYSSEY	1974	Greece

GBBM	ISLAND PRINCESS	1971	United Kingdom
Former:			
GBBM	ISLAND VENTURE	United Kingdom	

IBIH	ITALIA	1967	Italy

SXBB	ITHACA	1956	Greece

Former:
CSBG AMELIA DE MELLO Portugal
4XWR ZION Israel

ULSB KAZAKHSTAN 1976 Russia

ICLN LEONARDO DA VINCI 1960 Italy

UYXD MAKSIM GORKIE 1969 Russia
Former:
DABR HAMBURG Germany
DABR HANSEATIC Germany

Wamboldt-Waterfield, Halifax, Nova Scotia
This is the Russian Cruise Ship (Love Boat) MAKSIM GORKIE passing Maugher Beach Light Station inbound to Halifax, Nova Scotia, June 10th, 1981.

3EQN MARDI GRAS 1961 Panama
Former:
GHLA EMPRESS OF CANADA United Kingdom

FOSX MERMOZ 1957 France
Former:

FOSX	JEAN MERMOZ	France		
UQTT	MIKHAIL LERMONTOV		1972	Russia
SYBO	NAVARINO		1957	Greece
Former:				
SLQT	GRIPSHOLM	Sweden		
LAPJ	NORDIC PRINCE		1970	Norway
LITA	NORWAY		1961	Norway
Former:				
FNRR	FRANCE	France		
HOOE	OCEANIC		1965	Panama
EWBK	ODESSA		1974	Russia
Former:				
OUUL	COPENHAGEN	Denmark		
GVSN	ORIANA		1960	United Kingdom
3FQB	ORIENTAL EMPRESS		1948	Panama
Former:				
WBYN	PRESIDENT WILSON	United States		
GBCF	PACIFIC PRINCESS		1971	United Kingdom
Former:				
GBCF	SEA VENTURE	United Kingdom		
GBTT	QUEEN ELIZABETH 2		1969	United Kingdom
HPEY	REGINA PRIMA		1939	Panama
Former:				
SYHI	REGINA	Greece		
WTJO	PRESIDENT HOOVER	United States		
WTJO	PANAMA	United States		
WTJO	JAMES PARKER	United States		
WTJO	PANAMA	United States		
PJSU	ROTTERDAM		1959	Netherlands Antilles
LECK	ROYAL VIKING SEA		1973	Norway

LADE	ROYAL VIKING SKY	1972	Norway
LILY	ROYAL VIKING STAR	1972	Norway
LFSA	SAGAFJORD	1965	Norway
GBBA	SEA PRINCESS	1966	United Kingdom
Former:			
SGON	KUNGSHOLM	Sweden	
LKQH	SKYWARD	1969	Norway
LNVP	SONG OF NORWAY	1969	Norway
LCKF	SOUTHWARD	1971	Norway
LCJK	STARWARD	1968	Norway
PJSF	STATENDAM	1957	Netherlands Antilles
SPYM	STEFAN BATORY	1952	Poland (VCS worked this one regularly.)
Former:			
----	MASSDAM		
SZLX	STELLA OCEANIO	1965	Greece
Former:			
----	APHRODITE		
SYWT	STELLA SOLARIS	1953	Greece
Former:			
----	STELLA V		
FOEH	CAMBODGE	France	
GBFT	SUN PRINCESS	1972	United Kingdom
Former:			
GBFT	SPIRIT OF LONDON	United Kingdom	
LIZA	SUN VIKING	1971	Norway
LESS	SUNWARD II	1971	Norway

Former:
GOZC CUNARD ADVENTURER United Kingdom

5LGK UNIVERSE 1953 Liberia
Former:
5LGK UNIVERSE CAMPUS Liberia
---- ATLANTIC
---- BADGER MARINER

3FAQ VERA CRUZ 1957 Panama
Former:
3FAQ FREEPORT Panama
---- CARNIVALE
4XVF THEODOR HERZL Israel

LFVI VISTAFJORD 1973 Norway

This was more or less the last of the passenger vessels that used radiotelegraph. At this time there was a popular TV program called “The Love Boat” that increased the popularity of these vessels which became cruise ships. This became a very big business and operated out of Miami, Florida, mainly, especially during the winter months. These newer vessels did not use radiotelegraph. They used satellite communications with a typist to operate this equipment and telephone operators to operate the radiotelephone traffic via satellite. The radio officer position was terminated. It is hard for “old timers” to believe but by 2007 these cruise ships did not have a high frequency receiver on board. It was all satellite and VHF.

THE CODES

There were many codes used to transmit the various languages around the world during the period of radiotelegraph. The standard international radio code was “The Continental Code”. A dash was equal to three dots. The space between parts of the same letter was equal to one dot. The space between two letters was equal to three dots. The space between two words was equal to seven dots. There were seven characters that permitted the transmission of various accented letters of the foreign languages such as French, Spanish, Polish, German, and so on. Those that used the same alphabet as Russia also used this code and used at least some of these seven characters.

I do not have a means of printing the various codes here. The one you will often see as “The Morse code” is the old landline or American code. The easiest way to distinguish between the two is to look up the letter C or letter Y. If the C is a dash dot dash dot and the Y is a dash dot dash dash it is “The Continental Code”. C in “The Morse code” was dot dot space dot and Y was dot dot space dot dot.

Actually these codes were numerous going back to around 1600. They all had some use in some way but the two that saw use at the VCS station and around North America were the two described above.

THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM AND DIGITAL SELECTIVE CALLING

When the radio officer was removed from the ship the Master (Captain) and Mates had to perform the communications duties. These people were given training and were supposed to have this training via a course of instruction in the Global Maritime Distress and Safety System. This is abbreviated to GMDSS. I have no interest in what is involved. The equipment involved is apparently capable of Digital Selective

Calling whereby the operator can select or direct his call to one station, the stations in a certain fleet, or any and all stations. This system is abbreviated to DSC.

I felt the International Telecommunication Union had come out with a statement that on a certain date a vessel could sail without radiotelegraph providing she was fitted with GMDSS and her officers held licences to operate this equipment. Apparently this was not the case because I wrote the Telecommunication Union for this date and statement. Their answer simply stated that if a ship was fitted with radiotelegraph it must carry a licensed radio officer to operate this equipment, and that ships started fitting radiotelephone years ago and no longer carried radiotelegraph. The answer made little sense to me.

The personal computer has taken over in leaps and bounds since the termination of the radio officer. The system of message handling known as e-mail has become very big via this equipment. One can send messages via this system through satellite to any ship that is equipped. The Canadian Coast Guard and Canadian Military ships use this. One can send an e-mail message to anyone in these ships and when it is down-loaded these messages go to the individual addressee via their own personal computer giving a form of secrecy from the remainder of the crew. One does not have to be an officer. The various stokers, deckhands, and so on, are making good use of this type of message handling. A big, big difference from just a few years ago when nearly everything had to go through the radio room and often had to have the Captain's approval.

On January 22nd, 2002 I met a girl using the computer terminal at the Senior Citizens "Drop-In Centre" at the South Centre Mall, Spryfield, Nova Scotia. She uses this terminal and the one at the Spryfield Library to e-mail her friend, an oiler sailing in a flag of convenience freighter from Virginia to the Azores. I tried to explain to her the way she would have communicated in our time while I was at sea. I am convinced she did not believe me and found my description completely absurd. I believe it has now reached the point where no one will understand our old reliable communications scheme. But one thing is for certain, the excitement, the colour, or whatever the terminology, is long gone as well. The days of sweating over a telegraph key trying to pull some message in or send one out are long gone. I'm glad I experienced the excitement, the colour, or whatever the terminology.

THE INTERNATIONAL CALL SIGNS WHEN RADIOTELEGRAPH WAS TERMINATED

AAA – ALZ	USA
AMA – AOZ	Spain
APA – ASZ	Pakistan
ATA – AWZ	India
AXA – AXZ	Australia
AYA – AZZ	Argentine Republic
A2A – A2Z	Botswana
A3A – A3Z	Tonga
A4A – A4Z	Oman
A5A – A5Z	Bhutan
A6A – A6Z	United Arab Emirates
A7A – A7Z	Qatar
A8A – A8Z	Liberia
A9A – A9Z	Bahrain
BAA – BZZ	China
CAA – CEZ	Chile
CFA – CKZ	CANADA
CLA – CMZ	Cuba
CAN – CNZ	Morocco
COA – COZ	Cuba
CPA – CPZ	Bolivia
CQA – CUZ	Portugal

CVA – CXZ	Uruguay
CYA – CZZ	CANADA
C2A – C2Z	Nauru
C3A – C3Z	Andorra
C4A – C4Z	Cyprus
C5A – C5Z	Gambia
C6A – C6Z	Bahamas
C7A – C7Z	World Meteorological Organization
C8A – C9Z	Mozambique
DAA – DTZ	Germany
DUA – DZZ	Philippines
D2A – D3Z	Angola
D4A – D4Z	Cape Verde
D5A – D5Z	Liberia
D6A – D6Z	Comoros
D7A – D9Z	Korea
EAA – EHZ	Spain
EIA – EJZ	Ireland
EKA – EKZ	Russia
ELA – ELZ	Liberia
EMA – EOZ	Russia
EPA – EQZ	Iran
ERA – ERZ	Russia
ESA – ESZ	Estonia
ETA – ETZ	Ethiopia
EUA – EWZ	Byelorussia
EXA – EZZ	Russia
FAA – FZZ	France
GAA – GZZ	Great Britain United Kingdom
HAA – HAZ	Hungary
HBA – HBZ	Switzerland
HCA – HDZ	Ecuador
HEA – HEZ	Switzerland
HFA – HFZ	Poland
HGA – HGZ	Hungary
HIA – HIZ	Dominican Republic
HJA – HKZ	Colombia
HLA – HMZ	Korea
HNA – HNZ	Iraq
HOA – HPZ	Panama
HQA – HRZ	Honduras
HSA – HSZ	Thailand
HTA – HTZ	Nicaragua
HUA – HUZ	El Salvador
HVA – HVZ	Vatican State
HWA – HYZ	France
HZA – HZZ	Saudi Arabia
H2A – H2Z	Cyprus
H3A – H3Z	Panama
H4A – H4Z	Solomon Islands
H5A – H5Z	
H6A – H7Z	Nicaragua
H8A – H9Z	Panama
IAA – IZZ	Italy
JAA – JSZ	Japan
JTA – JVZ	Mongolia

JWA – JXZ	Norway
JYA – JYZ	Jordan
JZA – JZZ	Indonesia
J2A – J2Z	Djibouti
J3A – J3Z	Grenada
J4A – J4Z	Greece
J5A – J5Z	Guinea-Bissau
J6A – J6Z	Saint Lucia
J7A – J7Z	Dominican Republic
J8A – J8Z	Saint Vincent and the Grenadines
J9A – J9Z	
KAA – KZZ	USA
LAA – LNZ	Norway
LOA – LWZ	Argentine Republic
LXA – LXZ	Luxembourg
LYA – LYZ	Lithuania
LZA – LZZ	Bulgaria
L2A – L9Z	Argentine Republic
MAA – MZZ	Great Britain United Kingdom
NAA – NZZ	USA
OAA – OCZ	Peru
ODA – ODZ	Lebanon
OEA – OEZ	Austria
OFA – OJZ	Finland
OKA – OMZ	Czechoslovakia
ONA – OTZ	Belgium
OUA – OZZ	Denmark
O2A – O9Z	
PAA – PIZ	Netherlands
PJA – PJZ	Netherlands Antilles
PKA – POZ	Indonesia
PPA – PYZ	Brazil
P2A – P2Z	Papua New Guinea
P3A – P3Z	Cyprus
P4A – P4Z	Netherlands Antilles
P5A – P9Z	Korea
QAA – QZZ	Service Abbreviations
RAA – RZZ	Russia
SAA – SMZ	Sweden
SNA – SRZ	Poland
SSA – SSM	Egypt
SSN – STZ	Sudan
SUA – SUZ	Egypt
SVA – SZZ	Greece
S2A – S3Z	Bangladesh
S4A – S4Z	
S5A – S5Z	
S6A – S6Z	Singapore
S7A – S7Z	Seychelles
S8A – S8Z	Transkei
S9A – S9Z	Sao Tome and Principe
TAA – TCZ	Turkey
TDA – TDZ	Guatemala
TEA – TEZ	Costa Rica
TFA – TFZ	Iceland
TGA – TGZ	Guatemala

THA – THZ	France
TIA – TIZ	Costa Rica
TJA – TJZ	Cameroon
TKA – TKZ	France
TLA – TLZ	Central African Empire
TMA – TMZ	France
TNA – TNZ	Congo
TOA – TQZ	France
TRA – TRZ	Gabon Republic
TSA – TSZ	Tunisia
TTA – TTZ	Chad
TUA – TUZ	Ivory Coast
TVA – TXZ	France
TYA – TYZ	Benin
TZA – TZZ	Mali
T2A – T2Z	Tuvalu
T3A – T3Z	Kiribati
T4A – T4Z	Cuba
T5A – T5Z	Somali
T6A – T6Z	Afghanistan
T7A – T7Z	
T8A – T8Z	
T9A – T9Z	
UAA – UQZ	Russia
URA – UTZ	Ukraine
UUA – UZZ	Russia
U2A – U9Z	
VAA – VGZ	CANADA (Canada's original block of call signs)
VHA – VNZ	Australia
VOA – VOZ	CANADA (Newfoundland's original block of call signs)
VPA – VSZ	Great Britain United Kingdom
VTA – VWZ	India
VXA – VYZ	CANADA
VZA – VZZ	Australia
V2A – V2Z	Antigua
V3A – V3Z	Belize
V4A – V9Z	
WAA – WZZ	USA
XAA – XIZ	Mexico
XJA – XOZ	CANADA
XPA – XPZ	Denmark
XQA – XRZ	Chile
XTA – XTZ	Upper Volta
XUA – XUZ	Democratic Kampuchea
XVA – XVZ	Vietnam
XWA – XWZ	Laos
XXA – XXZ	Portugal
XYA – XZZ	Burma
X2A – X9Z	
YAA – YAZ	Afghanistan
YBA – YHZ	Indonesia
YIA – YIZ	Iraq
YJA – YJZ	New Hebrides
YKA – YKZ	Syria
YLA – YLZ	Latvia
YMA – YMZ	Turkey

YNA – YNZ	Nicaragua
YOA – YRZ	Romania
YSA – YSZ	El Salvador
YTA – YUZ	Yugoslavia
YVA – YYZ	Venezuela
YZA – YZZ	Yugoslavia
Y2A – Y9Z	Germany
ZAA – ZAZ	Albania
ZBA – ZJZ	Great Britain United Kingdom
ZKA – ZMZ	New Zealand
ZNA – ZOZ	Great Britain United Kingdom
ZPA – ZPZ	Paraguay
ZQA – ZQZ	Great Britain United Kingdom
ZRA – ZUZ	South Africa
ZVA – ZZZ	Brazil
Z2A – Z2Z	Zimbabwe
Z3A – Z9Z	
2AA – 2ZZ	Great Britain United Kingdom
3AA – 3AZ	Monaco
3BA – 3BZ	Mauritius
3CA – 3CZ	Equatorial Guinea
3DA – 3DM	Swaziland
3DN – 3DZ	Fiji
3EA – 3FZ	Panama
3GA – 3GZ	Chile
3HA – 3UZ	China
3VA – 3VZ	Tunisia
3WA – 3WZ	Vietnam
3XA – 3XZ	Guinea
3YA – 3YZ	Norway
3ZA – 3ZZ	Poland
4AA – 4CZ	Mexico
4DA – 4IZ	Philippines
4JA – 4LZ	Russia
4MA – 4MZ	Venezuela
4NA – 4OZ	Yugoslavia
4PA – 4SZ	Sri Lanka
4TA – 4TZ	Peru
4UA – 4UZ	United Nations Organization
4VA – 4VZ	Haiti
4WA – 4WZ	Yemen
4XA – 4XZ	Israel
4YA – 4YZ	International Civil Aviation Organization
4ZA – 4ZZ	Israel
5AA – 5AZ	Libya
5BA – 5BZ	Cyprus
5CA – 5GZ	Morocco
5HA – 5IZ	Tanzania
5JA – 5KZ	Colombia
5LA – 5MZ	Liberia
5NA – 5OZ	Nigeria
5PA – 5QZ	Denmark
5RA – 5SZ	Madagascar
5TA – 5TZ	Mauritania
5UA – 5UZ	Niger
5VA – 5VZ	Togo

5WA – 5WZ	Western Samoa
5XA – 5XZ	Uganda
5YA – 5ZZ	Kenya
6AA – 6BZ	Egypt
6CA – 6CZ	Syria
6DA – 6JZ	Mexico
6KA – 6NZ	Korea
6OA – 6OZ	Somali
6PA – 6SZ	Pakistan
6TA – 6UZ	Sudan
6VA – 6WZ	Senegal
6XA – 6XZ	Madagascar
6YA – 6YZ	Jamaica
6ZA – 6ZZ	Liberia
7AA – 7IZ	Indonesia
7JA – 7NZ	Japan
7OA – 7OZ	Yemen
7PA – 7PZ	Lesotho
7QA – 7QZ	Malawi
7RA – 7RZ	Algeria
7SA – 7SZ	Sweden
7TA – 7YZ	Algeria
7ZA – 7ZZ	Saudi Arabia
8AA – 8IZ	Indonesia
8JA – 8NZ	Japan
8OA – 8OZ	Botswana
8PA – 8PZ	Barbados
8QA – 8QZ	Maldives
8RA – 8RZ	Guyana
8SA – 8SZ	Sweden
8TA – 8YZ	India
8ZA – 8ZZ	Saudi Arabia
9AA – 9AZ	San Marino
9BA – 9DZ	Iran
9EA – 9FZ	Ethiopia
9GA – 9GZ	Ghana
9HA – 9HZ	Malta
9IA – 9JZ	Zambia
9KA – 9KZ	Kuwait
9LA – 9LZ	Sierra Leone
9MA – 9MZ	Malaysia
9NA – 9NZ	Nepal
9OA – 9TZ	Zaire
9UA – 9UZ	Burundi
9VA – 9VZ	Singapore
9WA – 9WZ	Malaysia
9XA – 9XZ	Rwanda
9YA – 9ZZ	Trinidad and Tobago

From the above list of international call signs it can be seen that the following twenty-four two-letter prefixes in any call sign would signify a Canadian call sign or station:

CF, CG, CH, CI, CJ, CK, CY, CZ, VA, VB, VC, VD, VE, VF, VG, VO, VX, VY, XJ, XK, XL, XM, XN and XO.

Therefore, going by the call sign system I was taught in radio school, three character; land or coast station, four character; ship station, and five character; aircraft station, would give Canada:

624 three-letter land or coast station call signs

Most of our aeradio stations had a digit after their three-letter call sign, and the Mounted Police stations had two digits after their three letter call sign, but these twenty-four prefixes were ample for our radiotelegraph land or coast station call signs. Since then the number of these stations, the majority radiotelephone for business grew to the point that some had three-letter three-digit call signs. This latter system made available 623,376 call signs.

16,224 four-letter ship station call signs

According to the List of Shipping for Canada 1979 there were 31,068 vessels of all types, sizes, and descriptions, registered in Canada. This did not include the vessels belonging to the Canadian Armed Forces. Well over half of these were not fitted with any type of radio. These figures were increasing annually since records were kept. These four-letter call signs were allotted many privately owned broadcast stations in Canada, which cut down the number available to ships. For many years Canada held the block from 3BA to 3FZ. This meant we had 3,380 additional four-character assignments and further proof that there was little reason for the six-character call sign. The block 3BA – 3FZ was returned to the International Telecommunication Union and was reassigned as can be seen from the above list. This meant the six-character call sign was feasible providing it was issued permanently, listed accurately in the International Telecommunication Union publications, and some realistic figure was used for the division between the four-letter and six-character call sign. Similar to the sixty-five foot length mentioned previously.

From my research Canada did not issue four-character ship call signs, which are so much easier to use, from the blocks CFAA to CFZZ, CHAA to CKZZ, VAAA to VBZZ, VEAA to VFZZ, XJAA to XOZZ or 3BAA to 3FZZ that is but one of many mysteries. The only exception was the City Class Patrol Frigates that entered service in the 1990's. They were issued calls from CHAA to CHAL and were soon changed to those as listed here. This must have been a screw up of some description and why those ships assigned a previous ship's name were not assigned the previous ship's call sign is another mystery.

Canada issued four-letter broadcast station call signs from these blocks. The majority if not all of the four-letter call signs from CFAA to CFZZ and CHAA to CIZZ are private broadcast stations. A couple of the Newfoundland broadcast stations had four-letter call signs with the prefix VO. These were assigned prior to Newfoundland joining Canada in 1949.

