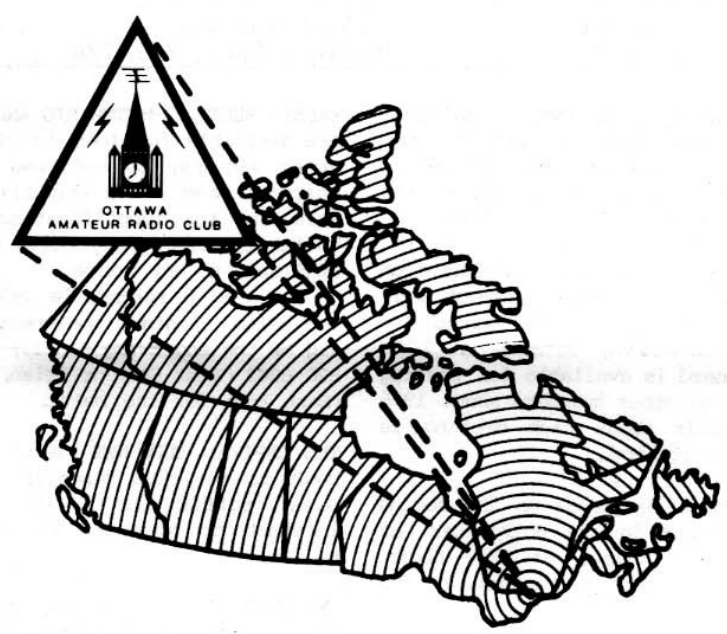


THE GROUNDWAVE



Club Call VE3RC

Repeater VE2CRA



THE GROUNDWAVE

Official Bulletin of the Ottawa Amateur Radio Club, Inc.

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THE OTTAWA AMATEUR RADIO CLUB, INC. is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the National Capital Area; and to the advancement and achievement of club members.

REGULAR MEETINGS of the OARC, Inc., are held on the first Wednesday of each month (except July and August) at the National Research Council Auditorium, 100 Sussex Drive, Ottawa, at 2000 hours. A bulletin board is available for posting notices of interest to other members about 1915 hours. Further details about each meeting is elsewhere in this publication.

THE OARC EXECUTIVE normally meets on the second Wednesday of each month in the Board Room of CFRA, 150 Isabella St., Ottawa, at 1930 hours. Contact the President to confirm the date of the next meeting.

DEADLINE FOR COPY is the second Wednesday of each month. Make yourself better known to fellow members and other amateurs, too, by giving us an article, technical or otherwise, relative to our hobby. They may get reprinted in far away places; and the family will be proud of you.

MATERIAL PUBLISHED herein does not necessarily represent the official OARC viewpoint. Items may be reprinted by Amateur Radio or other publications provided that proper credit is given to the author and to the OARC, Inc.

RADIO AMATEUR CALL BOOKS are available at many local libraries. Ask at the information desk.

SAFETY BELTS, 2-METER RIG AND AN ENGRAVING PENCIL are available for loan to club members. The 2-meter rig may be borrowed by members who are hospitalized. The engraving pencil (to mark valuables for identification in case of loss or theft) and the safety belts with pole straps are available to any member.

A \$100 refundable deposit is required for the belts. Contact the President for the 2-meter rig or the engraving pencil; and Paul, VE3ICV, at 820-6643 (West End) or Brian, VE3JKZ, at 523-1535 (East End) for the belts.

THE CAPITAL CITY NET meets every Monday at 2000 hours on the club repeater VE2CRA (146.34/.94) to pass traffic and to make announcements of interest to Amateurs in the National Capital Region.

THE SWAP NET, is a service provided and conducted by Ed Morgan, VE3GX. This feature appears on the Capital City Net, noted in the foregoing paragraph. To list items and make inquiries, call Ed Morgan at 733-1721.

POT-HOLE NET is a SSB/HF net sponsored by the Ottawa Valley Mobile Radio Club, and conducted every Sunday at 1000 hours on 3.760 MHz. All amateurs are welcome to check in. The Swap-Net is a regular feature.

POT-LID CW NET is an informal slow-speed CW net sponsored and conducted by Ed, VE3GX, and meeting every Sunday, except during July and August, at 1100 hours on 3.620 MHz, to promote interest in CW and CW procedures.