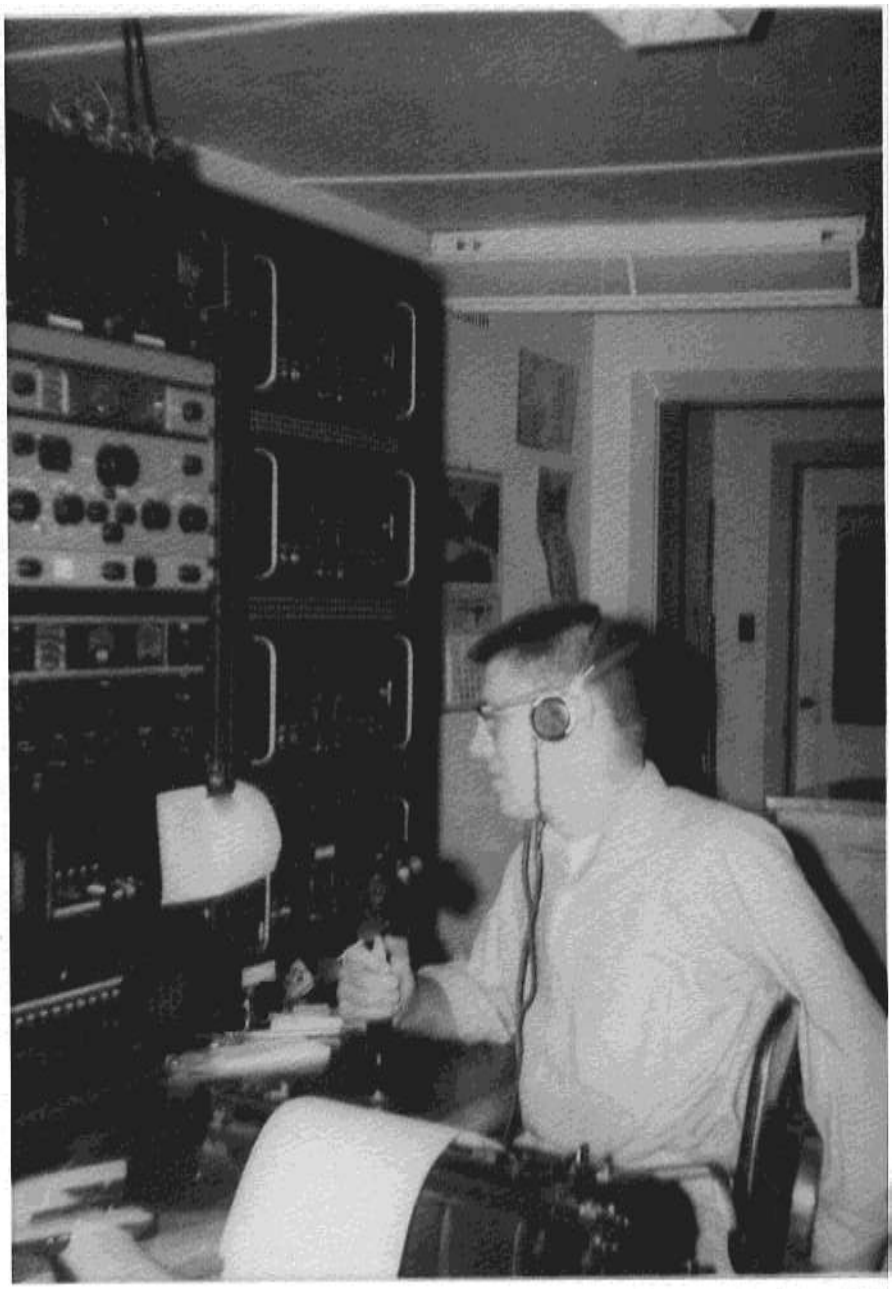
Canada issued four-letter land or ground station call signs with the VF prefix. For example Teslin Aeradio, Teslin Yukon Territory, had call sign VFT2 when I operated this station between 1963 and 1966. The Royal Canadian Air Force constructed and operated these stations along this air route during World War II turning them over to the Department of Transport about 1950. While the Air Force operated these stations they had four-letter call signs with the VF prefix. The station at Teslin had call sign VFFJ during the time the Air Force operated the station.

Canada issued three and four-letter call signs to the stations belonging to the government owned Canadian Broadcasting Corporation from Chile's CBA to CBZ block of international call signs. For example the Halifax Radio Station belonging to this corporation had call sign CBH. The television station of this corporation at Halifax had call sign CBHT. The small stations of this corporation in the isolated areas of the country had these CB prefixes. The little forty-watt transmitter located in the village of Teslin, Yukon Territory, had call sign CBDK.

When the Canadian National Railroad operated broadcast stations back in the 1930's Canada assigned call signs to these stations with a CN prefix from Morocco's CNA – CNZ block of call signs.

All Canadian Airports were allotted four-letter identifications with the CY prefix that was used mainly as a message address. When it was used as an address it had two additional letters. These two additional letters indicated the office or organization at the airport. A simple and fast means of handling messages normally via high-speed computer operated Teletype equipment. These letters were used in many different ways. When the C prefix was omitted, using the Y as a prefix followed by the next two letters, these identifications were found in several places. The general public would find them in large letters on the baggage labels attached to their suitcases for the airport of destination. These three letters were used as the identification for the weather observations at each airport. This was the first group of the various observations on the meteorological Teletype traffic. These three letters were transmitted in Morse code as the identification for various pieces of navigational equipment, mainly the very high frequency omni-directional range (VOR) located at various airports across the country. The two letter suffix of these three letter identifications were transmitted via Morse code for identification from the main non-directional radio beacon (NDB) at most airports.

For example let's use CYHZAC and break it down. CYHZ was the Halifax International Airport. If it were CYZW it would indicate the Teslin Airport at Teslin, Yukon Territory. YHZ was the identification for the weather observation at the Halifax International Airport, the identification label found on your baggage if you were flying from Halifax, and was the Morse code identification heard when tuned to the Halifax International Airport VOR. HZ was the identification heard in Morse code when tuned to the Halifax International Airport NDB. AC was the identification for Air Canada. The four-letter prefix identifies the location of their office, in this case the one at the Halifax International Airport. If this identification or message address were CYXDPW it would break down to the Pacific Western Airlines office at the Edmonton Industrial Airport, Edmonton, Alberta. CYZWYF would break down to the Flight Service Station at the Teslin, Yukon Territory, airport and this was better known to us old timers by the former terminology – Aeradio Station. The VFT2 call sign at Teslin was the radiotelegraph or Morse code call sign for communications and the call sign for the radio communication portion of this station. All Canadian Aeradio Stations had similar call signs. Halifax Aeradio had call sign VFH5.The Halifax International Airport was renamed the Robert L. Stanfield Airport on February 9, 2007. The late Mr. Stanfield had been a long serving Premier of the Province of Nova Scotia and a leader of the opposition in the federal government of Canada.



Joan Roscoe

This is S. G. "Spud" Roscoe, VE8RM operating Teslin Aeradio VFT2 Teslin Yukon Territory in 1963. There was a large scratch down this old photograph but thanks to Sue Maskill, Peterborough, England she managed to remove it. The units in the rack on the right are VHF receivers. Some were made by Marconi and some by Collins. Yes, that is the microphone and yes, this is a Radio Range Station. This Radio Range Station was installed in 1942 but was the same as the first one that entered service in 1927. A few years after this photograph was taken in 1963 the Radio Range was removed and replaced with a Non-Directional Radio Beacon with the same ZW identification and on the same 269 kHz MF frequency. The toggle switches to the left of the message hanging on the hook are used to select the various transmitters. The message hanging on the hook is the current weather observations for the stations along the Alaska Highway. I am probably making one of the twice hourly weather broadcasts on the Radio Range. Note the two RCA AR88 receivers in the rack above the toggle switches. I am listening to the broadcast on the lower AR88 receiver via the headphones. To the left of this out of the photograph were the VHF and UHF

transmitters and the two UHF receivers. There were speakers for each receiver across the tops of these 6 foot 4 inch racks. Each speaker was probably 6 inches in diameter and there were two speakers in the top of each rack on their own 19 inch standard rack panel for same.

The following description of an Aeradio Station using Teslin as an example along with a DVD of our old 8-mm home movies taken while at Teslin gave me an Honorary Life Membership in the Yukon Historical Society in 2005.

The Canadian Aeradio Station

By Spurgeon G. "Spud" Roscoe VE1BC

The Canadian Aeradio Station was spread out over three sites or locations. One was the main operations room, one was the navigational aid transmitter site and the other was the communications transmitter site. Occasionally **the operations site** was simply a one-story building similar to a small house. This is where the radio operator on duty operated the station. The more common location of the operations site was at the local airport. The **navigational aid transmitter site** was a small building a few miles from the operations site that housed either a Radio Range Transmitter or a Non-directional Beacon Transmitter. The more common was the Radio Range Transmitter. The **communications transmitter site** was another small building a few miles from the operations site that housed a low frequency radiotelegraph transmitter. A few stations had high frequency radiotelephone transmitters that permitted communication with aircraft fitted with this equipment that began to appear in the 1950's. These transmitters had to be a few miles from the operations site because they would create so much interference with the rest of the equipment in the operations position that it would be unusable. The operation of the transmitters was via regular telephone lines.

The Canadian Aeradio Station was assigned two means of identification. One was the radio call sign and the other was the station identifier. Both were assigned from the international blocks of call signs assigned to Canada from the International Telecommunication Union located in Switzerland. The station identifier was a four-letter group with the prefix CY. The two-letter suffix indicated the station in question. This meant there were 676 two-letter possibilities. There were less than two hundred Canadian Aeradio Stations. The radio call sign had the prefix VF. The majority of these call signs had a letter and figure suffix with a digit from 2 to 9 inclusive. The third letter was often the first letter in the name of the station.

For an example I will try and describe the Teslin Aeradio Station located at Teslin, Yukon Territory. The **operations position** of this station was located at the Teslin Airport. The **communications transmitter** was located in a small log building east of the station and south of the Alaska Highway. The **radio range** was located in another small log building east of the station and north of the Alaska Highway, a little farther east than the communications transmitter.

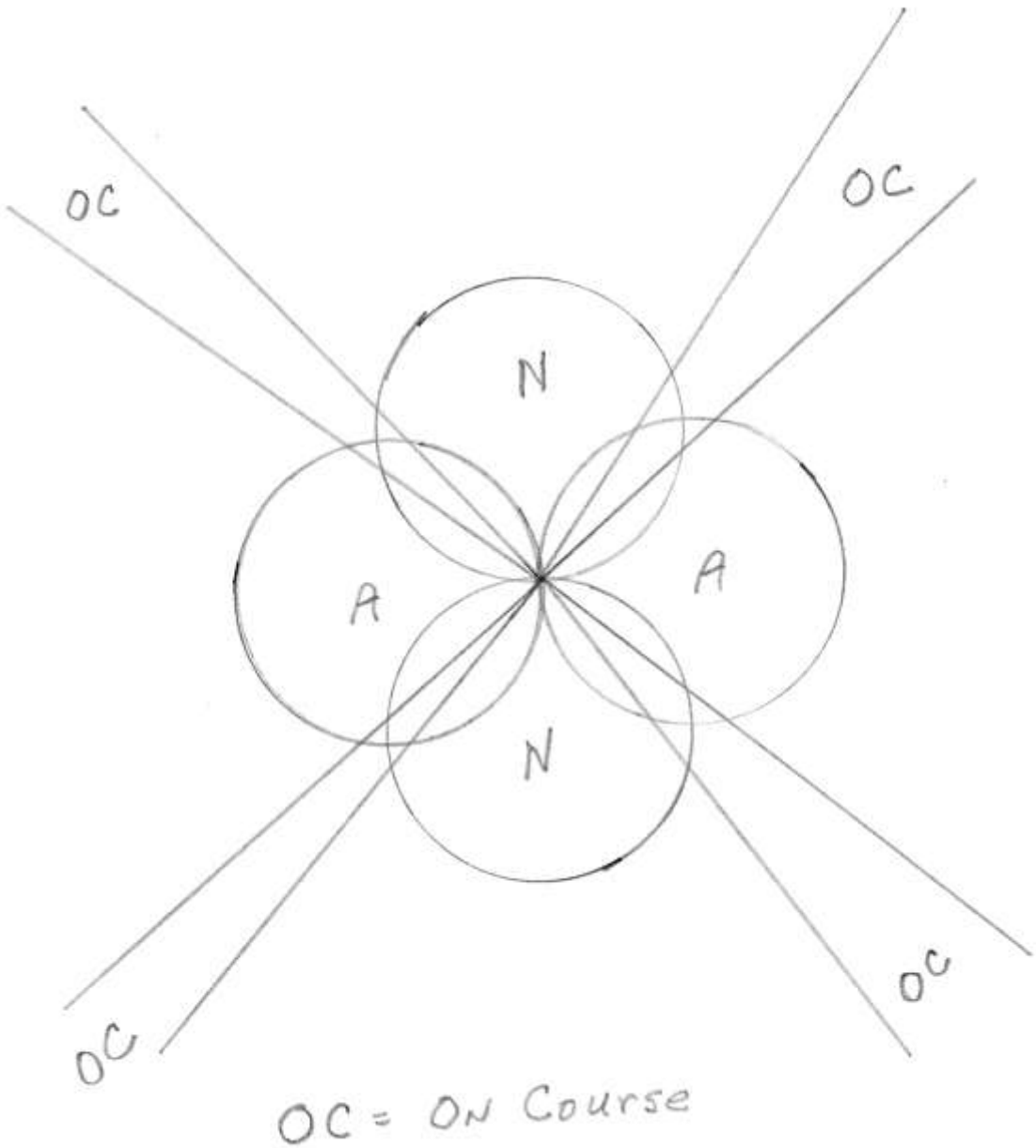
The four-letter identifier for this station was CYZW and the radio call sign was VFT2. The ZW was the prefix in all weather observations and the radio range keyed ZW in Morse code for identification. The duty operator identified the communications radiotelegraph transmitter by transmitting the call sign VFT2 every time he used it and while using it.

The communications transmitter had two steel towers that held its wire antenna. It operated on a low frequency down near the bottom end of the radio spectrum at 157 kilohertz. It had a good range and was easy to work Coppermine up on the Arctic Ocean. The East Coast sister stations used a frequency of 160 kilohertz in order to prevent interference. The landline Teletype replaced the communications transmitter at Teslin in the late 1950's. This was a Teletype that operated on telephone lines up and down the Alaska Highway into Edmonton. The communications transmitter was used as a backup in case the Teletype failed and was used in 1964 while the Teletype was converted to an automatic pickup.

The Radio Range was the first electronic navigational aid for aircraft and first entered service in 1927. These old ranges worked and worked well. Most of them lasted forty years or more.

The radio range transmitter at Teslin operated continuously on a frequency of 269 kilohertz and identified by keying ZW in Morse as stated, accomplished by a Bakelite wheel. The Morse code characters were engraved around the wheel's edge. This wheel was turned by a small electric motor and the Bakelite characters would push a contact up against another contact making and breaking the keying sequence. There were no electronic Morse keyers until the late 1960's.

A Radio Range Transmitter had five vertical steel antennas and this permitted a pattern that I have attempted to draw below.



A low-frequency radio range employed two pairs of antennas that radiated energy in a double figure-of-eight pattern, in the horizontal plane. The transmitter was alternately connected first to one and then to the other antenna system, being keyed with the Morse code A for one antenna and with N for the other. The

dots and dashes of these code signals were interlocked so that if a pilot was flying a course midway between the two maximum A and N signals, he received a steady signal known as the On Course signal. If he left the beam he then began to distinguish the A or the N, depending upon which side of the course he was now flying. In addition to the double pair, a center antenna transmitted an omni-directional signal at a frequency of 1,020 hertz removed from that of the A and N beams. Accordingly, the A and N indications were heard as a 1,020-hertz tone in the airplane.

On one side of the On Course or steady-tone region of a low-frequency range beam, the Morse code A would be distinguished, while on the other side of the On Course the N could just be heard. These regions were called the twilight zones. Aircraft used to keep to the right of the on course region traveling in either direction in order to avoid collision.

The signals from a low-frequency radio range were vertically polarized and were normally received at the aircraft on an antenna that responded best to vertical polarization. Reception of the radio range in a small region above the transmitting-antenna system was poor, resulting in the phenomenon known as the cone of silence, in which the signal was either extremely weak or altogether absent, depending upon the transmitting antenna system and upon the gain control setting. When the aircraft flew through this cone of silence the pilot knew he was directly over the transmitting antenna system.

By adjusting the radio range transmitter antenna system one could point the on course signals in various directions. The south on course signal of the Teslin radio range pointed down into British Columbia. The east on course signal of the Teslin radio range pointed towards Watson Lake and the west signal pointed to Whitehorse. The air route formed from these two legs formed the air route known as Red Five.

The air route that went up the Alaska Highway and in to Alaska was known as Amber Two. The west on course signal from Watson Lake pointed to Whitehorse and the Whitehorse east on course signal pointed to Watson Lake. This was part of air route amber two. Where the north on course signal of the Teslin radio range crossed these on course signals from Watson Lake and Whitehorse was known as the Fish Lake intersection. This was identified as 3A for recording purposes.

The operations room of the Teslin Aeradio Station was a room on the east end of a long operations log building that was just west of the present operations building. The duty operator recorded a weather observation every hour on the hour and every time the weather changed sufficiently to warrant a special weather observation. The operator broadcasted this weather twice every hour at 22 minutes and 52 minutes past each hour over the radio range transmitter.

An aircraft required nothing but a radio receiver capable of hearing a radio range in order to navigate by a radio range. For many years an aircraft carried this radio range receiver and one transmitter that transmitted radiotelephone on frequency 3023.5 kilohertz. In other words, a pilot could call any radio range station simply by listening to the radio range and transmitting on his only transmitter. This transmitter was audio modulated on 3023.5 kilohertz. All of the nearly 8,000 aircraft that flew up the Alaska Highway to Russia during World War II were using this system. These were the aircraft given to Russia by the United States under the lend-lease terms.

The operations room monitored 3023.5 kilohertz continually. The operations room also had one or two receivers for monitoring. Each and every aeradio station monitored their adjacent stations to make sure their radio range was operating properly and that each operator made his weather broadcast at his scheduled time. The Teslin duty operator not only monitored Whitehorse and Watson Lake, he broadcasted their weather observation. Teslin started his broadcast with the correct Greenwich Mean Time and then the Teslin, Whitehorse, Watson Lake and Teslin again weather. He signed off the broadcast with the statement “Keep alert watch for other aircraft”. One wonders if that did any good.

During the early 1950’s the very high frequency audio modulated radiotelephone began to be fitted in aircraft. The Canadian Aeradio Station was fitted accordingly. The Teslin aeradio station monitored three of these frequencies continuously. 121.5 megahertz the distress frequency, 126.7 megahertz, the instrument

flight rules communication frequency and 122.2 megahertz, the visual flight rules communication frequency.

During the late 1950's military aircraft were fitted with ultra high frequency audio modulated radiotelephone equipment. A few of the aeradio stations were fitted with this equipment for communication with these aircraft. This consisted of two frequencies. 243.0 megahertz, the distress frequency, and one working frequency for communications, but I no longer remember the Teslin frequency for this communication. Teslin communicated with the military aircraft going in and out of Alaska and also communicated with the U2 spy planes flying over Russia back in the 1960's.

The very high frequency transmitters and ultra high frequency transmitters were mounted in the same equipment racks as their corresponding receivers at the operations position. At these high frequencies they did not interfere with the other equipment in use. Teslin continued to monitor 3023.5 kilohertz up in to the late 1960's.

The radio range transmitter at Teslin had an emergency generator that would run the radio range in the event of a power failure. This was the only emergency generator at the station. Teslin operated on electricity from Yukon electric and their diesel power generating plant located in the village of Teslin. This power was so accurate that an electric clock kept perfect time.

During the 1950's the automatic radio direction finder began to replace the radio range receiver in aircraft. The automatic radio direction finder would simply point to any radio transmitter it was tuned. The aircraft pilot would tune this direction finder to any radio station he was flying towards. When the aircraft flew over the radio transmitter the compass needle on the direction finder would swing 180 degrees and point back to the transmitter. This of course told the pilot he had gone over the transmitter and he could then tune in the next radio transmission he was heading towards. These units worked well on the regular AM broadcast transmitters so needless to say when something like an interesting ball game was being transmitted, that is where the pilots listened.

By the mid 1960's the automatic direction finder was so popular that the radio ranges were being converted to a non-directional beacon. The non-directional beacon simply transmitted a steady tone, identified by the same Morse code keying as the radio range and on the same low frequency. The non-directional beacon used one antenna, an antenna identical to the five radio range antennas. The radio range at Teslin was replaced with a non-directional beacon and this was moved up on the airport a few hundred feet northwest of the operations building.

The Canadian Aeradio Station also monitored an open telephone line on an ordinary loudspeaker. This line provided communications with all the aeradio stations in the area and with the nearest air traffic control. At Teslin the duty operator was in communication with all the stations along the Alaska Highway from Northway, Alaska down to and including the Edmonton Air Traffic Control Centre. This communications link was known as Sked F.

The Canadian Aeradio Station required a minimum staff of five. One was the officer in charge who did the paper work and could fill in when necessary. One was the senior operator who was a regular radio operator but could fill in for the officer in charge. And three radio operators. It required four radio operators to operate the station twenty-four hours each and every day. One was on day shift (8am to 4pm), one on evening shift (4pm to midnight), one on night shift (midnight to 8am), and one on day off. The stations that had more aircraft movements in their area would often require two operators on the day and evening shift.

I hope this brief description is not only of interest but helps one understand the operation of these stations.

Thanks to Jacques d'Avignon VE3VIA for finding this photo

This is an aerial view of the Radio Range Site at Kuujjuak, Northern Quebec via Google. It is probably the last Radio Range Site left in Canada and it was probably easier to leave it as is rather than take it down and ship it out. At least when it changed to a non-directional beacon (NDB) it provided four spare antennas. Kuujjuak was known as Fort Chimo until a few years ago. Kuujjuak in the first nation native language is "Great River". Jerry Proc, VE3FAB, has an excellent description of the naval station at this location on his web site.
Back in the "Good Old Days" when all communications to the outside world was in radiotelegraph on 160 kilocycles, Fort Chimo was assigned international call sign VFF4. This radio circuit was known as the "point to point" or "pint to pint" depending on what coast you came from. The only exception to this was when the military was stationed at Fort Chimo. The U.S. military was stationed there during World War II and the Royal Canadian Navy for a short while during the 1950's. They both had their own radiotelegraph circuits to the outside. In 1988 Kuujjuak is listed with an NDB on 390 kiloHertz that appears to be at this site. This NDB identified in Morse with the letters VP, making CYVP the four letter identification for this station.

Canada has probably assigned four-letter international call signs to a number of stations that I am not aware of but one further example was the stations operated by the Hudson Bay Company in the Arctic. Actually these stations had a four-character call sign with an international prefix and not a four-letter call sign. For many years each manager of the various Hudson Bay Company trading posts throughout the country was issued a ten-watt fix-tuned radiotelegraph transceiver along with a list of the various characters in Morse code, the continental code. It was each manager's responsibility to learn the code and the operation of these units, likely a welcome diversion for many from the boredom associated with the various isolated posts. Right after World War II the Hudson Bay Company post at Cambridge Bay, North West Territories had call sign CY5D. The manager at this post, "Scottie" Gaul, mastered the operation of this unit but it was his wife who took the bull by the horns so to speak and became very proficient with this unit. Radiotelephone has replaced these stations and I have seen their location, including call sign and frequency, printed on various navigational charts in case some station, ship, aircraft, etc., wanted to communicate with them.

There were quite a few of these two letter, one digit and one letter call signs assigned back then. These are some of the ones I found listed for 1937. They all were listed as using CW so there must have been a lot of work for one who could operate CW back then.

CZ2R Pilotage Authority, New Westminister, British Columbia
CZ3C Wings Limited, Norway House, Manitoba
CZ3K General Dredging, Neuville, Quebec
CZ3R Canadian Pacific Railways, New Liskeard, Ontario

CZ3Y Northern Broadcasting, North Bay, Ontario
CZ4O Ontario Department of Lands and Forests, Mount Collins, Ontario
CZ4P Ontario Department of Lands and Forests, Nestors Falls, Ontario
CZ4Q Ontario Department of Lands and Forests, North Bay, Ontario
CZ5K Dominion Skyways, Montreal
CZ5L Dominion Skyways, Mud Lake, Quebec

From this research and years of experience I am convinced that the majority of the Canadian ships should have had a four-letter call sign allotted permanently and listed correctly in the International Telecommunication Union publications. The assignment of these ship call signs to ships with a prefix indicating the owner of the ship, as they were over the years led to a lot of unnecessary confusion and foolishness.

Since these four-letter call signs sometimes spell a word they had a tendency to leave us operators with something to remember. For example, the French warship LA CHARENTE cruised around for years with FART. The Swedish vessel SOFIE often carried a girl radio officer and had call sign SLUT. GOOF was a regular customer of station VCS and was assigned to the DART ATLANTIC. DART ATLANTIC became CP AMBASSADOR and retained the GOOF call sign. Every four-letter word except the ones with the letter Q for a prefix could be a ship's call sign. The first or first two letters of the prefix would indicate the ship's nationality from the above list. But as can be seen from Canada's twenty-four prefixes there was little to be created, and nothing exciting unless something like CITY or VERY turn you on. CITY is a broadcast call sign in Edmonton, Alberta. Canada made it a tradition to assign the CH prefix to private broadcast stations, which is the reason CHUM is in Toronto. There is no reason why two Canadian ships could not have a CHIT and CHAT. One could very well be CHIP, and I always felt XMAS should have been assigned to the CHRISTMAS SEAL. Possibly the powers that be were saving XOXO or XOOX for our first "Love Boat", and VOLT might give someone a charge in the proper area. That is about it.

421,824 five-letter aircraft station call signs.

Most civil aircraft throughout the world were assigned a registration with a prefix from the above international list of call signs. This registration is painted on the aircraft and used as the radiotelephone call sign. Canadian civil aircraft had the prefix CF- followed by three letters from CF-AAA to CF-ZZZ. Many of these registration call sign assignments were issued so that the registration indicated the owner of the aircraft. Canadian aircraft used these registrations as the radiotelegraph call sign for those aircraft that were fitted with radiotelegraph, and most from CF-MPA to CF-MPZ were the Mounted Police aircraft, the majority of the block from CF-PWA to CF-PWZ were the Pacific Western aircraft, and so on. The number of aircraft registered in Canada exceeded the CF- prefix so this was changed by the position of the dash. They became C-F, C-G, C-H and C-I. The second letter is one that indicates a Canadian prefix. This meant that the powers that be could assign these registrations so they will describe the type of aircraft. C-F and C-G apparently are the old standard aircraft types. C-I the ultra-light aircraft and C-H are hovercraft. I do not agree with it and feel the dash should have been left where it was. C is a prefix for thirteen countries and one international organization. It is not a Canadian prefix and does not become a Canadian prefix until the second letter is included – therefore the dash should have remained where it was. All this did is make the Canadian prefix resemble the European prefix for the nations that hold complete blocks of calls that make the first letter indicate the country of registry. These are G-AAAA to G-ZZZZ United Kingdom, F-AAAA to F-ZZZZ France, I-AAAA to I-ZZZZ Italy, and so on. All military aircraft in Canada used the prefix VC followed by four digits as the radiotelegraph call sign. The radiotelephone call sign was a word that pertained to the squadron the aircraft was assigned followed by the last two digits of the aircraft's number. For example, I remember one that used WILDCAT 44 when it was on patrol with the navy frigate I was in at the time years ago. During the last days of the VCS station I remember these military aircraft as using MILITARY and the complete aircraft number. The military aircraft do not use the international block as a prefix for their aircraft so Canada will not likely ever come near to the maximum of 421,824 possibilities in this area.

AMATEUR AND EXPERIMENTAL RADIO CALL SIGNS

The amateur and experimental operators of 1912 and before used their initials or some self assigned means of identification. The amateur and commercial operators were more or less QRM (man made interference) for each other during that time. The primitive nature of the equipment in use by both the amateur and commercial operator meant that the frequency in use at any time by either operator was more or less all the frequencies then known. The majority of these early stations transmitted on a wide band of frequencies, which was a large portion of that area known as 100 kilohertz in modern terminology. When an amateur operator interfered with a commercial operator he was to terminate when the commercial operator transmitted the signal STP and was not to commence until the commercial operator transmitted CANCEL STP.

The earliest regulations for Canadian amateur radio stations, that of 1913, state that the call sign shall have X as the prefix followed by a two letter suffix, AA, AB, etc. X has always been a fascinating letter to signify the unknown and the experimental. The first call signs of the Wireless Association of Ontario were three letters with the prefix X. The two-letter suffix commenced with the first letter of the operator's surname. For example, my call sign would have been XRA had this been the first call sign allotted to someone with R as the first letter of the surname. The last letter of the call sign was assigned in alphabetical order as various people with the same first letter in their surname applied for call signs.

About 1920 amateur radio had received prominence on an international level after much work from various people. At this time Canadian amateur radio call signs were divided up with a numerical prefix and two-letter suffix. A three character call sign still, but the numerical prefix was allotted as follow:

1	Nova Scotia, New Brunswick and Prince Edward Island
2	Quebec
3	Ontario
4	Alberta, Saskatchewan and Manitoba
5	British Columbia, North West Territories and Yukon Territory
6	Training Schools
9	Experimental
10	Amateur Broadcasting

Shortly after this arrangement went in service the amateur operators started to reach other amateurs outside their own geographical areas, mainly because they found that the frequencies above the area of about 1,000 kilohertz in modern terminology were of some use. This presented a problem because the amateur operators of the other areas of the world were using an identical call sign. This meant that there was no international identification and no way to know the location of the station heard. When the Canadian amateur stations started to communicate with the American stations this problem was solved. The Canadian stations added the prefix C to their call sign and the American stations added the prefix U to their call sign. It was not long before these stations were reaching across the Atlantic Ocean. When this took place the letter N was added to the prefix of the call sign. The letter N signified that the station was located on the North American continent. Had I held my call sign at this time it would have been NC1BC. My amateur radio call sign, VE1BC, has the suffix BC.

On February 1st, 1927, at 0000 GMT European countries were to have a two-letter prefix. The first letter was the letter E; Asian countries, similarly, with the letter A; North America N; South America S; and Africa F. This was according to the International Amateur Radio Union News in the American Radio Relay League's publication QST for January 1927.

In 1929 amateur radio call signs were assigned an international prefix from the country's block of international call signs for the country the amateur station was licensed. VE became the prefix for these call signs in Canada. VE is a radio abbreviation meaning UNDERSTOOD. Because so many have been able to understand radio from the ranks of the amateur operators, this was an excellent choice for the prefix of these call signs.

After 1946 the Canadian amateur call signs had a prefix as follow:

VE1	New Brunswick, Nova Scotia and Prince Edward Island
VE2	Quebec
VE3	Ontario
VE4	Manitoba
VE5	Saskatchewan
VE6	Alberta
VE7	British Columbia
VE8	Yukon and North West Territories
VE9	Experimental
VE0	amateur station in a Canadian ship – after 1954

When Newfoundland joined the Dominion of Canada in 1949 their VOA-VOZ block of international call signs became part of the Canadian international block of call signs, and this included their amateur radio stations:

VO1	Newfoundland
VO2	Labrador

The Yukon Territory was assigned the VY1 prefix for their amateur radio call signs in 1977. Prince Edward Island was assigned the VY2 prefix and the VE9 experimental prefix was terminated and this prefix became the amateur radio call sign prefix of New Brunswick. This all took place in the early 1990's and unfortunately no official date was recorded for these changes. These provincial and territorial governments are simply cesspools of greed and discrimination and serve no useful purpose but for some unknown reason we have to be blessed with them. Canada would be so much better with federal and municipal government only. On April 1st, 1999, Canada formed another of these known as the territory of Nunavut and their amateur radio stations were changed from VE8 to the prefix VY0 at that time.

About 1995 Canada began to issue amateur radio call signs with the VA prefix. These are the same as the VE prefix. There were so many VE3 amateur radio stations that this was done in order to obtain more amateur radio call signs and this has spread to the other VE areas. At the same time it became possible for a Canadian amateur to keep his or her call sign when they moved from one area in the country to another. One could find a VE1 operating permanently in the VE7 area, and so on around the country.

The VE0 prefix was first assigned in 1954. The first vessel assigned this call sign was HMCS IROQUOIS with call sign VE0NA. This was our first IROQUOIS, the tribal class destroyer built during World War II. She had two pendant numbers during her twenty-year career, G89 during the war and 217 after 1946. The pendant number was the number painted on her hull. At the end of the war she had international call sign CZJD. She used a two letter coded call sign in radiotelegraph during the war that was changed every couple of months. Her international call sign during the war was CZGD. In 1946 she was assigned call sign CZGC and this was changed again to her original and final call sign CZGD in 1951, and around that time she was assigned radiotelephone call code "Jack Stone".

Getting back to the amateur call sign, the naval ship received the prefix VE0N and the merchant ship received the prefix VE0M and they each had the one suffix making a five-character call sign. The amateur radio community calls this a two letter call sign. There were so few VE0 call signs it is hard to believe the powers that be managed to screw them up, but screw them up they did. They assigned the same call sign to two different ships. From this incident the powers that be came out with new call signs for these stations. Rather than use the top half of the VE0 block for the East Coast, and the latter half for the West Coast, they came out with a six character call sign. VE0NEA through to VE0NEZ was assigned to East Coast naval ships and VE0NWA through to VE0NWZ to West Coast naval ships. Apparently merchant ships were broken up in a similar fashion but I have never learned the exact division. What difference would it make because there were more errors in these assignments after this move than before? Some yachts were running around the East Coast with a VE0NE prefix that should have been VE0M. One would be correct in assuming this a mystery in that they received an amateur call sign for these stations, and not a three-letter

three-digit land station call sign. Just before Canada went to the additional VA prefix with these amateur call signs, these VE0 call signs began to appear with any two-letter suffix from AA to ZZ.

Canada was one of the few countries, if not the only one that not only issued a distinctive prefix for amateur radio stations fitted in ships, but permitted licensed commercial operators to operate these stations with their commercial licence. The former item is one of personal opinion and I have never quite understood the reason for this although most of my amateur operating was in this area via these stations. The latter idea I find a good one. I had operated club stations in the Navy, but had not had an amateur operator's licence and had to get one in order to record an example of one on these pages. Amateurs of most anything seem to have the better or more efficient participants in anything, be it radio, mechanics, gardening, or whatever. This certainly applies to radio. The best radiotelegraph to be heard over the air was found on the amateur radio bands, and the few Canadian commercial operators who participated in this naturally gained a lot from those excursions. It was the practice and became tradition to assign the amateur stations the unknown in radio and once they improved, made a use of this area, or whatever the proper terminology, took it over for commercial use.

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

Certificate of Proficiency in Radio

Certificat de Compétence en Radio

Advanced Amateur

Certificat supérieur d'amateur

This is to Certify that

Le présent certificat atteste que

SPURGEON GEORGE ROSCOE

has been examined in accordance with the General Radio Regulations issued under the Radio Act and has qualified in:

(a) The adjustment, operation and care of radiotelephone apparatus and associated measuring equipment;

(b) Transmitting and sound reading in the International Morse Code at a speed of not less than fifteen words a minute;

(c) Detailed knowledge of Canadian and international regulations governing the operation of Amateur Experimental Stations with unrestricted operational privileges;

(d) The operation of an Amateur Experimental Station for at least twelve months.

It is also certified that the holder of this Certificate is qualified to operate any licensed Amateur Experimental Station in accordance with the terms of the station licence.

GRANTED BY THE MINISTER OF COMMUNICATIONS UNDER THE PROVISIONS OF THE RADIO ACT

Examining Officer / Examinateur

February 20, 1980

Date

a subi un examen conformément au Règlement général sur la radio, édicté en vertu de la Loi sur la radio, et qu'il a réussi dans les sujets suivants:

a) Réglage, utilisation et entretien des appareils radiotéléphoniques et du matériel de mesure connexe;

b) Transmission et lecture au son en code international Morse à une vitesse d'au moins quinze mots par minute;

c) Connaissance approfondie des règlements canadiens et internationaux régissant l'exploitation des stations expérimentales d'amateur jouissant de privilèges d'exploitation illimités;

d) Utilisation d'une station expérimentale d'amateur pendant au moins douze mois.

Il est également attesté que le titulaire de ce certificat a qualité pour faire fonctionner toute station expérimentale d'amateur, suivant les conditions stipulées dans la licence.

DÉLIVRÉ PAR LE MINISTRE DES COMMUNICATIONS EN VERTU DES DISPOSITIONS DE LA LOI SUR LA RADIO

E. W. Power.

for Minister of Communications / pour le ministre des Communications

I do not agree with our present system of Amateur Radio Call Signs in Canada, and will never agree with them. The reason for this is that I have been very fortunate to either visit or have lived in nearly all areas of this vast country. I have made many friends from one end of the country to the other, and they come from every walk of life that makes up the rather small population of this vast country. I have never been able to understand why we have not been able to conduct ourselves in terms of Canada and Canadian more than we do. For some reason these terms have been placed on a level somewhere above us, and we concentrate more on the regional terms of the provinces. This I feel is a serious fault. For example, the Nova Scotia flag originated in 1621. When this province became part of the Dominion of Canada, I believe this flag and

everything distinctly provincial should have been shoved so far back in the closet that anyone finding same today should have to take it to some expert for identification. We are not the United Provinces of America, but because the areas of this country had the same beginnings, more or less, as the United States of America we operate more on these lines. Therefore, I do not understand or have any use for these Provincial Flags and Provincial Licence Plates on our motor vehicles. We should have the one flag only, the Canadian flag, we should have the one licence plate only, the Canadian Licence Plate on our motor vehicles, and there should be no way of distinguishing a vehicle from any area within the country by these plates. This would make it so much easier for all concerned, we the operators, the policing, the construction, and so on, if they came under the one, the Canadian Department of Highways, or whatever label it was given. This is the reason I feel our Amateur Radio Call Signs should be Canada and Canadian only.

I am convinced that the present provincial and territorial governments are little more than cesspools of greed and discrimination. If Canada went to a system of federal and municipal governments only the majority would probably demand regional identification in some form. Therefore, make the motor vehicle licence plates Canada with the federal district on them. Assign regional numbers to the plates and make them different colours, but make them Canada and Canadian only. Probably each federal district would want its own flag as well and this should help put an end to these provincial and territorial flags. Assign each present flag to a federal district and let the remainder of the federal districts create their own flag. There would be so many French federal districts within the present Quebec that this would solve any separation problem. This would also make it possible to have a few French federal districts outside the present area of Quebec. I am convinced that Canada would be a much better country if this huge change were made. It would spread the wealth around, make the health care the same, the schools the same, and give us better leadership when the good members of the provincial and territorial governments became part of the federal government. If an election were held at a certain time every five years it would make it so much better. Everyone would know and be able to prepare for the next election. The Prime Minister of Canada should be permitted one five-year term only, if for no other reason it gets awful tiresome looking at the same face and listening to the same voice. This is the Canada I would like to live in and not have to get tangled up in these foolish provincial and territorial political fences.

When you take the twenty-four international call sign prefixes available to Canada and place the digit from one through to zero after each, this will then make 240 prefixes available for these amateur call signs. Amateur operators refer to their call signs as a two or three letter call sign, using the number of letters making up the suffix of the call sign. Once they have met the requirements for this change, many of these amateurs exchange their three letter call signs for a two letter call sign, providing a two letter call sign is available. When you consider the 240 prefix possibilities and add to this the 676 two letter suffix possibilities, you then have available 162,240 call signs – more than Canada will ever need. Therefore, every amateur operator in this country could have a two letter call sign, as they call it, and these could quite easily be changed in a matter of minutes. They should signify nothing more than Canada and Canadian, and no matter where the operator went within the country he would retain the same call sign. This would mean quite a change for many of these operators, and not likely many would agree with me. The present holders of two letter call signs would retain these, but anyone could have any possible call sign that was not assigned no matter where he lived within the country. From the call sign there would be no way of knowing the location of any station within the country and this would help in getting us to realize we are Canada and Canadian before and above anything else. The call signs would be CF1AA through to XO0ZZ, missing the various two letter prefixes that are not part of Canada's international block of call signs. Chosen randomly, possibly via a draw or similar means, VE3HAA through to VE3HZZ could become VG6AA through to VG6ZZ, if the VE3H prefix were to become VG6 for the initial change. Also if VG5AA through to VG5ZZ were to replace VE7CAA through to VE7CZZ, and if VG7AA through to VG7ZZ were to replace VE1BAA through to VE1BZZ, the initial change would spread the prefixes around the country.

An award for working all 240 Canadian prefixes would be quite a challenge. The present rules whereby various international amateur radio organizations refer to several of the islands around this country as separate countries could remain in effect. For example, if XN2JJ lived on Sable Island, this could be made known for that reason. The big advantage would be that it would get the majority to refer to us more in

terms of Canada and Canadian. And our birth certificates, trade papers, etc., should all read Canada and Canadian as well.

This is all wishful thinking on my part. There is no hope of this taking place and if it did there would be those within the amateur radio community that would insist on a certain prefix for each federal district. There are 310 federal districts and only 240 prefixes and the solution to this alone would be rather interesting to say the least.

MORE ON EQUIPMENT

I received this list of frequencies monitored by Canadian Stations in April 2007:

The following coast stations manned by the Canadian Coast Guard monitor all monitor 2182khz on a 24/7 basis as well as these other freqs:

VAE Tofino - 2054khz / 4125khz

VAJ Prince Rupert - 2054khz / 4125khz

VAR Saint John

VBA Thunder Bay* - CH407 (*for Hudson Bay)

VCG Rivière-au-Renard

VCM St. Anthony

VCO Sydney

VCP Placentia

VCS Halifax

VFA Inuvik - CH403 / 5803khz / 6218.6khz / CH601 / CH826 / CH1214

VFF Iqaluit* - CH403 / CH603 / CH605 / CH812 / CH825 / CH1201 / All HF-DSC freqs from 4-16mhz - HF RT, NBDP, DSC (* open from mid-June to late November)

VOJ Port aux Basques

VOK Labrador CH407 / CH605

VON St. John's

note - we also have other RT broadcast & dedicated coast guard freqs that are not listed above as well as RAFAX freqs

As for how important is HF DSC to the GMDSS, well, since Inmarsat doesn't reliably cover anything above 75N or 76N, it is very important for comms in the Canadian Arctic.

Mr. Jean Guèvremont

Canadian Coast Guard
Marine Communications and Traffic Services (MCTS)

There will never be a termination to the field of improvements in communications, so there is no way I can record anything accurate on the future. This exercise goes back twelve generations. Looking ahead twelve generations should see many fantastic changes in the field of communications, providing this old world survives another twelve generations of our foolishness. Comparing the past with the future should help provide some insight. One thing is rather obvious, since the French language survived for roughly eight generations in a totally alien environment in the state of Louisiana, it should be clear that there will still be many languages twelve generations into the future. This should present little trouble, and not likely the percentage of the population that can use more than the one language will be as great as it is today. By that time everyone should have a small wrist sized unit capable of communicating with any other person. They should be able to communicate with each other no matter where they are or who they are. No matter what language these units receive they will automatically translate this language to the operators' choice. We are nearly to the point of making these units available now, and the amount of change that electronics will make for future generations is beyond our imagination.