MINUTES OF THE OARC GENERAL
MEETING OF NOVEMBER 5, 1986

The meeting was convened at 2006 hours (local) by our president, John, VE3NVF. John invited visitors to stand and be recognized. Dennis Cudihee and Doug, VE3LLN, were then introduced to the club and invited down at coffee break for a free coffee. Dave, VE3JTZ, will look after seeing them safely to the urn.

On a motion by Dave, seconded by Mark, VE3OWL, the minutes were adopted as written. No objection--CARRIED.

Gord, VE3PPE, spoke on the results of our recent flea market. Just over \$300 was made, with an estimate of 600 visitors. Hobbytronic, MacFarland and Century 21 were welcome commercial guests. John was out of the country for the final stages of planning, and recommended a hand of applause for Gord. An impromptu poll showed most members in attendance had been to the flea market, and most had bought something.

Harrie, VE3HYS, then started the voice linking activity report. He had brought down the club's repeater, VE2CRA, Sunday afternoon, and mounted 4-pole antenna for the 70 cm repeater-receiver (448.3 MHz) at 80' and transmitter (443.3 MHz) at 25'. Communications with the Kingston crew were accomplished via the 2m repeater W2WLR. Doug, VE3OSL, and Gord drove down to the Kingston site of VE3KER with a 70 cm rig, 100 W amplifier, 220 MHz rig and 2 beams.

Gord reported that no contact was made with Ottawa with the 70 cm equipment. However, contact with the Rice Lake repeater (and subsequently into Toronto) was made.

Merv, VE3CV, read to the club an RSO bulletin describing the November 8th

flea market and fun'n'frolic dinner. The event will be held in Newmarket, from 9 am to 3 pm, local.

Merv also read a CRRL bulletin that said Lawrence, VE3GT, has stepped down as section manager; CRRL is looking for another. Another CRRL bulletin noted a new book out on amateur radio by Bill Rook. A note has been placed on the bulletin board from Rook.

Dave gave a status update on the advanced class. Last year there were 12 students, this year 6. Dave is holding classes at Cambridge School, instead of Algonquin College, because Algonquin would require at least 18 students.

Peter, VE3LBW, received the club satellite report. He will bring copies to meetings, in future, for interested members to browse.

Joe Holmes, a former student of Dan VE3EBI's, recently received his licence, VE3TJH.

Paul, VE3JLP, notes the following good DX opportunities: FR--Reunion Island, 2 pm local; ZL--New Zealand, 2330 local, 20m phones; HFO--Shetland Island, 40m/15m, both cw and phone; and FS--St. Martin in the Carribean, 20m phone.

At 2025 hours, John introduced our guest speaker for the evening, Kees Kaper, PAOKKZ.

Kees has done a lot of experimenting with 10 and 24 GHz communications especially between England, Holland and Belgium, primarily by superrefraction.

Superrefraction is when a combination of low temperature, high pressure and light winds allow SHF signals to propagate very long distances - 100's of kms.

Kees started experimenting in 1973 with klystrons and later Gunn oscillators. He gave us a demo of one of his experiments, by transmitting/receiving an image and voice at 10 GHz. He typically converts received microwave signals to TV channels 3 or 7 for convenient viewing.

He normally sets up contacts with a 1 KHz tone and a 2m rig. The tone makes aiming dishes practical because the dishes only have a beam width (typical 40 dB dish) of 1.8 km at a distance of 45 km.

The transmitted power is usually 10 mw, but even at that low level there is risk to the eyes at close range.

Most of his equipment has been collected from flea markets and electronic junk shops in Europe.

Notably, Kees obtained a 3 GHz amplifier in Saskatoon for \$25. The trick is to find someone not knowing what they are selling and buy it cheap!

Kees' current project is a frequency synthesizer for 10 GHz. He'd like the frequency stability in the neighbourhood of $10E-12$ for SSB work.

John thanked Kees for his interesting presentation, and declared coffee break at 2115 hours. John called the meeting back to order at 2140 hours.

Brett, VE3JLG, gave us a packet radio update. The Carleton University IEEE computer show was a success, with much interest generated in the packet station. Help included VE3s K LW, PAE, NVF, OSL and OSN.

On Sunday, October 25th, the packet group was out to the Lavante digipeater site, installing a 9600 bps link on 220 MHz.

The next meeting of the packet group will be on the 26th, at the Museum of Science and Technology.