I wanted to learn what I could of this trade and pass along some of this information because so few seem to know anything about the subject. This is a fascinating subject and the little I have tried to record here only scratches the surface. From this it is rather obvious that the present is not far removed from the past.

Briefly, the equipment that should have been fitted in the last ships to use radiotelegraph:

Radio Transmitters:

The main transmitter fitted in the last ship's radio room was capable of being used on all medium and high frequencies of the marine radio bands. They normally were capable of power outputs of 500 watts on the medium frequencies and around 1500 watts on the high frequencies. They could be set to any frequency within the bands down to 100 cycles for each high frequency segment. For example they were calibrated to one decimal point beyond the actual frequency in kilohertz. Rather than 6292 kHz, they could be adjusted to ten decimal points from 6292.0 through to 6292.9 kHz. They were capable of transmitting most anything imaginable from radiotelegraph, double side band (a form of audio modulation), single side band (upper and lower – full, reduced, and suppressed carriers), radio Teletype, and radio facsimile.

Emergency Radio Transmitters fitted in the last ship's radio room:

These units transmitted both radiotelegraph and modulated-radiotelegraph on the medium frequencies of 500 kHz and all the normal working frequencies for this band. In addition they were equipped with a microphone and capable of transmitting on the calling and distress frequency of 2182 kHz in radiotelephone.

Receivers:

Both the main and emergency receivers covered the entire radio spectrum from the very low frequencies to the top end of the high frequency bands. The emergency receiver was normally a cheaper version of the main, both in operation and price.

Patch Panels:

Most stations were fitted with a patching panel whereby the main receiver and transmitter could be remotely operated from a number of stations and on a duplex or voice operated control system. For example the Captain could have and operate a remote unit from his office in the ship. Rarely was the communication on these units the best, possibly from poor adjustment of the various pieces of equipment controlling the remote units.

Automatic Keys and Automatic Alarm Receivers:

These units operated much the same as they had for years, except they were solid-state transistor units. This made them much smaller in size with little or no adjustment other than a few switches to activate their operation, far superior to the old “Seaguard” Auto Alarm manufactured by Marconi where you wore your fingers off trying to get the synchronized motor started. The Auto Keys were keyed electronically and not mechanically as they were for many years. Many of those older units were still to be found in the older radio rooms afloat on termination of the radio officer.

The automatic keys could be set for two distinct transmissions. They would transmit twelve four-second dashes in one minute. The space or pause between each dash was one second. This was known as the automatic alarm signal. This signal was the reason all proper radio room clocks had red lines representing the dashes of this signal around the outside edge of the clock face. An operator could send this signal by hand simply by sending a steady signal while the second hand of the clock was passing each of those red lines. All automatic alarm signals were transmitted by hand at the VCS station until the construction of the last station in the winter of 1987 – 1988.

The automatic alarm receiver would activate on the reception of three of those correctly spaced dashes. The transmission of four times this number provided further assurance that this transmission would be received. When the automatic alarm receiver was activated it would ring a bell on the ship’s bridge alerting the officer of the watch, a bell in the radio room, and a bell next to the radio officer’s bunk.

The second transmission provided by the automatic key was the distress signal and these units automatically sent SOS three times, DE, then the ships call sign three times followed by one ten second dash at sixteen words per minute radiotelegraph. These automatic keys would repeat this distress signal every twelve minutes automatically until destroyed or switched off. The ten-second dash was transmitted for the use of radio direction finders.

Radio Direction Finders:

The only reason these units were fitted was that they were required by law in order to assist in any distress communications. They were seldom used and often had not been calibrated in years towards the end of the radio officer. The units fitted towards the end of the radio officer were fully automatic and showed both the relative bearing to the ship’s head and the true bearing as soon as a signal was heard. I felt those units should have been returned to their proper place in the radio room. They were always fitted in the radio room until the last two or three decades of the radio officer. They were seldom used in the chart room and would have made an excellent watch-keeping receiver. Not only that if I were sailing so fitted I would often take bearings from the navigational radio beacons and compare those with the watch keeping officers position recorded hourly. One never knew when it would become useful for both distress and navigation, and this would ensure accuracy when needed.

Furuno U.S.A. Inc., South San Francisco, California

This is the Furuno Model FD-171 Radio Direction Finder. This unit could have been used as a Receiver, an Automatic Radio Direction Finder or a Manual Operated Radio Direction Finder. The Compass Rose to the left displayed both the true and relative bearings of the received signal. The digital unit top center displayed the frequency and the knob next to this selected one of five crystals or the manual tune position. The three knobs in a horizontal line below these are the dial lighting dimmer, the manual tuning knob and the band change switch. The four knobs in a horizontal line across the bottom of the unit are the beat frequency oscillator control, the volume control, the RF gain control and the off, receiver, automatic and manual selector control. This unit would have been a welcome asset even at a coast station.

Very High Frequency FM Radiotelephones:

There were less than a dozen channels available when this equipment was first fitted around 1970. When the radio officer position was terminated there were over one hundred channels in the area of 156 megahertz. These units normally put out around twenty-five watts on high power, around one watt on low power, and were fix-tuned to the various international channel assignments. They normally could electronically scan several assigned channels and were normally installed in the radio room with a remote unit to the bridge. This meant they were normally left to the bridge. Most Captains by this time had gotten used to the idea of the officer of the watch using the radiotelephones and this eliminated calling them out for the purpose of answering any calls. These units provided good clear communications for a distance of nearly sixty miles. Many in the nautical world called them a bridge to bridge intercom. Most ships also issued various officers' a portable unit commonly called a "walkie talkie" and the bridge would keep in contact with those units. This was a big asset especially when docking a vessel.

Facsimile:

Many ships were fitted with these units. They normally operated from a fix-tuned receiver but could operate just as well from a general coverage receiver. The output of the receiver was applied to electric contacts or pens that would burn a special paper on the reception of a signal. We used to keep this special paper in the galley refrigerator to keep it moist. This is a very basic or brief description. These facsimile receivers would reproduce any drawing made by the transmitter. Halifax Radio CFH provided this service in eastern Canada. These units mainly reproduced weather maps and in this area ice maps, from a number

of stations around the world. This gave the ship an up to date detailed weather description or ice detail in pictorial form.

Alden Electronics, Westborough, Massachusetts

This is the Alden Model 9312 Weather Chart recorder. This unit was the same size as a portable typewriter and weighed nine pounds. It could operate from either twelve volts or 115 volts and came with a built-in synthesized 100 kilohertz to 30-megahertz receiver. The five smallest tabs are used to set the frequency of the receiver. The recording paper cassette contained 35 feet of 11 inch wide paper. The weather chart, ice chart, or whatever was recorded, was printed on the paper with a stylus belt-scanning electrode. It was a most amazing small inexpensive and efficient navigational aid at the time. The chart seen in the photograph is a surface weather chart transmitted by Halifax Radio CFH.

Alden Electronics, Westborough, Massachusetts

This is the Alden 9519C Marine Radiofacsimile Recorder. This unit would record full size weather charts at sea from radio transmitters located throughout the world. This unit was using a Mackay step-tuned general coverage receiver. The operator has his left hand on the tabs that controlled the frequency setting of this receiver. Units such as this were very important for the navigation of the Canadian Coast Guard Icebreakers, especially while working with shipping in ice. I have seen the navigating officers in those icebreakers use the ice charts transmitted identical to the weather charts, as a navigational chart. They recorded our positions and course as though it were the standard navigational chart for that area.

Navigation was experiencing much improvement from electronic technology. A very brief note on this is as follows:

The Joy Stick:

Towards the end of the radio officer electronic and computer technology had made many changes in ships. From this technology the Captains of many of the largest ships afloat were controlling their vessels with sticks not much larger than an ordinary lead pencil – commonly called a “Joy Stick”. The main engine or engines would normally turn at a certain speed and moving this stick either way from the middle position simply changed the pitch of the blades on the propeller or propellers. The engine speed was not increased until the area of over half ahead or half astern was reached. From either of those areas the engine speed was brought up electronically until the maximum of full ahead or astern was obtained if desired.

Thrusters:

A bow thruster was now more or less standard equipment. This was a propeller fitted in the bow of the ship. Turning this propeller in one direction would move the bow to the left or port. Turning it in the opposite direction would move the bow to the right or starboard. The bow thruster had either a diesel or an electric motor and was operated by another “Joy Stick”. Naturally there were a number of these “Joy Sticks” fitted in various locations throughout the bridge or bridge wings for convenience. There could be many thrusters fitted in the ship depending on the size of the ship. These thrusters took the place of a tugboat and some of the larger ships had as many as five or more of these units mounted down the sides. This enabled the crew to move the ship sideways up to her berth when docking or move her out from her berth when leaving.

Gyro Compass:

Technology decreased the size and increased the efficiency of these compasses so that they were available for fairly small boats and yachts. Repeaters from these units could be connected to radio direction finders, radar and automatic pilots, and this greatly increased the navigation efficiency of small boats and the larger ones as well.

Automatic Pilot:

The automatic pilot was available to boats of all sizes. The automatic pilot greatly reduced the size of the wheel necessary for steering. Many large ships had a steering wheel smaller than the average automobile steering wheel if they had a steering wheel. Some of these units had only another “Joy Stick” for steering. Still others had a small wheel or horns similar to that in an aircraft.

Sperry Marine Systems, Great Neck, New York

This is the Sperry SRP-2000 Ship Control System. Sperry advertised this as the worlds most advanced autopilot. This system was a fascinating unit that was nearly impossible to describe briefly. The CRT Display (the large television type screen at the top of the photograph) was the principal information display for the operator. The upper portion displayed heading, heading rate and rudder angle on appropriately scaled displays. Each display scale had pointers to denote the ordered value and the actual value. The heading display was presented as a forty-eight degree segment of a compass card with fixed lubber line. The compass card segment moved with the actual heading. The heading order pointer was also moveable.

The heading display was always on the CRT. The operator could remove the heading rate and the rudder angle displays.

The lower portion of the CRT display was used to provide the operator with operating instructions and other data. This unique feature allowed the operator to select a particular mode of operation from an index page and then bring up specific operating instructions for the selected mode on the CRT display. In addition to operating instructions for the selected mode on the CRT display. In addition to operating instructions, other specific data was presented such as rudder limits and navigation data. The CRT also visually presented data for selecting speed input, ship loading, autopilot modes and other ship information.

The Alarm Panel (upper left of the wheel) presented an indication of eight discrete alarm conditions. The alarm system monitored critical functions including the alarm system itself. Alarm indication was by means of an audible alarm and an LED indicator highlighting the particular function at fault. A muting touch key was provided to silence the audible alarm and test and reset touch keys were provided. In addition to the eight discrete functions identified on the alarm panel, an alarm indicator was provided to direct the operator to the CRT display that would display the additional alarm data. The alarm functions of the SRP-2000 were protected from power loss by a battery supply that provided power for the audible and visual alarm even with the loss of system power.

Located at the top of the alarm panel was an alternate heading repeater for use in case of CRT display failure. This display showed deviation from heading-to-steer and gave an indication of heading change rate by means of a moving spot indication. A digital heading indicator (LCD) displayed the actual ship's heading. Touch keys were provided to synchronize the LCD heading repeater with the ship's gyrocompass. When used with an optional second heading reference input, this unit provided for an off-course alarm function.

The dimmer panel was to the left of the wheel and was not visible in the photograph. Three independent dimmer controls were provided to balance night illumination.

The helm unit provided independent rudder order signals to the rudder control units and to the CRT display. The rudder control unit was used to control the hydraulic power units that positioned the rudder. This unit was located in the steering compartment and eliminated high current cable runs to the wheelhouse. The SRP-2000 could control up to four rudder control units. The helm unit also contained a rudder order dial indicator. This was the dial directly above the wheel shaft with the round face. The helm unit provided manual steering control independent of the electronics elements of the steering control center. Each helm revolution resulted in twenty degrees of rudder movement. In other words, the helm or wheel was smaller than the steering wheel in any automobile and two complete revolutions to the left would cause the largest ship afloat to steer hard left or port, providing the rudder was amidships or steering straight forward. The same two revolutions to the right would cause a hard turn to the right or starboard. Great grandfather Spicer would never believe this. He likely had to turn the wheel on SILVER LEAF about six times to get her to steer hard left or right and this was out on her upper deck in all kinds of weather. If SILVER LEAF had been in a storm Great grandfather would have had to get one of his shipmates to help him hold her on course.

Getting back to the Sperry SRP-2000 Ship Control System, the two light coloured rectangular shaped panels directly above the helm was the autopilot keyboard. The autopilot keyboard was used to select the desired mode of automatic steering and to enter control parameters and calibration constants. The right hand portion of the keyboard was used to operate the CRT display. The left side of the keyboard contained five pre-selected mode keys and four keys reserved for future expansion. The five pre-selected mode keys were Satellite Navigator, Loran Navigator, Manual Navigator, Gyro and Rate. A LED indicator light appearing on the selected key indicated the selected mode.

The switch to the right of the helm or wheel is the system switch. The system switch was used to apply power to the system and to select the particular rudder control system or systems to be used.

The last portion of this fascinating unit was the status panel. This panel was the panel to the upper right of the helm just above the system switch. The status panel presented the port and starboard system status. Up to four pump systems could be handled. The rudder control units were located in the steering compartment. Power availability was indicated and indication was shown as to whether or not pumps were energized. The status panel showed the steering mode selected for each rudder control unit (autopilot, helm, emergency or remote). The status panel also contained the push switches for helm or remote steering (the two light coloured buttons) and the emergency steering rocker switch (the long switch at the bottom of the panel). The emergency steering rocker switch could have been used in an emergency to replace the helm or wheel.

This is a brief description only of this fascinating unit that represented a dramatic breakthrough for Sperry because it had many improvements over a conventional autopilot. The system could have been set-up in many ways as the operator performed each step as instructed by the instructions displayed on the CRT display (the same as reading a book). This system was set-up to perform in the most efficient way, whether the ship was loaded or light and whether it would be moving in traffic or on the open sea that would ensure that the steering preformed to provide the best fuel economy possible.

Fathometer:

Trying to record even a very brief description of these units on termination of the radio officer is nearly impossible. They could be found fitted in anything from a bathing suit to an ultra large crude carrier, the largest ship afloat. When you took a look into the fishing vessel of that era, you would find these units displaying everything for approximately five miles on the bottom of the ocean, the bottom of the vessel, and everything in between. This displayed in either feet or fathoms on a digital display, or a printed recording, or on an electronic colour display similar to colour television. But the “work horse” of the merchant shipping world normally had the unit that displayed the depth of water under the keel on a digital display in either feet or fathoms. On occasion she would have a recorder that gave a printed recording of the depth on paper. The more popular units provided the depth of water to a maximum of from five hundred to five thousand feet.

Radar:

Most ships were fitted with two radar units that were as important as the propeller. On occasion one would be the large ten-centimeter variety and the other the smaller three-centimeter unit. The smaller version was the better for navigating in rain and storms because it would not reproduce as much sea clutter as the former. They often were identical ten-centimeter radar and this meant the ship could carry identical spare parts and the two could be cannibalized in order to make one work in the event of failure and the want of spares. These units were not only the eyes of a ship but were becoming the brains as well. The more modern units were capable of searching for many miles around a ship and in turn giving a complete picture of anything within this area, normally a forty-mile radius. They were fitted with various automatic plotting and collision avoidance systems that not only automatically showed the picture for various targets and would do it for various times in the future in order to assist the navigator in making any changes at the moment. They would also automatically activate various alarms to indicate something was not quite correct and should be rectified within the navigation of the vessel fitted. They were used for navigation during coastal passages as much as the other electronic navigational aids. They were a fantastic piece of equipment! The larger more complex models required considerable training in both the operation and maintenance of the units. Fortunately most deck officers received this operating training ashore at various schools.

Raytheon Marine Company, Manchester, New Hampshire

This is the Raytheon Raycas Collision Avoidance System. The unit to the left was the Raytheon sixteen-inch Mariners Pathfinder Radar. The smaller unit with the many push button controls was the Anti-Collision Unit that could have been interfaced to operate with other marine radar systems. The Anti-Collision Unit was a computer and control panel that was capable of feeding into the radar various pieces of navigational information on the vessel this unit was fitted, and of up to twenty vessels, up to a 24 nautical mile range from this vessel. This unit could show the future traffic situation surrounding the vessel up to thirty minutes ahead.

The performance of the three basic sensors, radar, gyrocompass, and speed log, were continuously monitored by the system. In case of degraded performance of any of these sensors, the fault alarm would be activated, and the digital read-out display would indicate which sensor was malfunctioning. The radar performance monitor signals were displayed on the scope and provided the operator with a very accurate means of tuning the receiver.

A hard copy printer could have been installed with this system for periodic data logging of own ship and targets under tracking.

The Anti-Collision Unit functions were ergonomically grouped for easy identification and operation with a minimum of training required for the ships officers. Separate self-explanatory controls ensured safe and simple operation.

The numerical display consisted of the eight push button controls along the top of the Anti-Collision Unit. To the left of these push buttons, the dark area in the photograph was the LED display. For example, if you pushed the top right hand push button the LED display would indicate your own vessels speed in knots and course in degrees. The bottom left hand push button would display the same information for any target that had been circled by the "Joy Stick", the large lever on the Mariners Pathfinder Radar to the left of the LED display. The numerical display push button controls would display various pieces of information, such as bow crossing range, bow crossing time, target range, target bearings, and so forth.

The keyboard was the small push buttons just below the LED display of the numerical display panel. The keyboard permitted the simple code entry of special functions such as; acquisition exclusion boundary lines, centered plan position indicator and exclusion boundary lines, numerical read-out of radar performance, numerical read-out of drift and speed in automatic drift mode. In addition, the keyboard was used with the diagnostic program and for existing and future navigation programs (pre-programmed fairways, channel routing, etc.).

The warning panel was the six push button controls circled in white to the right of the keyboard panel. The push button between these two panels was the system clear and is used to silence or clear the warnings panel. The warnings panel provided both visual lights and audible beeps to alert the navigator of hazardous navigation conditions and system malfunctions, as labeled on the six indicators (push button controls).

The exclusion boundary line panel was the four push button controls circled in white just below the keyboard panel. A continuously visible exclusion boundary line could be selected fixed to own ship (range and bearing) or positioned free anywhere on the plan position indicator (the cathode ray tube or picture tube of the radar) to measure the distance and direction between any two points.

The targets panel was the six push button controls circled in white just below the exclusion boundary line panel. The six controls were: acquire target that was used for manual acquisition. Cancel target and cancel all target controls would cancel tracking of individual and all targets. Designate target would provide numerical read-out of target data in the display panel. Auto-Watch initiated automatic acquisition and guard zones. The Auto-Watch mode operated on the 6, 12, and 24 nautical mile range scales in the centered relative presentation. Two guard zones surrounded your own ship. The inner guard zone was generally fixed at 4 nautical miles. The variable range marker set the range of the outer guard zone. This could have been set between 1 to 24 nautical miles. Any approaching target that entered the guard zones would be automatically acquired and initiated target in guard zone warning. The targets range and bearing would appear in the numerical display and would be designated by a circle. Within a short time its accurate true or relative vector would appear. The potential collisions points control would present both true vectors and potential collisions points simultaneously.

The vectors panel was the six push button controls circled in white just below the targets panel. This panel controlled the various vectors that represented the various targets on the scope. For example, pushing the top right hand button on this panel would eliminate all other target data on the scope, except targets that are within or will move within the safe limits CPA/TCPA (closest point approach/time closest point approach).

The safe limits panel was the two-step type switches circled in white next to the exclusion boundary lines panel just below the warnings panel. The left switch was the CPA (nautical miles) and the other was the TCPA (minutes). Those switches set the outer guard zone in distance (1 to 24 nautical miles) or time (up to 30 minutes). Any approaching target that entered the guard zones would be automatically acquired and initiated target in guard zone warning. A circle designated the target. Its range and bearing would appear in the numerical display. Within a short time, its accurate true or relative vector would appear.

The own ship panel was the panel of six push button controls and the one step type switch circled in white below the safe limits panel. The step type switch was used to set your own ships speed in the system manually. The push buttons selected course up or north up on the scope, automatic drift, offset and reset for moving the picture on the scope off to one side, and speed from ship's log.

The two knobs between the vectors panel and own ship panel were the knobs for controlling the illumination of the Anti-Collision Unit. The top knob controlled illumination of the LED display and the switches and the bottom the panels.

The four knobs across the bottom of the Anti-Collision Unit were; vector time minutes, trial speed knots, drift direction degrees and drift speed knots. The vector time control would show the future traffic situation surrounding own ship by projecting the vectors to a future position up to 30 minutes ahead. Drift direction and drift speed permitted manual insertion of drift data, when automatic drift was not in use.

This is a very brief description of the Anti-Collision Unit and without radar experience or proper training on this equipment it can be very hard to understand.

The Mariners Pathfinder sixteen-inch radar was the latest of the standard radar equipment and was a fascinating unit by itself. The toggle switch at the bottom left of the front panel turned the antenna (the rotating scanner) on and off. The switch above this was the main power switch that set the radar at various stages of operation such as, stand by, transmitter on and placed the unit in operation. The two switches on the bottom panel to the far right were the anti-clutter switches. These were a welcome feature. The top one helped eliminate the clutter caused from rain showers and the bottom did the same for sea clutter. The older models of radar equipment could become nearly useless when encountering heavy rain showers or while traveling through heavy seas.