Dave addressed the club on the subject of basic station setup, aided with a block diagram on the blackboard.

For a low power antenna switch, a rotary switch with shorting contact can be used.

Full break-in, or qsk, is where a transmitter switches on only for the minimum time required and the receiver recovers very quickly. Operating qsk is good for fast round tables, or determining if a lid is jamming your transmission.

John, Mark and Dave are going to administer the upcoming basic amateur code test. Talk to Dave if interested.

On a motion by Charles, VE3PAP, seconded by Harry, VE3GVV, the meeting was adjourned. No objections--CARRIED.

DECEMBER MEETING

1. Paul Cooper, VE3JLP, will give a talk on Refurbishing and Erecting a 100' Self-supporting Tower.
2. 10 w.p.m. code exam will be given before the meeting. Anyone interested in taking the exam should contact John, VE3NVF, or Dave, VE3JTZ.

AMPLITUDE COMPANDED
SIDE BAND IV

In the first three articles, we looked at AM, FM and SSB, discussed the PILOT TONE, CAPTURE EFFECT and COMPANDORING. In this last article on ACSB let's look at a block diagram of the receiver, and give a short resume of the whole system.

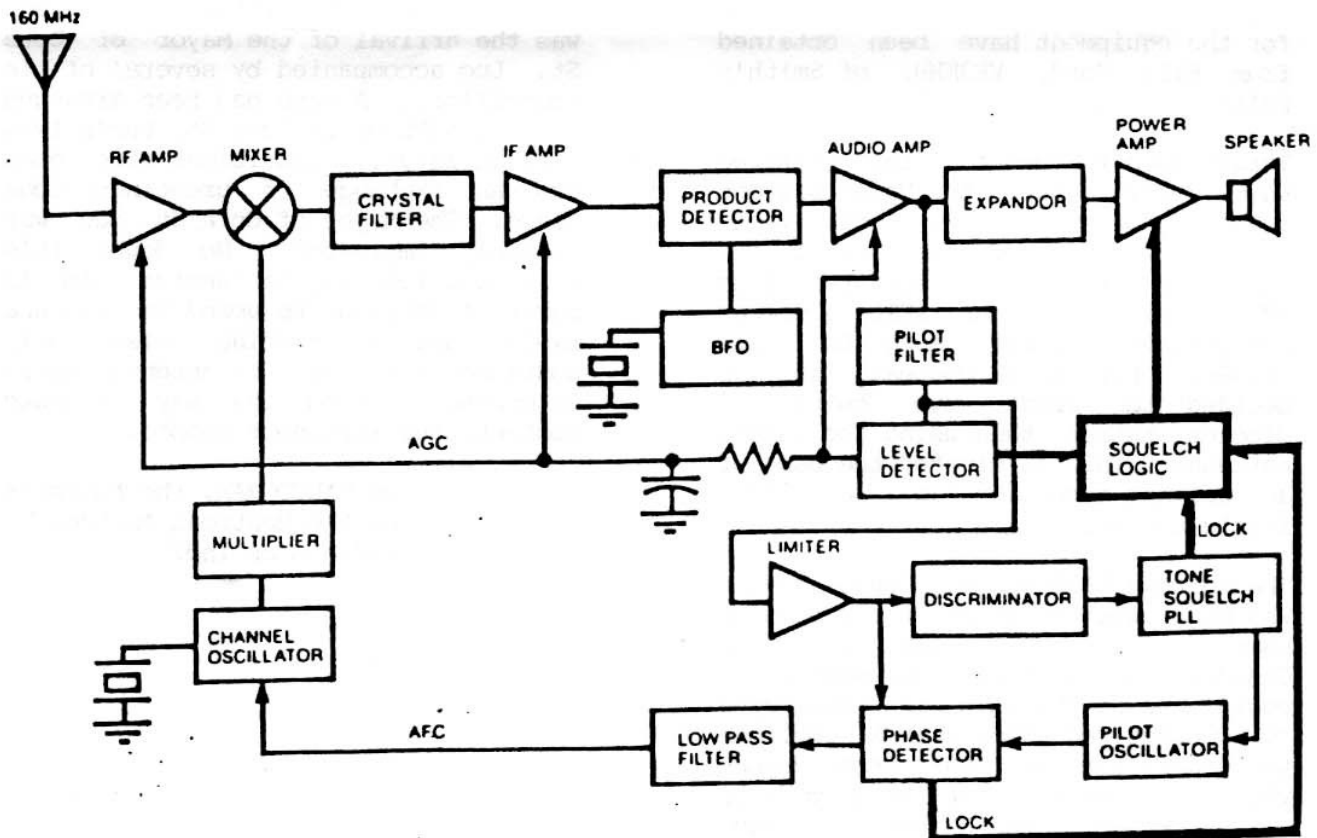
Note the use of the EXPANDOR in the receiver circuit. If we compress or more correctly compandor the audio in the transmitter, we must expand it in the receiver, just as we have to re-insert the carrier in order to recover the audio. For amateur use many of the squelch functions may be redundant, but to understand the commercial systems, they have been

included. Reviewing the operation of the ACSB system - The pilot tone provides a reference for automatic tuning, reference for automatic gain control, positive squelch action and allows tone squelch and tone signalling. Compandors improve the signal to noise ratio and provide capture effect.

ACSB then can be said to operate and sound like FM transmissions, but takes only a fraction of the total spectrum space.

de Hugh Clark, VE3WM
London Amateur Radio
Club Inc.

(This is the last of a four part series on ACSB - Ed.)



THE HAIDA PROJECT

HMCS Haida has been decommissioned some time and is berthed at Ontario Place near the Toronto Exhibition Grounds. The Nortown Amateur Radio Club of Toronto have undertaken a restoration project which would restore everything in the radio room to its original place and condition. During the summer of 1985, Bill, VE3NSS, approached Mr. P. Wheatley, President of Canadian Marconi, with a request for assistance in restoring that company's radio equipment aboard the ship. This task was undertaken by Marconi's Thorold, Ontario, plant.

New transformers and power supplies were required and are being supplied with the help of Fred Hammond, VE3HC. These are being prepared since the radio room will be operating on mains supply rather than the ship's supply. Some of the manuals and power supplies for the equipment have been obtained from Bill Ford, VE3KHB, of Smith's Falls.

Target date for putting the restored units back aboard the Haida was set for the tourist season of this year. On the weekend of November 16-17, 1985, the Nortown Club operated from HMCS Haida in the ARRL November Sweepstakes Contest using the call VE3NAR. For this contest, it was decided to erect two multi-band dipoles rather than using the ship's antennas. This eliminated the use of an antenna tuner and made operating a little easier.

The Nortown Club suggests that anyone who might wish to donate their time or knowledge, or who might have any Canadian Naval radio equipment which would enhance the ship is encouraged to contact Ken Wren, VE3MCN. Nortown would also like to hear from anyone who still operates in the AM mode on the ham bands as the Marconi equipment on board is AM and CW modes only.

They do say that they are hoping somehow to acquire a rig so that a permanent ham station for SSB operation can be established on board.

de BARC PRINTED CIRCUIT,
the bulletin of Burlington
Amateur Radio Club Inc.

READING BETWEEN THE LINES

It's tough to be a Ham today. The Cote St. Luc amateurs are still having trouble with getting their city's restrictive antenna by-law amended. However, the Cote St. Luc Amateur Radio Association did put on a very well presented display at the Cavendish Mall Saturday, April 19th.

The organisers are to be highly complimented. An interesting event was the arrival of the Mayor of Cote St. Luc accompanied by several of his councillors. A sked had been arranged with the Mayor of Cote St. Luc's twin city in Israel. Conditions were good and an exchange of greetings took place. The Mayor of Cote St. Luc was suitably impressed. No doubt this will go a long way to assist him in making a decision to amend the antenna by-law and if nothing else will convince him that "all antennas shall be grounded" is not the way to make contacts and influence people.

de MARCOGRAM, the Bulletin
of the Montreal Amateur
Radio Club Inc.

WHY ARE THEY SENDING UP DISTRESS
FLARES?

One cold night, as ships lay stalled in a North Atlantic iceberg pack, an officer asked his captain why a nearby ship would be sending up white rocket flares - the kind used only in an emergency. They stood there on deck, speculating as rocket after rocket went up. When the mystery ship's lights reached the horizon, they decided it was merely entertainment for the passengers, then steamed away. The ship was, of course, the Titanic. No one thought to take its distress flares for exactly what they were, a ship in trouble. The non-responsive captain spent the rest of his life trying to convince people that he was really nowhere near the Titanic, although his officers said they were.