The remaining switches of this radar were the old standard controls, tune, gain, contrast, panel lights, bearings scale, range rings brilliance, power boost, range marker, variable range marker, variable range readout, gyro-heading up-north up, interference reject, cursor, compass, and the three new (at least new to me) the joy stick, the exclusion boundary lines position and the exclusion boundary lines brilliance.

This is a very brief description of both of these fascinating units. I hope it will give the reader some idea of the use of the various controls. My complete lack of education in the subject makes it difficult for me to understand most of them although I feel I have a rough idea of the use of each.

Satellite Navigators:

This was a completely separate system from the satellite communications system. The satellite navigators fitted in ships operated from the United States Navy's Satnav system. This was a world wide highly accurate, although intermittent, system of position fixing. There were various types of navigators that could be fitted in ships and some would give a printed recording of the information received. This Satnav system was replaced by the Navstar system that provided a continuous service. I know of one incident where the crew proved to the cartographers that they had shown a certain dock three hundred feet out of position, which gives a good indication of the accuracy of this navigation system. The only way satellite communications was directly involved in navigation was that certain highly technical ships would send a complete data printout on all functions of the main machinery at scheduled times over this communications system. Therefore, the many experts ashore could keep close tabs on all phases of what was taking place afloat. The average old freighter had neither the satellite navigation or communications system.

This Navstar system was upgraded and became the Global Positioning System and was known simply as GPS. Shortly after this many types, kinds, models, or whatever the terminology, of these GPS receivers became available. There were elaborate fixed receivers in aircraft and on the bridge of ships and one could get a hand held unit they could carry in their pocket. Kevin Layden on the VCS station staff had the first hand held unit I saw. He brought it to work when he first got it and kept fixing the position of his desk across the road among the spruce trees. He kept playing with it until he realized it required the number of the chart he was using as part of the tuning procedure. Once he inserted that – well, one felt he could fix the position of the wastebasket next to his desk. They were an amazing piece of equipment and provided a wealth of information including the correct time, distance traveled, speed one was moving and so on. My son, Mitchell, had a hand held and a cell phone and the two gave him communications and navigational information on a par with the most elaborate ship afloat.

Omega:

This was a worldwide navigational aid that was to be fully serviceable in 1980. It operated from eight transmitters located around the world on ten to fourteen kilohertz, a phase comparison system that was accurate from two to four miles.

Loran C:

This was a new loran system that was to be available for certain areas, operating on a lower frequency of one hundred kilohertz. A time difference and cycle matching position fix technique that was accurate to 0.13 miles from the ground wave, and ten to seventeen miles from the sky wave.

Automatic Navigators:

The satellite, omega, and loran C were all available as automatic receivers. These units displayed the date, precise time, present latitude and longitude, course and speed, and course and distance to any of nearly a dozen pre-selected way-points for both great circle and rhumb line routes. Also the total distance run and estimated time of arrival even left-right steering commands for maintaining a precise predetermined course. These automatic navigators were available with a speech option that actually spoke the navigation information in a clear, lifelike voice.

The omega and loran C could be used with manually operated receivers that would require special charts and special tables.

Loran A:

This was the old type 1.8 to 2.0 megahertz loran that had been around since World War II and was phased out during the 1980's. This had been accurate from one-half to one mile on the ground wave, and from three to six miles on the sky wave, and was only available to certain areas of the world. Loran A required special charts and correction tables in order to obtain a position fix.

Decca:

This was a very local coverage navigation system found only in eastern Canada and around the coast of Europe. Apparently when the Canadian system was terminated it took some time. So many fishermen had become so accustomed to using it, and did not know how to navigate with anything else, that there was pressure from this area to maintain the system awhile longer.

This is a very brief description of what could have been fitted in a ship at the time the radio officer was terminated. What could be and what was actually fitted were two complete and separate entities. There were a few ships around our coasts using nothing but a magnetic compass and a sextant for navigation. Most had radar at this time and that appeared to be the one item agreeable to all, and these units were small enough by this time to fit into fairly small boats. And most vessels appeared to have at least one electronic navigational aid, either a Loran or a Decca receiver.

As can be seen from this brief list, this equipment was both old and new. The first aid was the submarine bell, then the shore radio direction finder that lasted a half-century, and then the radio direction finder fitted in ships. After World War II the radio direction finder fitted in ships remained the main electronic aid for years, but at the same time the Loran and Decca crept into wide use in this area, eastern Canada. The other aids listed became available at the time of termination of the radio officer and the GPS seemed to take over and become the more prominent piece of navigational equipment.

The average Canadian ship had several of the items listed in this brief description. For communications most had one very high frequency radiotelephone and one two-megahertz radiotelephone. The three types of radiotelephone communication were audio modulation, single side band, and frequency modulation. My years of study and experience with all three types made it clear that this kind of radio communications would never be the equal of radiotelegraph.

I would like to make the following notes on the three types of radiotelephone. Audio modulation is the oldest type, I feel the best, and was used as the basis for comparison with the other two. Single side band was not new at this time. Major Howard Armstrong discovered single side band back as far as 1919 shortly after he discovered the oscillator that bears his name. Single side band became available to the marine communications world in the 1970's because of the technology created by World War II. The only figures I have found indicating the extent of improvement using this type over audio modulation is that single side band should be about thirty percent better. This is not much of an improvement. Audio modulation requires a lot more power than single side band and fades much easier over long distance. But single side band requires a more stable source of voltage and has the annoying tendency to distort the signal that is commonly known as the "Donald Duck Sound". This latter reason caused one of the large American airline companies, Trans World Airways I believe, to change all their equipment from single side band back to audio modulation. This was the reason the VCS station continued to use audio modulation on the distress frequency of 2182 kilohertz long after side band was available. Long distance communications is possible via radiotelephone, but it is best over short distances. This of course applies to all forms of communication but the many faults of radiotelephone tend to become more pronounced as distance increases.

The single side band or audio modulation equipment in a ship should be fitted in a separate room for this purpose off away from the bridge. The noise factor involved with the use of this equipment is very high. I feel that if any law were made concerning this frequency, it would be to the advantage of everyone that it stated that it is illegal to fit this equipment on the bridge or near the navigating officers. These people need the sense of hearing as much as sight and feel while navigating any vessel. Those vessels fitted with radiotelephone only normally left this equipment turned off except when they called a station. I feel this is the correct way to operate this equipment. Of course this was the reason we seldom could make contact with these vessels. The average crew that monitored 2182 kilohertz continually was nearly as hard to contact as the one that turned the equipment off. These crews did not understand the proper adjustment of the squelch control and normally left this turned up so high they could hear nothing but the static and signals for miles around. These crews could not hear what was taking place around their vessel. After many hours of this continual noise they could not hear a call to their own vessel.

Frequency modulation requires a large band of frequencies and this type is restricted to the very high frequencies that are capable of providing the necessary space. Natural interference is mainly in the form of audio modulation. This is the main reason frequency modulation appears to be less susceptible to this type of radio interference. A ship receives the worst our environment has to offer. These natural weather storms contain a lot of interference in the form of electrical static. I assume this was one reason marine communications chose this type over audio modulation when it moved up into the very high frequencies. The only other reason that I can think of is that those who made this decision must have felt that radiotelephone would have the backup of the marine radiotelegraph system. Frequency modulation should never be used for distress communications and this is the reason aircraft use audio modulation on the very high frequencies. The discriminator in a frequency modulation receiver serves as the detector in an audio modulation receiver. This discriminator will either block (squeal) on the reception of two signals, equal in strength, or if the two signals are of unequal strength will pass only the stronger signal. The audio modulation receiver will pass all signals, at least in theory. Any station, especially one in distress, should

have a much better chance of making contact over the top of existing communications using audio modulation. For this reason I do not feel channel sixteen, 156.8 megahertz should ever be given the official label distress frequency.

Change in Canadian laws made it legal for Canadian ships to sail from the area of Vera Cruz, Mexico, to the area of Baffin Island, North West Territories, fitted with radiotelephone only providing they remained within six hundred miles of land before the radio officer was terminated. Fortunately I did not have to sail in one, but felt sorry for those who did.

THIS HISTORY PROJECT

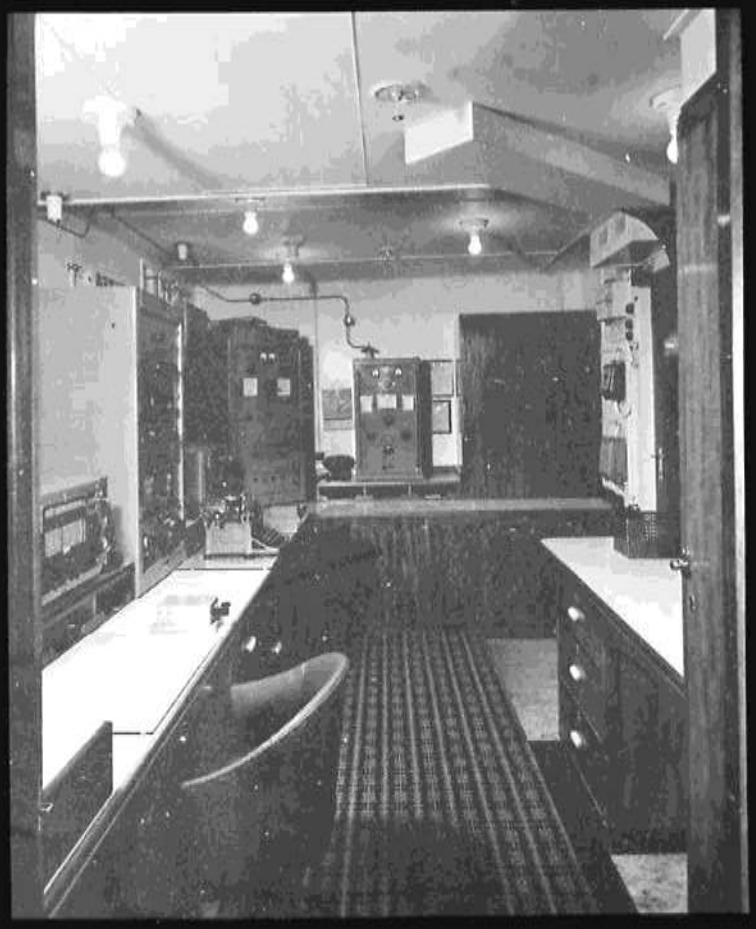
I started the research on the history of this project in 1975. So many kept telling me that if I wrote a book on the subject it would help pay for the research. I did not believe my writing was good enough to publish a book. I wanted to learn this history and I wanted to pass it on to others. Thank God I was not stupid enough to borrow money to have the book printed. A minimum order of one thousand books would have cost about twenty-two thousand dollars. I would still have 950 copies of the one thousand.

A good friend was Brian Wilkins who was Government Accounts Manager with the local Xerox Company. He gave me a lot of old legal size obsolete paper. I used that and my old Underwood Golden Touch typewriter to write the 675-page manuscript. Brian sold me a Microfiche Reader so that I could purchase a lot of this history in microfiche diazo. He also gave me demonstrations on a new elaborate copy machine when the manuscript was ready. This gave me many copies of the manuscript that I mailed to every book publisher I could find. No one was interested in publishing this into a book and so many authors have had this same problem that I did not pay much attention to this. I decided that I might be able to get a minimum order printed if I advertised it on my own. I had a local printer make up a sample front cover and then bought advertising using this sample cover in various publications. That was the biggest waste of money I ever spent. I had spent all my free time and more on the research. All this time and money should have been spent on my family.

RADIO STATIONS

COMMON ?

NOT THIS KIND



Spurgeon G. Roscoe

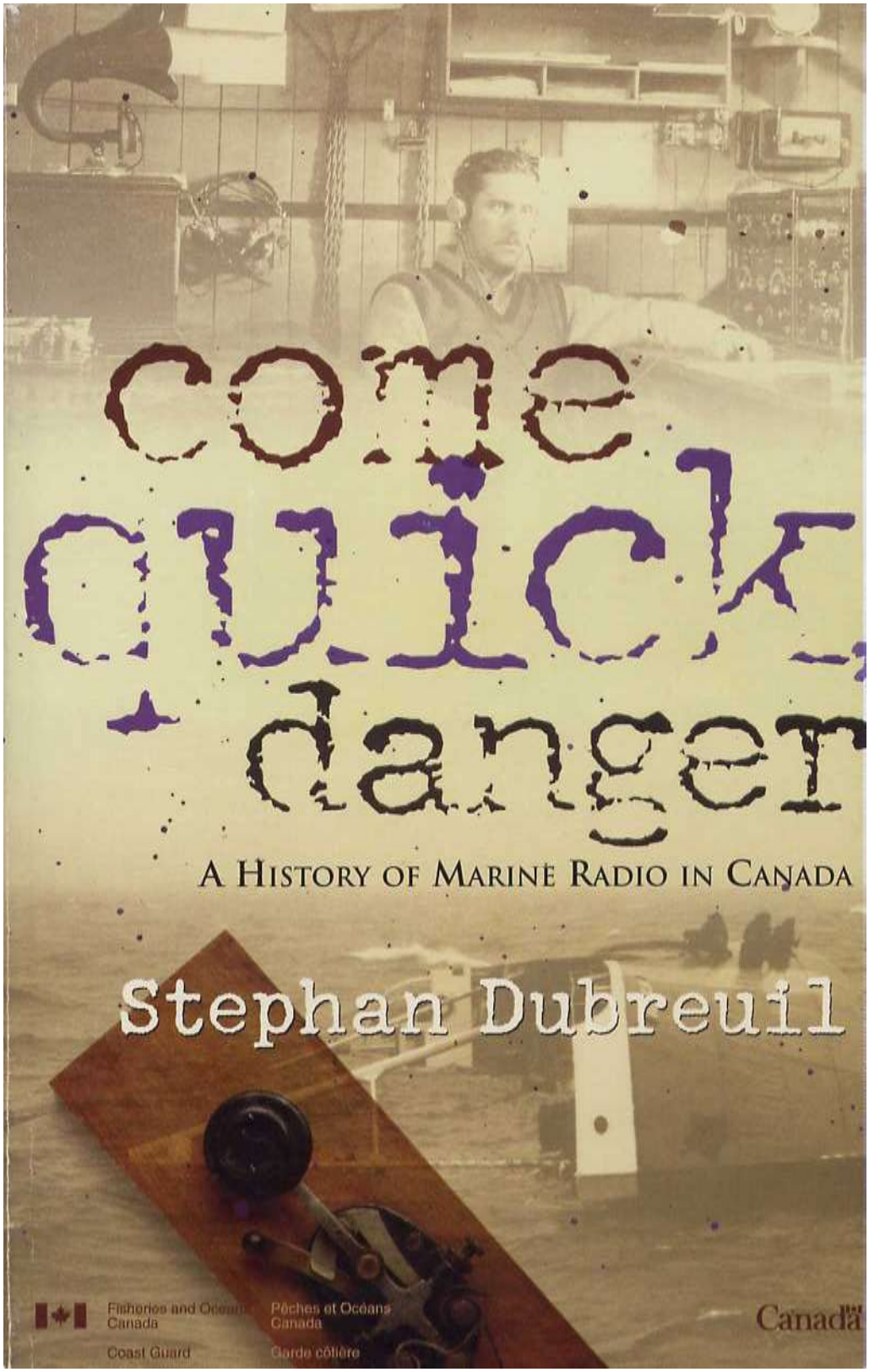
This is the sample front cover.

There is no chance of having this published in book form. If this were published into a book there would be no financial gain and nothing but more expense. I enjoy working on it from time to time to try and improve it in one way or another and it gives me something to do. I will keep it here in case someone has some interest in it. If I had it in book form I would not be able to do anything with it but read it and here I can change it at any time.

In 1982 I tried to terminate my interest in this subject. I doubt that I will ever be able to manage that. I bought a large plastic storage box and placed the manuscript and photographs I had collected in that. I have around 500 photographs and some of them cost as much as forty dollars each. I stored this out of sight and was so fed up with everything, including the job at the VCS station that I began to wonder why I was so stupid to waste my life at such foolishness. I still feel that way and often have to mentally go back and relive various stages of my life to understand why I did what I did.

When I retired from the VCS station in 1995 the Canadian Coast Guard decided to write a history of this service before it was lost. They asked to use my manuscript for their project. I still had one copy of the manuscript left and I knew by then that others had tried to record this history. Apparently no one had been foolish enough to go to the work I had, but there were at least six other attempts. The Coast Guard used some of my photograph collection.

The Coast Guard hired Stephan Dubreuil to write their book and called it “Come Quick, Danger”. This was printed by the Canadian Government in 1998 and is ISBN 0-660-17490-1. They had a book signing ceremony at the Maritime Museum in Halifax, Nova Scotia, on Sunday October 25th, 1998. I was told to invite as many as I could and quite a few of the old timers showed up. One fellow who was there wanted to know if he could see my original manuscript and I said sure come on up to my home. He wanted to know if he could borrow it and put it on the Internet. I was so fed up with everything I gave it to him and hoped I would never see it again. He said he would have it back in a week. He brought it back the next day and said it was too valuable for him to keep any longer. He had made a couple of copies of it. He put it on the Internet. I did not have access to the Internet so have no idea what it was like.



come quick danger

A History of Marine Radio in Canada

Stephan Dubreuil

Fisheries and Oceans Canada
Pêches et Océans Canada
Coast Guard
Garde côtière
Canada

Come Quick, Danger is a chapter of Canadian history that almost didn't get written. It is the saga of radio communications in the service of the Canadian Coast Guard to protect and save ships and their crews while sailing off the three coasts of this country. The book is largely based on first person accounts of people who were there at the time when ships were in trouble, and who used the radio waves to protect the seafarers and their cargos, and in some cases to rescue the shipwrecked. The reason this book almost didn't get written is that many of the accounts took place a long time ago. Stephan Dubreuil's interlocutors were not young men and women. In fact, a number of those on his list died before he could get to them.

In *Come Quick, Danger*, Dubreuil takes us from Marconi and the dawn of radio at the turn of the century, through to Canada's role during the sinking of the *Titanic* and in other maritime incidents, and brings us right to today's age of satellite communications.

It is important for Canadian history that this book was written.

Gerard I. Kenney, Eng.
Formerly head of engineering of Arctic telecommunications systems for Bell Canada.

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There are bound to be errors in any history project and that is the one thing I have learned through this if nothing else. The official historians make mistakes sometimes. These are the ones with access to anything and everything and the ones who also have a staff of assistants to help with any project.

At a family gathering in 2000 some members of my family started teasing me about my old typewriter and mainly the fact that most of my periods were holes in the paper and so on. My two sons and their wives gave me an old computer and the help I needed to get it going for Christmas 2000. I played some cribbage, solitaire, and so on, with this thing for awhile and then decided to try and write some letters and so on with it. Looking around for something to do I put the manuscript on the computer and brought it up to date. A snowball would have a better chance in surviving hell than this manuscript will in becoming a book. But it has given me something to do. I also find it quite interesting since it has been so long since I wrote it. I have tried to up grade it and eliminate the date as much as possible so it will be of some use to anyone interested in the subject. I have done more research in certain areas because I have written several articles on this subject in various publications.

When I went into this exercise in a big way I wanted to try and explain to the Canadian radio operator that we were missing out on a very good trade if we had the organization that the foreign countries operated under. I also wanted to describe a lot of this in detail so that the foreign operator would understand the reason they were hearing so much damn foolishness from the Canadian stations. My 1982 manuscript more or less ended here with the exception of the following that I will try and bring up to date.

The research for this publication indicates we did not have any discipline. This is the reason we did not have a large merchant fleet. You cannot operate a ship or a fleet of ships without discipline. I believe discipline is composed of two components only; education and policing. It would appear that we have had little of either component. Naturally, the more effort we put in the one component, the less we need in the other. If we were better educated, we would not need so much policing. It was rather amazing our system worked as well as it did. I feel that if the Canadian fleet had been better educated it would have operated more efficiently, but would have increased in size as a result of this education. The one person I felt most sorry for was the Canadian fishing master. Through ignorance on the part of all concerned with his fealty, he tended to resemble an imbecile. A fishing master was an expert within his chosen field. One that I felt required a lot of natural ability. The Canadian fishing master lacked two key components connected with the larger vessel. These vessels grew in size but failed to realize the need for growth in education. The fishing master lacked a lot of assistance. He needed help from a good radio officer at least, one who could get help from a good electronics officer if needed. He also needed help from a good navigating officer, one who would ensure a safe passage from the homeport to the fishing grounds and return.

The Canadian Coast Guard Radio Stations were nothing more than a reflection of this Canadian fleet, be it the largest, VCS Halifax, or one of the smallest, an isolated station that communicated with two vessels a year only. If our ships had been brought up to the standards as laid down by international agreement our coastal radio stations would have improved accordingly. We, the so-called radio officers in this fleet needed a lot of improvement. On close examination you found that our most senior, experienced, and in some cases best officers were involved in accidents. They had been involved because they needed help. Help from a good radio officer who was capable of at least knowing when a piece of electronic equipment was working properly. A radio officer was the only person who could provide the vital communications so necessary when an accident had taken place. Any other officer was too busy trying to save the ship. They did not have the time, equipment, or knowledge, to activate a proper call for help, and that was apparent for some time.