A MARC member was in an accident recently, one which required an ambulance. He reached for his radio and sent three "MAYDAY" calls out on one of the popular local repeaters. No one answered. Unknown to him, at least two club members are speculating about this MAYDAY call, about who might be messing with stolen gear, and what it all meant. The distressed ham switched to another repeater where someone answered and was able to dispatch an ambulance.

We have alerted nets because of (a) threatening weather, (b) massive traffic jams, (c) a riot at the county prison. This time, it was hard to get even one person to respond "His voice sounded different", we heard. Wouldn't yours?

In our attempts to be one step ahead of bootleggers and crackpots we may miss the obvious: someone calling "MAYDAY" is in serious trouble. But as the white rockets went up, people were saying, "hey...get a load of that...I wonder what's going on?" As

I learned in CPR training in a little country town, when the issue of hesitancy came up: "Do you want to be embarrassed, or do you want to be dead?"

We train for the big disasters, but maybe we should keep in mind that while we're waiting for the nuclear power plant to melt down, the river to go off - maybe we should remember that we're being trained to respond quickly. Hear what is happening and act: answer the station, call the appropriate agency (numbers are in the front of the phone book), or if mobile, stop at any place of business and report it to the local police by telephone.

We want to be trained communicators, and the price for that is to be vigilant and prepared. You never know just what the emergency will be.

de K1PZU - Tnx MARC TIMES
via RaRa Rag (Rochester
Amateur Radio Assoc. Inc.)

HAMS ARE SOMETHING ELSE

We sometimes forget that the people we know wearing their ham hats may be better known in other fields of endeavour. For instance, Don McVicar, VE2WW/VP7DX is a pilot and a prolific writer of aviation books including "Ferry Command", "North Atlantic Cat", "A Change of Wings", "Mosquito Racer", and "More Than a Pilot". Want more information? Try Ad Astra Books, Box 2087, Dorval, Quebec, H9S 3K7.

DIFFERENCES

The April 1986 issue of QUA MANITOBA AMATEUR reports a QSO between Bill, VE4ANY, just outside Winnipeg and Rirek, SP2JXN, in Gdansk, Poland. Rirek was interested when he learned that Bill lived on a small farm.

"How many hectares you have?"
 "Ten hectares," Bill replied.
 "How many people work on your farm?"
 "One," replied Bill.
 "One family. How many in family?"
 "Just me and my dog," Bill explained.
 "No, no," was the puzzled reply. "I think you just make joke!"

Here is a classic demonstration of the various filters at work that make communication such an elusive art. We are aware as hams of the technical difficulties of equipment, antennas, the ionosphere, QRM, QRN, etc. Most hams are aware too that one man's evening amusement with a rig may be another's small hours of the morning dedication. Language differences quickly become obvious but here we have the assistance of an excellent meta-language in the Q code that permits cross language exchanges with excellent understanding. Not so obvious are the semantic filters of culture, attitude, education, and so on that lead to misinterpretation at one end to 'perfectly logical' expressions from the other end.

We don't know how the example above ended but we expect that Rirek discovered that a Canadian prairie farm of twenty five acres could be managed quite nicely by a family consisting of a ham and his dog even though a ten hectare intensely cultivated holding in Gdansk might require full participation by a large family. It is the 'neighbourly' discovery of these differences that makes hamming and the accompanying problems all worthwhile.

Gord, VE3JMT

HF AWARDS

The 'Islands On The Air' program devised and administered by Geoff Watts for many years is now administered by The Radio Society of Great Britain. Requests for IOTA Directories should be sent to Roger Balister, G3KMA, La Quinta, Mimbridge, Chobham, Woking, Surrey, England GU24 8AR. It is necessary to get a Directory as the IOTA islands are grouped geographically to limit the numbers. There are 10 regional awards which require confirmations from 75% of the islands/groups in each region. The regions are Africa, Antarctica, Asia, Europe, North America, Oceania, South America, Arctic, British Isles, and West Indies. There is also a World Diploma available for confirming 50% of the islands/groups in each of the seven continents. There is an IOTA "Century Club" Award for confirming 100 islands/groups including at least one from each continent. Those claiming all 12 IOTA Awards will receive a silver cup.