Because Canadian captains and mates were sailing Canadian ships without proper radio officers, it made one wonder about their overall proficiency, especially the ones sailing these ships in violation of international law. One would think that they would demand good radio officers when the law gave them this right. Actually, on occasion one would hear them brag of sailing their ships without a radio officer and state they had no trouble. No trouble is correct because they had nothing and accomplished nothing more than leave a number of messages that they should have picked up at nearly every station they passed. One would have thought the crews in these ships would have demanded radio officers. Especially if they had

known how inefficient the captains and mates were, whether it was routine communications or the communications involved during any accident.

A study of the multitude of rules and regulations that were made by the various powers that be within the international marine communication world was a rather boring project. When someone who knew little or nothing about a subject made a point of telling the experts the way it should be done, human nature has made a provision for us to find most of these incidents rather humourous. Canada on occasion added some humour to the various discussions conducted by the members of the international marine communications world. But I am Canadian. I had no choice in the matter, and for this reason some of this was not funny to me.

Captain Felix Riesenberg wrote the preface for Karl Baarslag's excellent book "SOS to the Rescue" in 1935. In this preface Captain Riesenberg quoted the statistics kept by Lloyd's Register of Shipping to show the dramatic decrease in the number of accidents during the first years that ships were fitted with radiotelegraph. For example, 1.20 percent of the American tonnage and 1.54 percent of the foreign tonnage was lost via accidents in 1904. In 1931 these figures had decreased to 0.22 percent of the American tonnage and 0.48 percent of the foreign tonnage. The British Radio and Electronic Officers' Union Journal "Signal" listed a similar set of figures for the decade from 1969 to 1979 inclusive in their July/August 1981 issue. These figures showed an increase in the number of ships lost during the last few years before this survey was made. There were 336 accidents in 1977 that represented the loss of 0.27 percent of the world fleet. In 1979 there were 465 accidents representing the loss of 0.54 percent of the world fleet. One wonders if the field of communications contributed to this increase. The world economic condition was such that good crews should have been relatively easy to hire for those ships.

The first motor-driven steamships were fitted with sufficient sails to ensure safe navigation should the engine have failed. These sails were not eliminated until the steam engine had been proven reliable. The same procedure should have been provided with satellite communications. The satellite communications unit should have been fitted in the radio room with the radiotelegraph equipment. When it was proven safe and reliable for a ship to sail with satellite communications only, then the radiotelegraph equipment could be removed.

The vessels owned and operated on the Great Lakes were the largest portion of the Canadian fleet, and they were the ones that controlled the Canadian fleet. There is a big difference in the operation of a fleet on inland fresh water and the operation of a fleet navigating the salt water of the world's oceans. Marine communications in Canada definitely needed a good injection of experience and knowledge gained from good experience in the saltwater fleet of the world's oceans.

One can only hope that some authority somewhere is keeping a sharp eye on the accident statistics to see if there is an increase now that the radio officer has been terminated. The main problem is the fact we cannot reproduce the TITANIC disaster. It is now impossible to get the upper society of the human race in the one vehicle as it was with the TITANIC. The TITANIC accident gave us ninety years of one fantastic trade. It would be impossible to get the modern version of the same people in the one vehicle today. They all have their own jet aircraft.

THE LAST VCS STATION

The last VCS station was built during the winter of 1987 and the spring of 1988. The first radiotelegraph contact with this station was when Joe Burgoyne worked the IRVING TIMBER, call sign VSBT2 on 4 megahertz. Bill Lamont made the first radiotelephone contact with the PROOF GALLANT with call sign D5YO on channel 57. These contacts were made on January 19th, 1988. Scott Clements was the first to use 500 kilohertz from this station at 281745 GMT or 281345 AST January 1988. The 500-kilohertz operator was rather lonely up in the old station during that nine-day period. The official opening was not until the opening ceremony commencing at 11 AM on May 30th, 1988. At that time Mr. W. F. Cunningham, Regional Manager, Telecom and Electronics performed the welcome and introduction of guest. Mr. K. C.

Curren, Regional Director, Coast Guard, introduced the guest speaker the Honourable Stewart McInnes Minister of Public Works. This opening ceremony terminated with a light luncheon.

They simply built a piece on the west and south sides of the station that opened in Ketch Harbour in 1970, with a roof over the top of this new section and over the old flat roof to create this new station. The new west piece became a new operations room with two offices at the south end of the large operations room. To the north of this room was an outside door for emergency use to the west. This had a bit of a porch and a pair of swallows raised a couple of families up in the eves of this porch for the first year or two. They were like the rest of us and became sick and tired of the place and left for good. It is hard to believe that they put up with the light that was on continuous near their nest and the noise of the operations room as long as they did. This porch was reached via a small hallway across the north end of the operations room. The outside door was to the west or left, and to the east or right was a stairway down into the old basement. The old equipment room became a technical workshop where each technician had their own workbench. A new basement was built to the west of the old one and this was a new equipment room. Along the eastside of the technical workshop was another hallway. This gave access to a power board in the room at the north end. Along the eastside of this hallway was a shower and washroom with storage lockers for each technician along the west wall of the hallway. Just south of the shower room along the eastside of the hallway was a storage room for the various pieces of paper, forms, pens, and what have you, necessary for the operation of the station. There was a door on the west-end of the technical workshop next to the north wall that entered into a dirty room. This dirty room had a drill press, vice and so on for the heavy dirty work that was required from time to time. The door at the north end of this room was a large door similar in size to the one from the technical workshop near it. This door opened on to a paved driveway where the technicians could park a vehicle. The doors were large enough to bring in large objects.

The southwest corner of the technical workshop was the technician's office. This contained a couple of desks and a room with many small spare parts. This office had a large bookcase that held the many manuals for the various pieces of equipment, and of course the most important item in the office was the technician's coffeepot.

Between the technician's office and the hallway along the east side was a walkway that led out the old door of the basement to a set of stairs that led up to the old outside doors on the south side of the station. There was cleaning stores under these stairs and to the east of the stairs was the furnace room and the access door to this room was at the end of the hallway just past the storeroom holding the paper, forms, pens and so on. When one went out the doors where the old outside doors had been on the south side of the station, one now entered into another hallway. If one went straight across the east-end of this hallway they went outside the building via another set of double doors. If one turned right and went west along this hallway it would lead them back into the large operations room. As one walked towards the operations room the first door on the left or south side led into another fairly large room. Along the east wall were metal lockers where each of the radio operators could store personnel effects and lock the locker if they desired. Along the west wall were two washrooms. When one went down to the end of this room it became a kitchen complete with stove, refrigerator, microwave oven, double sinks and again, all one would need for a banquet including a fairly large kitchen table. Just before one entered the large operations room via this hallway and just behind the two washrooms was a cloakroom. In the cloakroom one found more storage shelves, another refrigerator for various soft drinks and various items of junk food one could buy, plus a large rack along the east wall that held coats hung on hangers. Pat Falvey's old wooden hanger hung there for years and had been brought down from the old cloakroom. Pat operated the station before I went there in 1975 so this hanger must have been there nearly thirty years or longer. Pat's nephew, Rick, took this old hanger home with him the day the station closed.

If one went back to the east end of this hallway they could turn right and go out doors via the south side of the building as described above. If they turned left and went north back through the double doors where the old outside doors had been they would go back to the stairs. If one went down the stairs they went back down into the basement where they had just come up. If one went up the stairs they went up into the old operations area of the building. The old operations room across the full length of the north side of the building was now divided into two rooms. The one on the west was now an office and the one on the eastside was now a training room. This training room was in the area of the old supervisor's desk and the

old communicator's room. The old cloakroom and senior operations supervisor's room was now gone and this area was open and used as a reception area. A small closet or cloakroom was on the north wall of the reception area between the doors to the office and training room. Right behind this cloakroom was a small storeroom that one entered via a door in the west wall of the new training room, next to the north wall. The two old offices on the west wall and south end of this area were still there and now the windows in these offices looked down into the new large operations room. On the east wall was another office next to the new training room and the old men's washroom was the same with the addition of another toilet just inside the main door. The old ladies washroom remained the same as well. The old kitchen had now become another office with the same window facing south. This should be a good description of the last VCS station. God, what a waste of money!

The new operations room had every new gadget imaginable and some one could not believe. The first time I operated it, it reminded me of one of Henry Ford's World War I model T "Tin Lizzy" Ford cars. Actually it reminded me of that every time I operated it including the last time. If one had taken one of those old cars and dropped a 460 cubic inch big block motor in it, then drove it down the road it would give one the same feeling. Oh yes, it would go down the road but one would have to handle it very, very carefully or the old car would just simply fly to pieces. This is exactly what was taking place in this room. We were ramming a ninety-year old communications system through the latest technical marvels. Each position had the latest metal console with a computer terminal. These computers were operated via servers and it is a wonder there are not messages still lost in what is now called cyber space. I was with the federal government from 1956 until 1995 and had seen a waste of money at times, but this was the biggest waste I ever encountered.

The two offices along the south side of the operations room were used more or less the same. One held a shredder for destroying any papers one wanted to get rid of. A good photocopy machine was in this room and that is the only thing I miss from work. When the station received the first of these machines Gus Crewe was the TSM – Technical Station Manager. He told me he did not know what they would use it for and said I was more than welcome to use it for my history project, and to use it often because they were paying for so many thousand copies. There was a desk in this room and this desk was where the operator assigned to go over the daily traffic each evening at ten o'clock, went over the messages sent and received to make sure all was as it should be. Also on one wall were photographs of the station mascot. A mother fox had raised several families just outside the station and we used to see her often, and one evening when the outside doors were open for ventilation she actually came in the operations room and laid down by the operator on the 8-megahertz radiotelegraph. This position was the first position on the right as one walked into the operations room from the hallway leading into it. No one to my knowledge touched the fox but several fed it pieces of their lunch. The fox was your typical red fox found in that area. There were also several white tail deer that would visit the station from time to time. Just before they built this new station they built a high fence around the property. This must have cost a small fortune and the only thing it did was kill two of these white tail deer. They became tangled in the fence and one of the operators had a rifle in his vehicle and was able to put them out of their misery.

The other room on the south side of the building was larger than the one just described. I believe it was to be used as the supervisor's office. It had a map on the wall, a bookcase with some books that were rarely used and another computer terminal – mainly for playing games. The supervisor's had a locked filing cabinet in there as well, along with a pile of sick leave forms and a couple of desks.

Just outside the small office with the photocopy machine was the southeast corner of the main operations room. In this corner were two computers. One was used mainly to back up the daily traffic sent and received and give a printout on a continuous belt of paper. This was part of the daily traffic check and the operator doing same had to tear off each message or probably the proper terminology would be separate each message. The other computer was over nearer the supervisor's desk. This one was a Hewlett Packard machine used to control the various lighthouses around the area. We were told the Israel Army had this unit designed for blowing up things, mainly bridges, highways and probably the odd Palestinian. The Canadian Coast Guard must have felt that if it could do that it could operate or control a lighthouse. In other words, this machine replaced the light keepers. It would tell you the amount of fuel left in the tank on station, if the fog horn was on or off, if the main light was on or off, if the emergency light was on or off, and if it worked. It would let you turn this equipment on or off and so on. It would alarm when some of these

functions were performed and one had to turn off this alarm manually. It would alarm nearly every morning when the sun came up and was visible at the Chebucto Head light station. For some reason the sun shining on the equipment at this station would turn the fog horn on. One could no longer call the light keeper and have him check something out of the ordinary. There was no one there. One had to tell the powers that be and they in turn sent out a helicopter to check, repair, and what have you. Of course the weather had to be good so that a helicopter could fly. When the weather would not permit a helicopter to go check, one simply told the powers that be and then broadcast whatever may or may not have been working. By this time another empire was in full operation, ECAREG CANADA, and this organization made up what needed a broadcast. Good grief it was exciting!

The supervisor's desk had a telephone and another filing cabinet mainly for the storage of magazines. The duty supervisor could contemplate his navel for so long and then had to have something to do. There was a television monitor on this desk that showed the front entrance to the building. This was normally locked and one could see who was coming, or was at the door ringing the bell. One could unlock the door from this position. You could also speak to the one at the front door via an intercom.

The supervisor's desk had a computer terminal and this was where all incoming messages to be transmitted to ships were made up. The computer did most of the work such as counting the number of words but one needed to clean them up a bit before they could be transmitted. When one brought up the ship on the computer it gave all the information on the ship. If it didn't one could enter this via the International Telecommunication Union Publications or simply list the ship by name only. This entry would be confirmed when the first operator to work the ship made contact. When the 8-megahertz or 500 kHz operator made up a traffic list, which could have been made up by simply pushing a few buttons on any of the computer terminals, it would bring up all the traffic on hand by call sign in alphabetical order. If the ship were entered by name only, it would appear in alphabetical order, if there were more than one, at the beginning of the traffic list that the computer transmitted over the air when set to transmit.

One could say the computer that was used to make up the message traffic at the supervisor's desk is the one that replaced the communicators. When the British Commonwealth Communications scheme was moved out to the VCS station in 1964 communicators were hired to send and receive the message traffic to and from the station. These people were typists that simply put the message traffic received from the ships on to a teletype to Canadian National/Canadian Pacific Telegraphs. The messages to be transmitted to the ships came in to the station via the same teletypes. These were the teletypes that replaced the landline telegraph circuit in August 1956. These teletypes were upgraded as time progressed to an Infomode system that was an early form of e-mail. But before this Infomode system came into use there were Telex machines, a teletype one dialed up like an ordinary telephone to the various subscribers. There was also an automatic weather machine that collected the weather observations received from ships and transmitted the various forecasts to the station for broadcast to ships.

The supervisor's desk was right next to the entrance from the hallway. The last thing on the right hand wall of the hallway as one entered the operations room was the gate alarm. When they built the fence around the property prior to building this new station, they put a double gate in the only entrance down by the road – the Ketch Harbour Road or Nova Scotia route 349 – the road from Halifax out to Sambro. These gates were left open and just inside these gates were two electronic eyes, one on either side of the drive up into the station. When something passed between these two eyes it would activate this gate alarm near the supervisor's desk. Let's face it, you never knew when something might try and sneak up on us and steal a message, our lunch, or something else. This was quite handy and would let us know when a few white tail deer had entered the property. One of the more memorable alarms was late one night or early one morning, the choice is yours, when two fishermen parked their car in this alarm and were down there sharing the one girl. We kept a large storage box for garbage down by these gates. The station garbage consisted of a lot of large plastic garbage bags filled with paper and required this large box to keep these bags of paper from blowing around and making not only a mess but an eyesore. The station janitor used to burn this garbage in a proper incinerator, but this either became too dangerous when it set the grass around it on fire, or else was polluting the air. Maybe the local garbage collection agency complained and felt they should be hauling it away. We never learned why, but it created this large box to store the station garbage for the regular garbage collection. Every so often when some clown went by the station they would stop and set this box

on fire. We managed to see this and put the fire out several times, but we managed to miss this just as many times and the box burned beyond repair. After awhile the powers that be got tired of building these wooden boxes and made one out of stainless steel. One can only imagine the cost of all of this. When the station closed the Sambro Coast Guard Lifeboat Station grabbed this stainless steel box and used it as their garbage box.

The last VCS station – 1988 to 1996 – Operations Room

North

Door with bird's nest
The emergency exit – hallway – and stairway to basement.
Doorway

High Frequency Radiotelephone Position

6 and 12 Radiotelegraph Position

Medium Frequency Radiotelephone Position

4, 16 and 22 Radiotelegraph Position

8 Radiotelegraph Position

500 kHz Radiotelegraph Position

The Entrance Hallway

Training Posiiton

Supervisor's Desk
Lighthouse Computer

Chart Table Computer Printer

Computer and Printer

The Larger Office

The Smaller Office

South

Technician Paul Britton

This was the Halifax Coast Guard Radio operations building Ketch Harbour, Nova Scotia from 1988 until 1996.

Canadian Coast Guard Search and Rescue

The Halifax Coast Guard Radio Transmitter Site Pennant, Nova Scotia from 1988 until 1996.

Canadian Coast Guard Search and Rescue

The main operations room in the operations building at Ketch Harbour. That is supervisor Dan MacDonald standing and on the telephone at the supervisor's desk. Keith Bennett VE1BKB is operating the computer behind Dan. Mark Chatham is operating the 8-mHz CW position and Spud Roscoe VE1BC is operating the 16/22-mHz position in front of Mark.

Canadian Coast Guard Search and Rescue

Mark Chatham is operating the 8-mHz CW position and Spud Roscoe VE1BC is operating the 16/22 mHz CW position on the left. Note that Mark is using a Vibroplex Iambic Keyer and the controls for that keyer are just to the left of the digital clock.

Canadian Coast Guard Search and Rescue

Mark Chatham is copying a message from a ship on the 8-mHz CW position. This message is going right on the computer screen and when Mark gives the ship his acknowledgement of receipt he will send the message direct to the addressee. Spud Roscoe VE1BC is on the 16/22-mHz CW position and the operator on the 6/12 mHz CW position cannot be seen.

Canadian Coast Guard Search and Rescue

From the left to the right is the 500 kHz CW position, the medium frequency radiotelephone position and the high frequency radiotelephone position.

Canadian Coast Guard Search and Rescue

From the left to the right one can see the medium frequency radiotelephone position and the high frequency radiotelephone position.

Canadian Coast Guard Search and Rescue

This is Mitali Das operating the medium frequency radiotelephone position.

Canadian Coast Guard Search and Rescue

This is Vern Hillier operating the high frequency radiotelephone position. The printer sitting on top of the rack was used with the SITOR, the light blue unit in the rack and the computer in the foreground was part of the SITOR system.

Canadian Coast Guard Search and Rescue

This is looking down at Vern Hillier operating the high frequency radiotelephone position. Note the black Radio Shack speakers mounted on top of the equipment.

Canadian Coast Guard Search and Rescue

This is Vern Hillier operating the high frequency radiotelephone position. If the Coast Guard photographer who took these photographs had taken any of the 500 kHz CW position and the training position we did not receive copies of them.

The diagram above the photographs is not drawn to scale but will give one some idea of the layout of the operations room. The 500 kHz position was right across from the entrance hallway. The positions were laid out spaced more or less an equal distance from each other. The high frequency radiotelegraph positions were along the east wall with the other positions along the west wall. The only windows were the four vertical windows grouped as one unit in the southwest corner of the room. At least these windows cranked out and one could open them. I saw a few of the operators actually jump out these windows onto the lawn outside. Of course there was little daylight beyond the 500 kHz position but it was not all that bad. The walls were coated in some elaborate paneling that was supposed to absorb noise and were dark green in colour on the east wall and beige on the other walls. The floor was elevated and consisted of large squares of some heavy material coated in carpet. When one lifted one of these panels they could go down into a crawl space about two feet deep. This crawl space hid all the wiring to each position and if one lifted every panel there would be no carpeted floor, only the cement floor of this crawl space and the steel racks that held the panels. This carpet on the floor was very good and was dark green/gray in colour. It showed little or no sign of wear after its eight years of use. The large wall panels seemed to work as well as one could expect, although one of the first things that happened is that someone purchased a large map of the world that covered most of the northwest wall, next to the radiotelephone positions. This map must have cancelled the sound absorbing quality from the panels behind it.

There was no intercom in this operations room because each and every position, desk, office, workbench, and what have you, in the whole building had a telephone. These telephones were identical to the telephones in use at the large department stores around the country and one could dial up any desk, office, workbench and what have you, in the whole building. They could also dial up several regular telephone lines from these telephones or answer any telephone call that came into the station. These telephones also

had speakers that permitted one to say something to everyone over every telephone in the building. Jim Christian, one of the radio operators, used to keep us awake by simply announcing “Attention K-Mart Shoppers” over these telephones. One of the most difficult aspects of operating this station was staying awake. I found the four-hour watch during the afternoon the most difficult period. It seemed as though I would fall asleep around one-thirty, and fall asleep as much as six times, and each time I awoke the clock would still be stuck on one twenty-six. I put in many four-hour afternoon periods that I did not contact a soul from the 4, 16 and 22 megahertz position. There had to be three radio operators on duty in order to justify a supervisor. So needless to say each shift had three radio operators whether they were required or not. It is a wonder the station ever closed.

One would go home from a day shift described above with a headache from forcing themselves to stay awake. Quite often they would then have to force themselves to try and sleep before they went back in and forced themselves to stay awake again all night. I spent most of my time forcing myself to either stay awake or try and sleep. The most frustrating thing one can think of is the neighbour’s lawn mower. God that was aggravation! The sound would fade as it moved away, and would gradually get louder as it approached and then fade away again. Dr. C. K. You a surgeon instructor at the Halifax hospitals came out and spent a night shift with us one night to act as an interpreter with a Korean crew that had an injured crewmember. He told us the next morning that he did not know how we did it and he added most of us did not smoke or drink coffee. One does not wonder how we did it one can only wonder why we did it!

The satellite antenna that was fitted in ships was perfected in 1975. Apparently the antenna would lock on a satellite with the pitch of the ship but would loose the satellite on the roll of the ship, or vice versa. This job went down hill from there and signals just disappeared. It seemed as though there were fewer signals to be heard with each new shift at the station. When I retired in 1995, twenty years later, there was little to be heard or worked. We did a broadcast on more and more information and I am convinced no one copied any of it. Why would they? ECAREG CANADA transmitted reams of information to each and every vessel. ECAREG actually transmitted the current weather forecast to each vessel for a short time period although by the time the vessel received the actual message a new weather forecast was on the broadcast.