The Radio Society of Great Britain (RSGB) offers a large number of awards. An "Amateur Radio Awards" Directory is available from RSGB Headquarters, Alma House, Cranbourne Rd., Potters Bar, Hertfordshire, England, EN6 3JW.

The USSR also offers several awards such as the "R-150-S" Award for confirming 150 countries including 15 Republics of the USSR. Information on USSR awards may be obtained from VE3GMT who serves as the official checkpoint for Canadian amateurs applying for these awards, or by writing to the Central Radio Club, Box 898, Moscow, USSR.

de SKYHOOK, Skywide ARC,
 Toronto

SAVING MONEY AND SPACE

The following beliefs - all wrong ones - can cost you money and space, if followed. They can also waste your time.

- 1) Antenna tuners don't really tune anything; they just fool the transmitter.
- 2) Reflected power is wasted power.
- 3) Reflected power turns to heat in your tuner (or is dissipated in your finals, or makes your teeth turn orange, or etc.).
- 4) An antenna must be cut to a specific length to radiate effectively at a specific frequency.
- 5) Twin-lead causes spurious radiation.
- 6) High SWR causes spurious radiation.

Yes, if you accept even one of the above statements, you are going to spend more on your rig than you should - a lot more; mythology is always expensive if believed. So where do you get the facts? One source is a new book, THE EASY WAY, by John Haerle, WB5IIR. The book is available from Over Tones, Inc., 1710 Highland Park Rd., Denton, TX 76205 for \$13(US).

The foregoing is not an ad. This information was carried in the news columns of Worldradio and has also appeared in the antenna column of Worldradio written by "Kurt N. Sterba", a nom de plume approachable in writing but hard to catch in person.

de WORLDRADIO

BIG BUG

With hams always searching for better antennas, better signals, bigger scores, faster speeds, miniature rigs - anything to keep the mind improving and challenged, two hams - members of Radio Amateurs of Greater Syracuse (RAGS) - found this challenge to be fun. The "idea" formulated by Jim Mozley, W2BCH, and brought to reality by Jeryl Wright, NK2X, developed into RAGS BIG BUG!

Scaled 9 inches to an inch, Wright made the Bug completely out of wood with a steel spring. Copper contacts were made from wood with copper pipe cap inserts. Lathe-turned round parts and a sliding wooden weight makes the Bug fully adjustable over a wide range.

The finished product measures 33" by 53", painted to duplicate the gold-plated top with silver parts and red paddle of the desk model. Each detail is exact, even to the "red jewel" and "bug logo". Below the black skirt are wheels so the 4 1/2 foot bug can be easily moveable.

Following the unveiling at Old Timers Nite, 14 Old-Timers in ham radio had a turn at sending during the meeting. A contest was held using both their hands and knees from a sitting position. Everyone was so good that they all received a prize - and what better prize than each getting a can of "bug spray"!

de WORLDRADIO by
Vivian E. Douglas, WA2PUU

VE3NAR ABOARD HMCS HAIDA

In 1985, the Nortown Amateur Radio Club undertook a project to restore the radio room aboard World War II destroyer HMCS Haida, now decommissioned and berthed at Ontario Place.

While we have reported elsewhere in the Groundwave on the progress of the project, a bit of information about the ship is in order. HMCS Haida was commissioned from Newcastle-on-Tyne, England, in August 1943. Haida was one of the Tribal class destroyers designed in the thirties in response to programs of several countries, including Germany, to build large, fast destroyers with heavy armament. Compared to earlier British destroyers, the Tribal class ships carried twice as many guns and were almost 500 tons heavier.

Sixteen were built for the Royal Navy between May 1938 and March 1939. Four others were ordered for the Royal Canadian Navy in 1940-41 and were completed in England in 1942-43. Four more were built in Canada commencing in 1943 but were not completed until after the War.

The Haida initially served on escort duty on the Murmansk convoy run and took part in the action to decoy the German battleship Scharnhorst out of hiding. In 1945, she joined the 10th Destroyers Flotilla based at Plymouth for operations in the English Channel and the Bay of Biscay. On April 27-28th, HMCS Haida participated in the rescue of men from her sister ship, HMCS Athabaskan, torpedoed and sunk by the German destroyer 'T-24' off St. Brieux. In five months, the Haida helped sink 35 enemy vessels and damaged 14 others, including 14 destroyers, 1 U-boat, various minesweepers, flak ships, tankers and transports.

After the Normandy invasion, Haida sailed to Canada and was given a hero's welcome in Halifax harbour. In 1947, the Haida was involved in a rescue of 18 American airmen from a crashed B-29 in mid-Atlantic, 400 miles from Bermuda. In 1952, Haida served on two Korean tours. She was also involved in bombarding Communist railway traffic thus becoming a member of the "train busting club". During each tour, she circum-navigated the globe. Haida continued to serve in the RCN anti-submarine force until 1963.

In 1964 the RCN, through the Crown Assets Disposal Corporation, sold Haida to 'HMCS Haida Inc'. She was towed to Toronto Harbour. The following year, she was opened for public admission while a decision was made about her final location. In 1971 Haida was moved to her present location at the East end of the Ontario Place complex on Lake Ontario.

from an article by Ken Wren, VE3MCN, in the BARC PRINTED CIRCUIT, Burlington Amateur Radio Club

AGREEMENT WITH JAPAN

Canada now has a reciprocal operating agreement with Japan. Canada thus becomes the third nation (after U.S. and West Germany) to have such an agreement. New 7J Japanese prefixes go to Canadians.

de W5YI Report

ON TEACHING CW

The DOC proposals have resulted in a Club discussion as I see by the drafts of the last Bulletin. In that discussion I notice some simply dreadful remarks such as "CW is horse and buggy days", "Who listens to CW anyway", etc. Almost every ham periodical has a reference to CW and the drift is always to eliminate it, make it easier, slow it down, etc.

All this is unreasonable. CW has to be the easier of the two sections to learn from scratch. 'But', and here is the catch: It must be taught at 15 wpm (with spacing) or faster but never at 5, 7, or even 10 wpm. Why?

When students learn at 15, they can go on the air and work other hams at 15. When they come to attack the Advanced tests, the code will be no problem, obviously.

To teach at 15, one must send at 18 to 20 and lie like crazy to the student. "I am sending about 14 to 15 wpm." The instructor should occasionally demonstrate the exam speed of 10 wpm by dropping the training speed to 15 wpm. Now, when the big day comes, warn the students to concentrate very intensely. Don't forget that they can now read 15 thinking it is 10. There is a real risk that they might fall asleep during the test!

You will have to put up with their indignation afterwards, "The test was no more than 7 or 8 wpm."

All that you can do is to make non-committal grunts or say things like, "The DOC can't read CW anyway." Never disclose your dishonesty until they pass the Advanced test. Now for the rationale.

With a new student, you send a noise and say, "That is A." If you send the noise at 15 wpm, that is what is

learned. If you send it at 18, that is what is learned. As the student progresses, the space between the correct noises is reduced.

Needless to say, never teach e, i, s, h, 5; that is just teaching the student to count. The student can probably count already and secondly, counting is quite impossible unless you can bear to listen to you-know-who. So, stick it to them, lie, browbeat, bully, demand, ram it down their throats. They will thank you for it afterwards. NEVER BE NICE! (By Eric, VE3ISD)

de FEEDLINE, the
Bulletin of the Niagara
Amateur Radio Club





<u>The Ottawa Amateur Radio Club, Inc.</u>		<u>Box 8873, Ottawa, Ont. K1G 3J2</u>	
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	VE3NVF	Ottawa, Ont., K1Y 3R8	952-1904
Vice-	Paul Cooper	R.R. 2,	821-2167
President	VE3JLP	Metcalfe, Ont. KOA 2P0	
Secretary	Gord Dey	49 Stable Way	592-0680
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Past-	Dan Holmes	33 Crownhill Street	746-0968
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	VE3JTZ	Nepean, Ont., K2G 4E9	592-2122
	Mark Farey	26 Naismith Crescent	592-2522
	VE3OWL	Kanata, Ont., K2L 2K8	592-2122
	Ralph Thomas	2180 Benjamin Ave.	729-9252
	VE3GG	Ottawa, Ont. K2A 1P4	
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Repeater	Harrie Jones	2-147 Arlington Avenue	237-6427
Chairman	VE3HYS	Ottawa, Ont., K1R 5S6	233-6241
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EMI Committee	Ralph Cameron	30 St. Remy Drive	825-1634
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