One could operate the whole station from the training position. It had a duplicate switch of every operating position in the building.

The three high frequency radiotelegraph positions were identical. Each one had a control unit for an electronic telegraph key, with a digital clock just to the right of it at the top of the rack facing the operator. At the top of the rack on the right was various push button switches that selected various antenna and two knobs that one could select the best direction for two antennae. The lighted push buttons just below the key control/clock panel selected the various transmitters for the various radiotelegraph frequencies. To the right of this on the right hand rack was a blank panel except for the 8-megahertz position. On that position was a unit that assisted the computer in making radiotelegraph broadcasts and a fixed radiotelegraph receiver for 8364 kHz. There were two Hagenuk receivers one in each of the two racks just below this equipment. Below the receivers was the operating table or shelf that held the computer keyboard. This table or shelf had a plexi-glass top with a variety of items under it that one might need to operate the position. The most used item was the list of charges for transmitting a message to various countries.

The 8364 kHz receiver was for lifeboat transmissions. Lifeboat radios were able to transmit on two radiotelegraph frequencies, 500 kHz and 8364 kHz. 8364 kHz was the centre frequency of the old calling band on the 8-megahertz band of radiotelegraph frequencies, and was never used as a calling frequency. Back during the days of the “Rock Bound” transmitters, the ones that were crystal controlled and could transmit on the frequencies assigned to the transmitter only, they had a certain number of calling frequencies and a certain number of working frequencies. The passenger vessels called on the lower calling frequencies and the freighters called on the upper calling frequencies. 8364 kHz was the centre frequency of these calling frequencies on the 8-megahertz band and was not used as a calling frequency as stated. Therefore, every coast station using the high frequencies was continually scanning the calling frequencies on 8-megahertz. These stations scanned this band around the clock 24 hours each and every day of the year, and this would ensure that this frequency was receiving the most attention. These stations went over this 8364 kHz frequency each and every time they went from the passenger frequencies to the freighter

frequencies. In this way a lifeboat radio that was very low power, the majority operated from a hand-cranked generator, would have a better chance of being heard. The amazing thing about all this is that I operated radio from 1956 until 1995 and I did not hear a lifeboat signal on 8364 kHz and did not meet anyone who had. It was an excellent idea and it was better to be safe than sorry. Come to think of it, I did not hear a lifeboat radio period. When you realize the hours I spent monitoring 500 kHz during the silent periods of 15 to 18 minutes and 45 to 48 minutes past each and every hour, this becomes rather amazing. I used to test the lifeboat radio in the ships I sailed in that were fitted, but I did not go to the trouble of setting one up for a chat with someone. This was a rather involved procedure and would have required someone to crank the generator for me while I operated.

The one lifeboat radio I should have heard and didn't was in March 1971. I was sailing in GYPSUM EMPRESS with call sign GHZF. Ships have a personality and if you were going to run into something out of the ordinary you would likely be in "the EMPRESS". There are many bad accidents in March because of the bad weather. The weather is so bad at times that one can only wonder why they do not make it illegal to sail the North Atlantic during the month of March. We were just north of Cape Hatteras, North Carolina, and quite near the American tanker TEXACO OKLAHOMA, with call sign KAHM, when she broke in two and sank. She took half her crew down with her.

If you wanted to know what was taking place in the world of marine electronics you would have to ask the technicians in and around New York City. They were a wealth of information and right up to date on any news. On my next run into Staten Island, New York City, I ran into one of these technicians and asked him why I did not hear a distress call from the TEXACO OKLAHOMA. He kind of jumped back and asked me how I knew about her. I told him we were quite near her when she sank and that I had worn headphones most of that day but did not hear anything. I had bought a good pair of headphones for two reasons. One can hear much better with headphones and it was much easier to pick out various signals when the QRM – man made interference – was heavy. With headphones it eliminated all the noise from a speaker watch and the Captain's office was just around the corner from the radio room. I did not get any complaint about the noise but felt the Captain's would appreciate my headphones while sailing in the various ships I sailed in at that time.

I told this technician that the first we had heard of this accident was from the SASSTOWN with call sign 5MSJ. She was always around and always on 500 kHz it seemed at that time, and her radio officer was one of those individuals blessed with a very good radiotelegraph fist as we called it. I was on the 4 to 6 PM watch and just before I was to go down for supper I heard SASSTOWN give NMN Coast Guard Norfolk, Virginia, a vicious call on 500 kHz and a quick shift to 480 kHz. I could tell from his transmission that something was up so went up to listen to him. The first thing he rattled off was his position and the fact they were sailing in debris that appeared as though a ship had just sunk, and before he signed off he stated they had just spotted a lifeboat with people in it. I had heard Chatham Radio WCC call the TEXACO OKLAHOMA quite often that day so someone must have been wondering what had happened to her.

This technician then loosened up and told me the whole story. He said she was carrying one of their lifeboat radios belonging to the company he worked for. One of the survivors picked up by SASSTOWN had seen the radio officer walking from the mid-ship house back to the after house and was right at the split, where the OKLAHOMA had split in two. He fell down between the two sections of the ship and was lost. Those who managed to get into the lifeboat had the lifeboat radio with them. One of the mates was a big rugged lad and was in the lifeboat. He grabbed the lifeboat radio and was going to wind out a real signal so that the whole world would hear it. He had both the antenna wire and the ground wire in the water and when he grabbed the cranks to the generator he gave them such a vicious twist he broke off one of the handles.

One had to rig the antenna on these lifeboat radios to the mast in the lifeboat and then throw the ground wire over the side so that it made as much electrical contact with the earth – the salt water – as possible. With both the ground wire and antenna in the water, and with the busted generator handles, they may as well have thrown the rest of it overboard. Common sense should have told one that these lifeboat radios were designed for a crew weak from many days in a lifeboat. If this character had simply gone by the instructions in large print on the radio he would have blown the wax out of my ears, the radio officer in

SASSTOWN, my friend Tommy Potts in GYPSUM COUNTESS with call sign GHZK and many others. These lifeboat radios would transmit an automatic distress call in radiotelegraph by anyone if they took the time to do it right, simply by the instructions printed on each radio. There were always many ships in this area and the duty radioman at NMN Norfolk would have probably heard this signal from that distance. American Coast Guard radiomen were very alert and efficient. This incident was one used by the powers that be to try and speed up the design and construction of satellite communications.

The Danish Hagenuk receivers at the last VCS station were probably the best receivers I ever operated. One controlled their frequency operation from a push button panel consisting of the ten digits 1 to 0 inclusive. They would scan many frequencies. I no longer remember how many they would scan, probably thirty, but it was many more than we ever needed. One would hear a ship calling on a calling channel, merely stop the receiver on that frequency and get the ship's working frequency, and then simply punch in this frequency and one was in business. They were a beautiful piece of electronic equipment and one has to wonder whose basement holds at least one of them since the station closed. One would probably find this in the one with the thirty-foot recreational vehicle in the backyard. The Coast Guard purchased twelve thirty-foot trailers to be used as temporary living accommodation for the various Lifeboat Stations. After several years of excellent service someone managed to condemn these for safety reasons, because they had one door only. When the Coast Guard rounded them up to dispose of them they found they had eleven only. It was a great way to run a Coast Guard!

The fancy telephone described above, and the computer in its fancy rack completes the description of the high frequency radiotelegraph positions.

To give one an idea of what it was like to operate this station, I spent the evening shift of November 26th, 1989, operating the 6 and 12 megahertz radiotelegraph position for the first four hours, and then spent the last four hours on the 500 kHz position. I worked the following ships:

Call Sign	Name	Nationality	Frequency Ship Used
3EXK5	STOLT ASPIRATION	Panama	6293 kHz
3FEO2	ROSE ISLANDS	Panama	12576 kHz
YTMO	IZOLA	Yugoslavia	12604 kHz
J8EZ	KAMENARI	St. Vincent & the Grenadines	6291.7 kHz
P3DE2	ILION	Cyprus	6319 kHz
3ERR2	ANTHONY RAINBOW	Panama	6290 kHz
9HTT2	MALIBU	Malta	12591 kHz
9VXR	PROTEKTOR	Singapore	6322 kHz

I signed on at 261925UTC (3:25 PM) and I signed off with 9VXR at 5:09 PM (262109UTC). In other words I kept going steady with these ships for nearly two hours. I transmitted on the assigned frequencies 6491.5 kHz and 12874 kHz. After this burst for a Sunday evening it dropped off to two more ships.

YTCD DANILOVGRAD Yugoslavia 12582 kHz
I sent him a QSL – I acknowledge receipt of your message – at 262259UTC

PJCO NOORDAM Netherlands Antilles 12605 kHz
This was a Dutch passenger vessel and he wanted the score on the Gray Cup football game for 400 passengers from Toronto.

I signed off the 6 and 12 megahertz position at 270000UTC or 8:00PM AST.

3FIY2	NORCHEM	Panama	480 kHz	QSL TFC 270039UTC 8:39PM
ULNE	MALTSEVO	Russia	480 kHz	QSL TFC 270055UTC 8:55PM
DZAB	GENERAL CABAL	Philippines	480 kHz	QSL TFC 270130UTC 9:30PM
ENUO	MARSHAL GRECHKO	Russia	480 kHz	QSL TFC 270144UTC 9:44PM
ZHFJ4	GYPSY COUNTESS	Georgetown Cayman Islands	4210.6 kHz	QSL TFC 270331 UTC 11:31PM

I transmitted when working these ships, on the assigned frequency of 484 kHz and the station was assigned three transmit frequencies as described earlier, 500, 484 and 446 kHz. ZHFJ4 complained that his 480 kHz would not work so I listened for him on the four-megahertz frequency. Her main receiver was dated May 1956 and one of her transmitters was dated 1959. Her main radio station was an American Mackay MRU unit and the ship was built in 1960 so her station was thirty years old when I worked it this evening. ZHFJ4 was the old GYPSUM COUNTESS with call sign GHZK when I sailed in her. The radio officer would not tell me who he was or where he was from, but I suspect the Caribbean Islands someplace from the way he talked. His radiotelegraph fist was very good. There is absolutely nothing more beautiful than the sound of those old American transmitters built during the 1950's. The Federal Communications Commission made it mandatory that when one sent radiotelegraph on one of those transmitters that they had to key every stage of the transmitter, and that was the reason they sounded so good. They were beautiful to copy and when you transmitted on one in a ship it sounded like you were putting out a million watts. They had a transmit/receive relay that gave a loud click, with the parts of each character of your code, as it followed along with your radiotelegraph or fist.

I signed off duty this evening at 11:31 PM and went home. As one can see I was really not all that busy. We no longer worked any of the old standby or major ships of the past, such as British, American, Sweden, Finland, Germany, and so on. Those ships were using satellite communications and some of them may have carried a radio officer using this equipment, and the others did not carry a radio officer. It is impossible to find an exact division, such as the date where ships carried a radio officer or did not carry a radio officer. There was no date and there was no law that said the owner could or could not carry a radio officer. They simply faded away.

One could use any type of telegraph key that they desired from any of the operating positions in the last VCS station operations room. The old hand key, the semi-automatic key commonly called a bug, regular automatic key paddles, iambic automatic key paddles or an electronic keyboard key, and I used my own electronic keyboard key that I had designed and had DGM Electronics, Beloit, Wisconsin, build for me. For some unknown dumb reason I love to type. I had taken the standard keyboard this company manufactured and added all the "tiddly letters" and punctuation I could possibly use. This keyboard simply saved the day for me. There is no way I could have sat there and transmitted the reams of pure foolishness that ECAREG CANADA cranked out.

The other four operating positions along the west wall were more or less the same with the simple addition of this or that on each position to assist the service performed at that position. Starting south and going north there was the Training Position, 500 kHz Radiotelegraph, Medium Frequency Radiotelephone and High Frequency Radiotelephone positions. One simply turned off the various modules/receivers that one did not operate from the position they were operating. Each of these four positions had an electronic panel where one could operate the radiotelegraph key of their choice. A lot of this equipment was never used. Each of these positions had a unit that would record everything you did or heard. One could play this back to confirm something or for any reason providing this electronic marvel worked. It often would quit working just when you wanted to use it. It was a big help, or would have been, if you thought you heard something on the distress frequencies of 500 or 2182 kHz. "Big Brother" the IBM reel-to-reel tape recorder was always running and recording everything in the building, that included all the radio operating positions

and all the telephones. No one seemed to pay any attention to it and it gave the supervisor's something to do from time to time. A supervisor would take a tape and listen in on what had taken place at any given time on any of the positions. The supervisor's called this Quality Control and only they knew what that was supposed to mean.

The modules on these four positions along the west wall were using fix-tuned receivers from the equipment room in the basement. They were Spillsbury receivers from Jim Spillsbury's Company in Vancouver, British Columbia. Jim had recently purchased a portion of the Canadian Marconi Company and these receivers were part of this purchase. Jim's company was taken over by the Racal Electronic Company shortly after the station closed. The reason I knew this is that my first cousin, Cameron Finnigan was an engineer at the company at the time Racal took over. There are two excellent books available on the history of Jim and his companies called Spillsbury's Coast ISBN 0-920080-57-X and The Accidental Airline ISBN 0-920080-97-9. I often reread my copies simply for their entertaining value. He was quite a character and the books provide a few good giggles. I had run into some of his radio equipment when I was in the Yukon Territory and of course knew his airline, Queen Charlotte Airlines Limited.

There was seldom anyone at the Training Position and each channel was normally turned off. The Training Position had an additional rack on the east end that permitted the operation of the high frequency radiotelegraph positions from that position. The Training Position was the only position where one had a window to look out.

A chart table and the desk with the printer for the main computers, was against the wall separating the Supervisor's Office from the Operations Room, which was just behind the training position. The chart table had several drawers that held a good selection of charts or maps of the area. One could at least look at the map when something took place, and this would give them some idea of the area that was of interest. There were very few on the station staff that could accurately plot a position on a chart but what the hell, this was rather handy at times. The printer was used often especially when some ship made a request one could simply rattle off a printed copy for the supervisor. The duty supervisor could look at this while he phoned for the answer to whatever it was. Or when a distress incident took place one could make copies of the log entries for the supervisor who could make a file on them. It was a very handy piece of equipment and rather hard to operate the station without it.

The 500 kHz position normally operated with 500 kHz only on a speaker watch. When a ship called one selected this position in their headset, answered the ship, and then switched to the module that had the receiver and transmitter for the frequency the ship wanted to use. There was a general coverage or floating receiver on each and every operating position in the operations room, and this was necessary in order to work a ship that was unable to use the normal frequency. Normally this was selected to receive the ship on 480 kHz and so one could transmit on 484 kHz. When one did this the 500 kHz module went back to speaker watch so you could hear that frequency while you worked the ship. Another operator or the duty supervisor nearby would hear it as well. The 500 kHz position had one of the last Auto Key units from the British Marconi Company that they fitted in ships. The VCS station had sent the Distress Alarm on 500 kHz by hand from the time it was created until this unit appeared on this position. One does not want to know what this cost or why one could not continue to transmit this signal by hand and Halifax was not the only station fitted with this unit. All the stations around this coast and probably on the West Coast as well were fitted with these units.

The next position was the Medium Frequency Radiotelephone position. Noise unlimited from the 2182 kHz receiver one had to monitor continually. If the static and noise from that did not get to you a drunken fisherman would, although by the time this station opened it was getting hard to find a fisherman drunk or sober. The cell phone had entered service and the fishermen were able to make use of it. This meant more and more of the old service provided by the VCS station disappeared. This medium frequency radiotelephone position should have been installed in its own little room where all this noise did not affect the other positions of the station. When this station opened they tried placing cloth room dividers, seen in various offices around each position for privacy. These did not work at all and were nothing but a nuisance and soon disappeared.

The medium frequency position had a Radio Shack scanner. The Radio Shack scanner was the standard one anyone and everyone had around the country and would monitor the very high frequencies. This gave us an extra VHF receiver but mainly gave us a chance to listen to the frequencies we did not have, and was handy in listening to the inter-ship frequencies to see what was around.

The one thing the medium frequency position had when the station closed was the most useful item of them all. The Hughes Electronic Company built a computer operated very high frequency radio direction finder. This unit gave the position and actually plotted on a map of the area on a computer screen, the actual location of any signal it heard on the very high frequencies. This would be a big help in a distress incident and especially when the station received a false distress call. The station received a false call from time to time and I remember one where we managed to locate the transmitter in a cottage. Arresting these people would have been no problem but once they got in the courtroom the result made it a waste of time. A lot of fuel for various vessels and aircraft was wasted on these calls. A few of those who participated in this activity should have gone to prison and pounded rocks for at least five years as an example to anyone who might find it amusing.

There was a film crew at the station one time making a movie on the history of Marconi and I was operating the medium frequency radiotelephone position. We had just made a few staged shots of what it was like to handle a radiotelephone call from a foreign ship and connect it to its home office overseas when I received a distress call on very high frequency channel 16. Oh boy, this is it, and this will look really good in the movie. Bingo! Believe it or not it was a fisherman in a pickup truck that had broken down on highway 103 at exit 11. Needless to say we made sure that did not appear in the movie. These things are a big laugh in this country but I would hate to see what would happen to them in some countries. They know it in the other countries and do not do it, plain and simple.

I hope to reproduce some of my photograph collection on these pages that should help understand these positions, but unfortunately I do not have a copy of one showing this fancy radio direction finder.

I am not recording any frequencies here because they are the same frequencies we used in the old station and the ones I recorded in a description of that station. We had upgraded some of the equipment and the transmitters were either from the Nautel Company here in Nova Scotia or were from the R. F. Harris Company in up state New York. These transmitters were housed in the old transmitter building over at Pennant. These transmitters were either one or five kilowatt units. At least that is what I was told. Those who worked the station, especially on the high frequency radiotelegraph frequencies would have noticed the biggest difference, because those old Northern Electric transmitters that were replaced had a sound all their own. It was as close to dumb de dumb dumb as one could get and when at sea I often tuned in the station from the sound of the transmitter rather than actually listening to the transmission.

The high frequency position was identical to the others with the addition of an extra rack on the east or right end. This rack held the SITOR and by this time those who used it could use it fairly well and our sincerest thanks to the amateur radio community and their AMTOR. This SITOR was another computer with a printer and its own screen sitting up on the top of the equipment. We still did broadcasts on it that no one copied, but the ships that used it were now billed by time and not by word. A ship could also pull down copies of our broadcasts from our own computer system. It finally worked “Not too shabbie” as Mark Chatham, one of the radio operators, would word it.

The high frequency position had the Continuous Marine Broadcast (CMB). This new CMB replaced the old one that used cassette tapes. This one was all electronic and recorded ones voice in a solid electronic circuit and was a big improvement over the old one. When we first received these units someone inquired as to the reason we had those units and not another more efficient unit that was available. We were told that it was because some member of the Coast Guard at the high management level in Ottawa played golf with the manager of the company that built the CMB. It had to be right because how could one get a more truthful answer.

All four of the positions along the west wall had a panel in front of the operator just below the computer screen. This panel kept track of and gave various pieces of information on the channels selected at that

position. In addition to this panel on the training position was another similar unit. This one monitored the power and some of the equipment and was connected to an alarm. When the alarm went off it would tell us to call the duty technician and where he was to go.

The four positions along the west wall had several speakers sitting on top of the racks like a bunch of seagulls. The reason for this was to help determine which receiver on speaker watch received what signal. These were not part of the station when it opened but the one speaker in the equipment rack made it impossible to sort the signals out. These were simply Radio Shack speakers but worked very well.

A lot of this equipment had already been removed when we all gathered to witness the transmission of the final message from the station on November 19th, 1996. Vernon Hillier was the longest serving radio operator on the station's staff and for that reason was given the opportunity to make the last and final transmission. He was an excellent choice and the only other I would have considered, besides Vern, would have been Richard Falvey. Rick, his father Ernie, his uncle, Pat, and his aunt, Marjorie, had all worked at the station at one time or another. They were the most from the one family. The last officer in charge, and they had gone back to that label was Bruce Warren. Bruce had started his career as a naval radioman. He was stationed on the West Coast and had sailed in HMCS MACKENZIE with call sign CGYZ. While Vern was making this final transmission some Coast Guard employees were boarding up the outside of the windows with plywood. They had with them a large lock and key for the two gates down by the road, although the technicians remained in the building for some months cleaning up and cleaning out.

The final message was:

CQ CQ CQ DE VCS VCS VCS = FINAL BROADCAST ON 500 KHZ. THANK YOU FOR YOUR PATRONAGE OVER THE YEARS. THE RADIO OPERATORS OF VCS WISH YOU A SAFE VOYAGE. 73 DE VCS +

S.G. "Spud" Roscoe VE1BC

This is Vern Hillier transmitting the final radiotelegraph message. This position was called the training position when the station was in full operation. One could operate any frequency either CW or phone from this position.

Rick Falvey VE1HA

This is another view of Vern transmitting the final radiotelegraph message.

Closing Ceremony Halifax Coast Guard Radio VCS
Ketch Harbour, Nova Scotia
November 19th, 1996

Standing Left to Right:
Cliffe Taylor (Retired R.O. VCS), Gary Comeau (Technician VCS), Joe Burgoyne (Retired R.O. VCS), Spud Roscoe VE1BC (Retired R.O. VCS), Rick Falvey VE1HA (Retired R.O. CG Ships), Doug Conrad VE1ZL (Halifax Traffic), David MacKinnon VE1ALO (Regional Office), Lorenzo Caterini VE1LVC (Halifax Traffic), Brian Murphy (R.O. VCS), Bob Minty (Retired R.O. VCS), Ray Clements (Technician VCS), Walter Creaser (Retired R.O. VCS), Al Garnier (Technician VCS), Mike Forsythe (Supervisor VCS), Phil Vienot (Technician VCS), Kneeling Left to Right: Mark Chatham (R. O. VCS), Jim Christian VE1ASR (R.O. VCS), Al Simpson (Supervisor VCS), Vern Hillier (Retired R.O. VCS), Jim Best (R.O. VCS), Bruce Warren (O. I.C. VCS and Halifax Traffic), Brian Aubet (R.O. VCS), Robert Ward VE1HN (R.O. VCS), Dan Dawson VE1JV (Technician VCS), Gord Stoodley VE1VCS (Retired R.O. VCS), Stan Cairns (Retired S.O.S. VCS), Paul Brittain (Technician VCS) and Fred Cunningham (Regional Office).

The above was typed by my old Underwood Golden Touch typewriter. The poor old thing would have been insulted if I did not have something it had done on here.

The radio officers in several ships answered this broadcast to simply wish us all the best. The final transmission received was from the large bulk/oil/ore carrier M.V. ALGARROBO with international call sign LATF4. This vessel was built in 1983 as the CAST ORCA, was 90,747 gross registered tons and 269 meters long. I was unable to find the call sign for CAST ORCA. In 1984 this vessel was renamed NORD ATLANTIC and had call sign SLBU and that meant she was registered in Sweden. In 1993 she became the

ALGARROBO and registered in Norway with the LATF4 call sign, and in 1996 was owned by the Stephanie Corporation, Sandefjord, Norway. I wrote this company on November 20th, 1996, and asked for a brief resume of the radio officer who answered Vern's transmission and all I received was a nice photograph of the ship with no letter or anything else.

Stephanie Corporation, Sandefjord, Norway

MV ALGARROBO with international call sign LATF4

S. G. "Spud" Roscoe VE1BC

This is Rick Falvey VE1HA on the left and Doug Conrad VE1ZL at the closing ceremony of the final radiotelegraph transmission from station VCS. Doug now has his first call sign VE1UY that he was assigned when in high school. Doug's wife Dorothee now has his old VE1ZL call sign. Dorothee was a ship's radio officer in German ships when she met Doug.

* * * * * * *

Ship to Shore Radiotelegraph
Radio Station VCS
Halifax, Nova Scotia
June 19th, 1905, to November 19th, 1996
91 years and 5 months and a very interesting 91 years and 5 months it was.
Rest in Peace Old Friend!

* * * * * * *

Radiotelegram Service Terminated

I received the following notice on June 12th, 2007 and the MCTS operators claim they have not handled a message in years.

Marine Communication and Traffic Services (MCTS)

Marine Communications and Traffic Services will no longer provide the radiotelegram service subject to full international charges after December 31st, 2007. However, messages addressed to "Quarantine" and messages requesting a doctor to meet a ship on arrival will now be handled without charge. MCTS will continue to provide a Marine Telephone Call Service subject to full international charges in selected areas, based upon demand and the availability of alternate service delivery methods.

MY LAST DISTRESS INCIDENT

I was working the day shift on Sunday, March 14th, 1993, and Kevin E. Layden was the supervisor. Towards the end of the day at 3:25 PM (141925UTC), Kevin and I were just getting into another flying story when I held up my hand and said "Just a second Kev".

Kevin loved airplanes and loved to fly. He had started out building model airplanes and flying them with the local model club and after a few years of that obtained his private pilot's licence from the local flying club. Kevin was one of those rare individuals who could build anything out of wood. His wife Linda would see something in a magazine or catalogue and would tear it out and hand it to him saying "Here, build me this Kev". Kevin would go to the local lumber yard, get a few boards and when he finished one would swear the picture Linda had handed him was of the piece he had built. Why anyone with that talent would waste time as a government radio operator, especially a supervisor, was above and beyond the rest of us. Kevin wanted an airplane, so he built one with a Volkswagen car engine modified for aircraft. It took him five years and most of us felt that when he finished that would be the end of it. We felt he just wanted the challenge of building the plane and would not fly it and we all were wrong because he flew it regularly.

Kevin E. Layden

This is Kevin Layden with the aircraft he built C-FKEV

One of the operators on staff always stretched things beyond the limit. He claimed the current list of aircraft registered in Canada now cost eight hundred and twenty dollars. I found this rather odd because I had purchased two copies of this, years ago for one dollar each, so I wrote and asked if I could purchase one copy. I was told it was available in microfiche diazo form only. That was no problem because I had the microfiche reader for this history project, so I bought a copy for eight dollars and twenty cents. Kevin wanted to borrow this and go through it for a possible registration for his aircraft. He said he was thinking of something like C-GLPB or C-FLPB for his wife Linda, sons Paul and Barry. In the end he settled on and received registration C-FKEV.

I had worked six years in aeradio out west, so he and I spent our free time talking airplanes. When Kevin's sense of humour kicked in, and it often did, everyone was in for a good giggle. Kevin kept his airplane at the small Stanley Airport but often flew in and out of the Shearwater Military air station at Dartmouth. The world's largest aircraft at that time was called a C5 Galaxy. I knew several bush pilots that would have loved the challenge of landing Kevin's plane on the wing of a parked Galaxy. A few of them were just crazy enough to have managed the feat. One time when Kevin was taxiing out at Shearwater the Control Tower called him and wanted to know how long he would be because a Galaxy was right behind him. Kevin said he would be out of there right now and for them to make sure the Galaxy was aware of his "prop wash". It took a few minutes for one and all to regain their composure, including the crew in the Galaxy!

In April 1975, I was Radio Officer in the Canadian Coast Guard Ship TUPPER with call sign CGCV. I used to set my alarm clock each night for seven in the morning, but nearly always woke up five or ten minutes before that time. On April 4th, 1975, I woke up at ten to seven and it felt as though I were standing, because my bunk was tilted so far over it felt as though it were on its end. The TUPPER was a light icebreaker buoy vessel that did not have flume tanks to rock her back off the ice, and back down the track she had cut through the ice like the larger icebreakers. The TUPPER carried stones during the ice season and would swing these back and forth to rock her off the ice. These stones were two large cement blocks of six tons and were swung by the cargo hoist and boom used to lift the buoys. One member of her crew was called the Winchman and it was his job to operate and maintain this equipment. When he or the Bo'sun

swung these stones one could hardly feel a thing except the ship roll from side to side. When a new crewmember tried this we often had a few bumps and jolts.

K. C. "Ken" Roscoe

This is Radio Officer S. G. "Spud" Roscoe CCGS TUPPER holding son Mitchell with CCGS TUPPER in the background at her home berth. The open door below the Maple Leaf on her funnel is the door to the emergency generator room. The two windows forward of this door is the radio room. This photograph was taken in the summer of 1974 so TUPPER is not carrying her stones. They were carried just below her buff coloured cargo boom on the main cargo hatch. A helicopter could be carried on her helicopter deck on the stern. We normally carried a Bell 206B and this could be lashed to the deck and then the expanding hanger could be moved back over top of the helicopter. The sections of this hanger are all stowed forward as shown in this photograph. One can see a bit of the bow of CCGS WOLFE next to Mitchell's head.

The first thought that went through my mind when I woke up this morning was that a new man had been operating this winch, had managed to get the stones all the way out and broke the cable or cables. It looked to me as though the Winchman and Bo'sun were in for a busy day fixing the boom or hoist. After I got cleaned up and dressed, and just before I went down for breakfast, I went out on the bridge to see what was going on.

The TUPPER had the bridge across the front of her only superstructure as in all ships. Just behind the bridge on the port side was the radio room and behind the radio room was the emergency generator room. One entered the emergency generator room from outside. This room had a Cummins diesel generator and also had the emergency batteries for the main radio station. The chart room was just behind the bridge on the starboard side, then my living quarters or cabin, the Captain's office and his living quarters combined. A companionway or hallway ran from the door to the bridge down between these rooms to a ladder that went down to the deck below.

3rd Officer, the Coast Guard terminology for the 3rd Mate, was John Saunders, and he was the duty officer of the watch. When I stepped into the bridge I could see the stones down on the buoy deck stowed and secure in their normal position when not in use. We were stopped in the ice with the main movers or main engines shut down. I said to John "What in hell is going on John"? He said, "It's the wind. It is blowing over 70 miles per hour and is holding us over". That was a new experience for me and with that I went down for breakfast.

When I came back up on watch a few minutes before 8 AM and fired up the old Marconi Atalanta receiver I was to learn a ship was in trouble down off Halifax. We were in the Gulf of St. Lawrence off the East Coast of New Brunswick. The self-discharging ore carrier COLON BROWN with call sign A8CX had left Halifax bound for Baltimore. She had on board one of the National Gypsum Company officials and when she hit this weather outside Halifax Harbour it was a bit much for this official. He ordered the Captain to turn around and take him back to Halifax. The storm was so severe the COLON BROWN was blown ashore on Maugher's Beach as the Captain got her turned and was trying to get back into the harbour. He probably knew this move was a bit risky, but he would have been fired on arrival Baltimore if he had continued on, so he had no choice.

The first of these self-discharging ore carriers were the two built by Kearney Ship Yard, Kearney, New Jersey, in 1947 for the United States Gypsum Company and the rest were copies of these two, at least the idea, theory, whatever the terminology came from these two. These two were SS GYPSUM QUEEN and SS GYPSUM PRINCE. National Gypsum, Reynolds Aluminum, Georgia Pacific, and probably a few others all had copies of these ships.

Captain Oscar Langdon

This is the SS GYPSUM QUEEN one of the first two self-discharging ore carriers built at Kearney, New Jersey, in 1947. Unfortunately her stern door for the crossover belt cannot be seen in this photograph.

If one cut one of these ships in two and looked at the end of each section it would look something like the letter W and the two V parts making up the W were the cargo holds. The inverted V between the two holds was the water ballast, fuel and freshwater tanks. At the bottom of the cargo holds were gates and over two hundred of them. One hundred and twenty one I believe on each side. These gates opened and let the cargo pour out onto an endless conveyor belt. There were two of these belts of course, and they ran beyond the full length of the cargo holds. The United States Gypsum ships carried two men called Gatemen and it was their job to operate and maintain these gates. The two endless conveyor belts ran up at the stern of the ship past the main engines or engine room. These two belts emptied into another belt called the cross over belt. In the United States Gypsum ships this cross over belt could move from one side of the ship to the other and would protrude out past the ship's side, through a door in the ship's side. There was a door on each side of the ship, in the ship's hull for this purpose. This cross over belt emptied into the belt ashore that took the

ore up into a storage area, after it got rid of the empty booze bottles that rattled up the belt on a few occasions and were first ashore. There was a walkway between the bottom of the cargo holds and the outside hull of the ships known as the tunnel. There was one tunnel on each side of the ship, of course, and this was where the Gatemen operated the gates and the only time the rest of us went down there was when the weather would not permit us to walk across the upper deck from the foreward to the afterhouse. The Captain, Mates, Radio Officer and Seamen lived at the foreward end of the ship. We used to go down inside the foreward house, along the tunnel and up into the afterhouse for our meals. The tunnel was a great place to hide with a bottle because the ships were supposed to be booze free or dry.

Some of the United States Gypsum ships carried an extra belt that could be hung off the side of the ship, and the cross over belt would empty into this extension. This extension belt would empty the cargo in a pile ashore making the ship a true self-discharge vessel. It would take a bulldozer or two ashore to clear the cargo away from this extension belt or the ship would have to move up or down her dock while discharging.

For some unknown reason the naval architect that designed National Gypsum's ships did not place the cross over belt in the same place as those in the United States Gypsum ships. He ran the cross over belt in a fairly large house built behind the main superstructure of the ship. This was probably designed to assist discharging her cargo ashore some place. This large house acted like a huge sail on COLON BROWN and this caused her to loose control and go ashore in this storm. A merchant ship has enough power to push her through the water of the open sea only. She does not have sufficient power to correct for anything out of the ordinary. This was the reason we needed as many as four tugs to assist in our docking at some ports.

After the authorities had a chance to inspect COLON BROWN she was declared a constructive total loss, meaning it was up to the insurance companies to do with her what they may. In the end she was taken to Japan and made into two ships: the GOLD BOND CONVEYOR and the GOLD BOND TRAILBLAZER. "The CONVEYOR" had the COLON BROWN's stern section with the superstructure so kept the A8CX call sign. The bow or foreward section went to "the TRAILBLAZER" and she was assigned call sign D5BW. These two ships then went to work on the same route as the COLON BROWN and we often worked them both. Every time I heard the A8CX call sign I thought of my experience with the wind in the TUPPER.

Ship to Shore Photography, Whites Lake, Nova Scotia

This is the GOLD BOND TRAILBLAZER passing under the A. Murray MacKay Bridge, Halifax, Nova Scotia. Note the large house housing the cross over belt behind the main superstructure. GOLD BOND CONVEYOR and GOLD BOND TRAILBLAZER were identical sisters. Also note the flags she is flying. She is flying the Liberian flag on her stern out of sight. The Canadian flag on her main mast because she is in Canadian waters. She is also flying letter H on the main mast and that signifies she has a licensed Canadian pilot on board.

When I held-up my hand and asked Kevin to wait on Sunday, March 14th, 1993, I could hear three or four signals on 500 kHz. Years before this it did not seem to matter how many signals were on 500 kHz, one could make out what each was transmitting because of the many harmonics, and many were not right on 500 kHz. The last of these shipboard transmitters were hard to work. Every one of them sounded the same and right bang on frequency. It was so bad by February 22nd, 1985 when I had two ships calling but had one heck of a time in sorting them out. I had the GEORGIA S with call sign H9RP and the YIANNIS L with call sign H9RW. A W in radiotelegraph was simply a P minus the last dot. One could often tell the make of the old transmitters before the ship identified.

The most severe QRM (man made interference) I ran into was in the English Channel in 1962. I felt Land's End, GLD, would not hear me when I called him, but no problem, he came right back to me over top of all that QRM. This QRM was so severe that one had the feeling they could get off and walk on it. The reason we in the ships had no trouble hearing GLD, I am told, is because his 5-kW transmitter was on 499-kHz and was modulated with a 400-Hz audio signal. Our receivers would hear a 200-Hz tone owing to the BFO oscillator that was normally tuned to hear an 800-Hz tone for a signal on 500-kHz. GLD always transmitted MCW or modulated continuous wave on 500-kHz. It was a great signal and a great station to work. The operators at GLD were the ones with the disadvantage. They had to pull our low power signal out of all that QRM.

What I thought I heard when I asked Kevin to wait was a ship calling another ship with a PA prefix in the call sign. The PA prefix meant the ship was a Dutch warship, and the operator that had last used radiotelegraph in a Dutch warship was long gone. Once I concentrated and managed to realize what was going on, this is what I heard:

PAN PAN PAN SHIP GOLD BOND CONVEYOR/A8CX 12 DEGREE LIST POSTION … COURSE … SPEED 1.5 KNOTS K

PAN was the radiotelephone call for the radiotelegraph XXX emergency signal. The reason it was XXX was so the sound transmitted in radiotelegraph would attract our attention, and this was identical to so many signals, including the SOS. My first thoughts were "Good God, has this trade gone to hell!" and then I was back mentally leaning over in the wind on the TUPPER. As soon as the radio officer in A8CX signed with the letter K (the invitation to transmit) I cleared everyone off 500 kHz with the proper XXX signal. I sent QRT (Stop transmitting) XXX. Then I sent XXX XXX A8CX A8CX DE VCS VCS RR QSL (I acknowledge receipt of your transmission) K. I did not receive a reply to my transmission so I called XXX XXX A8CX A8CX DE VCS VCS K but did not receive a reply. I started to copy these signals on a scratch pad and Kevin gave me a lined legal white pad for this. He also grabbed a telephone and had RCC, the Rescue Coordination Centre in the Dockyard alerted.

It looked real serious and RCC wanted us to do every thing possible to get A8CX to transmit the SOS signal because this would make it official, and then we could divert everything in the area to assist if possible. They could cancel the SOS signal if they were able to rectify the situation and carry on to their destination. I just had time to record what I had copied into a Casualty Message Form on the computer, and send it, when Don Dupuis came in and relieved me, taking over for the evening shift. I brought Don up to date and went home. Don continued the request for SOS but did not get one.

In the meantime an Aurora aircraft, the Canadian version of the P3 Orion, went out to keep an eye on GOLD BOND CONVEYOR. The Aurora was under the command of (29 year old) Captain Al Wongkee from Brockville, Ontario. The Bermuda ship HAVKONG, with call sign VSBN7, proceeded to the area and

was there when the Aurora watched, with an ultra-violet video camera, the GOLD BOND CONVEYOR roll over and sink at 12:31 AM on March 15th, 1993, and neither HAVKONG or the Aurora saw anyone leave the ship.

The only crewmember found at the scene was the body of the radio officer at 8:14 AM that morning, and was recovered by search and rescue technician Cpl. David Knubley. He did this dangling on a line from a Labrador helicopter in four to five metre seas. The radio officer was wearing runners, jeans and a life jacket only, in seas with a temperature of 9C. One has to wonder when the radio officer left the ship. You hear complaints of racism and apparently racism in China was as bad as it gets. There were 33 crewmembers in GOLD BOND CONVEYOR; 29 from Hong Kong, 3 from main land China, and this radio officer from Taiwan. Was this an incident of racism? We will never know but we were the ones insisting on the SOS signal not him.

The only other body recovered washed up on a beach in Ireland, in a survival suit, many months after the accident. Looking into that survival suit must have been a most unpleasant task. We were told there were twelve survival suits on board so we were hoping we would have twelve survivors at least. After the accident the owners of GOLD BOND CONVEYOR admitted there were six survival suits on board, and they found one floating around among the debris while trying to find survivors. There were 33 crewmembers on board for these six survival suits. One wonders which six crewmembers were to have a suit. The last radio message from the ship was at 12:23 AM when Captain Man Hoi Chan told Al Wongkee they were leaving the ship via VHF radiotelephone. He had told Captain Wongkee that one of the holds had been leaking, which caused the list, and that he had tried to correct for this with water ballast.

There were two hard covered lifeboats and four life rafts on board. The stern of one lifeboat and the two life rafts were found among the rest of the debris. One life raft was inflated and the other partially inflated.

There were many who wondered why Captain Chan, who had been in command of GOLD BOND CONVEYOR for many years, sailed on Saturday afternoon March 13th, 1993. He had left Halifax with 24,000 tons of gypsum ore for Tampa, Florida. She made thirty to forty trips each year with gypsum ore, and that was the only cargo she ever carried. This was another bad March storm that had been well advertised with seas running to 20 metres and southwest winds of 60 knots. Three ships refused to sail from Halifax in this storm. The ZIM ITALIA, with call sign 4XGT, the ZIM SAVANNA, with call sign 4XIL and the ASL SANDERLING with call sign VOLG. Don Archibald was in command of “the SANDERLING” and had watched Captain Chan take “the CONVEYOR” out at the same time he was supposed to sail. Don and I had sailed together in GYPSUM COUNTESS some years before this, and his brother was the principal of one of the schools my sons attended. The owners of the drill rig ROWAN GORILLA III, with call sign KSCP, had removed all non-essential personnel, and had jacked the rig up 21 metres to avoid the high seas off Sable Island.

This storm was called the storm of the century, at the time, and it seems each of these March storms is given this label by the news media. The ice from this storm kept the ferries in Halifax Harbour at their dock, and extra buses were put in service across the bridges to replace this temporary loss of the ferries.

51 family members, all from Hong Kong, flew in to Yarmouth on Thursday, March 25th, 1993, and held a Buddhist memorial service at Kelleys Cove, down near Chebogue Point off Yarmouth, Nova Scotia, on Friday March 26th, 1993. After this service these family members had a meeting with various officials. Their main interest was this storm during this meeting.

Unfortunately we had no destroyer with a couple of large helicopters to lift this crew off like we had with the MAURICE DESGAGNES. I feel confident my natural curiosity and knowledge of the various call signs made it possible for me to catch the first transmission, even though it was more or less a hopeless call. Would there have been any change in the outcome if a proper SOS signal had been transmitted at the beginning? We will never know but I honestly feel it would have made little difference in the outcome. The sea that day was as bad as the one that claimed the RAIFUKU MARU, MAURICE DESGAGNES and too many other vessels that have met the same fate in this area. It was just one of those unfortunate things that unfortunately happen from time to time.

A FINAL NOTE

When I retired I wanted to go back to sea but that was impossible. It would have been a lot of fun to circumnavigate the world each year in a 3500-ton freighter. It would take about six months and then one could have the other six months off. Like I say, this was impossible because there were no 3500-ton freighters. They disappeared before radiotelegraph and everything was changed to bulk or container in large ships. The cargo for these large ships was trucked many miles, if necessary, to a port that could handle these large vessels. If one could have found a ship they would have had to take their amateur radio station in order to have someone to talk to. All the coastal radio stations were QRT – had stopped transmitting and were closed.

It is not over until it is over but it was definitely over. These stations were not a common radio station they were very special and the reason for the title to this effort "Radio Station's Common? Not This Kind".

I trust this project has been of some interest. I certainly enjoy putting it together.

Spurgeon G. Roscoe
First Class Certificate of Proficiency in Radio # 6-108
Coast Guard Radiotelegraph Operators Certificate # 054
Amateur Radio Station VE1BC
