

QST 

CANADA

Official Journal of the Canadian Radio Relay League
Journal officiel de la Ligue Canadienne de la Radio Amateur

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CRRL is incorporated under the Canada Corporations Act. Its affairs are governed by a seven-member Board of Directors elected every two years by the CRRL general membership. CRRL is noncommercial, and no one who could gain financially by the shaping of its affairs is eligible for membership on its Board.

CRRL is the Canadian member-society of IARU, the International Amateur Radio Union. "Of, by and for the Canadian Radio Amateur", CRRL numbers within its ranks the vast majority of active amateurs in the nation and has a proud history of achievement in amateur affairs.

A bona fide interest in Amateur Radio is the only essential requirement for membership. An Amateur Radio licence is not required, although full voting membership is granted only to licensed amateurs in Canada.

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"It Seems to Us.../Il nous semble..."

The Spirit of Amateur Radio

Two of us were musing. What holds us to this hobby? Ought we feel guilty if we don't advance radio science? Where's ham radio going? Do we care?

The hobby appeals to each of us in a different way. The thrill of the hunt drives hardened DXers. Being useful strokes public service aficionados. Little "eureka" compensate experimenters for the times "it" didn't work. Long friendships warm inveterate ragchewers. Giving something back to the hobby rewards hamdom's leaders.

Radio science might not be advanced by the present day amateur. Typically, that science is beyond all but a few people that haunt our leading universities and research establishments. All is not lost, though.

Learning about radio is important. One of the reasons for the hobby's existence is self-education. Building an antenna teaches much about antennas, transmission lines and basic measurements. Aligning a receiver yields insights into receiving circuits, bandwidth and signal-to-noise ratios. Making shack accessories teaches basic techniques with hand tools, circuit layout and component identification.

Maybe you don't like to build or tinker. Have you thought that it's equally important to learn about communicating? There are different modes, bands and equipment. The combinations are many. Not all combinations have been explored.

There is much to be apprehended about resource management. The radio spectrum is a resource. We have shown that we can handle the public trust. Amateur Radio requires little policing and much of this is self-policing. As you explore the bands and modes, think how we might better use the resource.

Radio is moving forward both on the techniques and operating fronts. Consider the amateur geosynchronous satellites which will appear in the 90's with their promise of worldwide communication 24 hours each day. What technical and operating demands will they bring? What happens when large amounts of information can flow among amateurs? Will the melding of radio and computers bring renewed calls for redistribution of the ham bands to the general public? Ham radio will be very different in the next decade.

Which brought our musings around to complacency.

Many hams emphasize doing their own thing. Maybe that's one reason why there are so few hams and nearly no young hams. It is the reason why hams can so easily lose

RFI and environmental impact cases. Complacent hams don't make their value known, create no case law in their favour, even tend not to relate well with their neighbours. It is the reason why it's often difficult to recruit amateurs to serve on boards, on committees, or even get out to Field Day.

Is it that we don't care enough about the privileges of Amateur Radio and the responsibilities they place on us? Meeting the letter of the rules and regulations is not enough. It's the spirit that's important. Do we put more back into the hobby than we take out? What do you think? —Bill Karle, VE4KZ

VIOLATIONS

Last month we published a letter on violations. It was written by John Pedersen, VE3MGR, a very fine blacksmith of all things, and outlines one approach to improving operating practices on our bands. Basically, John suggested that, when we hear a violation, we write down the facts, tape record what's going on, and turn the matter over to the authorities.

The other day we were on the ARES Canada Net and a Canadian operating from the US checked in. We were all on phone on 14.115 Mhz so he was out of his band. What did we do? In a kindly way, we told him he was in violation of the regs and he quietly moved off.

That's the other approach to violations, and it has a lot to commend it. Most amateurs who break the rules do so inadvertently or out of ignorance. Basically, they want to operate "clean", and a kind word will clear the air. The trick, of course, is to make it *kind word*: no self-righteousness allowed!

In most cases, this approach will totally eliminate the need to call Communications Canada. Ask any radio inspector. They're being asked to do more and more with less and less. If you reported a minor violation and couldn't say you had spoken to violator, it's doubtful if your complaint would get much attention.

Of course, there are times when John's approach is the only one that makes sense. We can think of one gentleman in the south who is going to get a visit from the authorities soon. Basically, he clears the frequency with high speed computer-generated CW. Then calls a leisurely CQ. No matter that others are on the frequency or that a net is trying to operate nearby. Kind words have been tried and have not been enough to get him to stop. —VE3GRO

All letters will be considered carefully. We reserve the right to shorten letters in order to have more members' views represented. The publishers of *QST Canada* assume no responsibility for statements made by correspondents.

SKITREK ASSISTANCE NEEDED

I am writing in regards to the Polar Bridge Skitrek Expedition and the involvement in this project of the Canadian Radio Relay League. As you are aware, Amateur Radio volunteers here in Canada joined with their Soviet counterparts to provide this expedition with extraordinary communications linkages before, during and after the incredible ninety-one-day journey over the top of the world. The project presented an opportunity for Canadian Amateur Radio to demonstrate its very considerable capacity, and with the results achieved, show the world how people of two nations, despite differing cultures and ideologies, can collaborate to achieve an ambitious objective. The Canadian Radio Relay League distinguished itself and won considerable praise from involved parties of both countries.

Unfortunately, like all aspects of the expedition, there were substantial costs associated with the communications network which was set up. The transportation of volunteer Canadian radio operators from British Columbia, Newfoundland and many points in between to the main Canadian radio base at Resolute, NWT, was a necessary but costly exercise. Likewise, transportation expenses for the communications organizers to travel to the Soviet Union, check systems and equipment, meet with their counterparts and establish procedures required additional expedition expenditures. Here in Canada, under a reciprocal arrangement, Polar Bridge Expedition, Inc, also played host to Soviet radio operators and saw to their transportation and accommodations needs over the course of both a training camp and the expedition proper. Despite the efficiency, the effectiveness and, most importantly, the safety which the remarkable communications network provided, expenses did mount up.

Normally, such expenses (almost \$43,000) would be covered by financing and sponsor-

ships arranged well in advance by expedition managers. But due to problems encountered by the Soviets in their initial selection of a Canadian manager, Polar Bridge Expedition, Inc, was not formed until November, 1987, a scant four months before the expedition was to begin. In that time, financing, sponsorships, equipment and services had to be secured to meet hard costs in excess of \$600,000. The task of acquiring the necessary resources was compounded by two other factors. First, the Canadian government had declared its support in principal for the project, but felt that the bulk of the expense should be borne by the private sector. Second, the timing of the expedition was such that it came on the heels of the Calgary Winter Olympics, an event of such magnitude that it consumed a number of large sponsorships from corporate Canada which otherwise might have been applied to the Polar Bridge Expedition.

It was suggested to me that, in our continuing efforts to meet expedition expenses, I write to you and once again enlist the help of the Canadian Amateur Radio community. If the response were anywhere near that enjoyed by the Polar Bridge Expedition during the trek itself, we and the skiers would be most grateful. Specifically, if you could print this letter in your publication, alerting your vast membership to our situation and perhaps make them aware that any donations are tax-deductible (a receipt will be issued through Cross Country Canada, Canada's national ski association). Moreover, that for donations of \$25 or more, we can make available on a limited basis a beautiful sterling silver lapel pin, crafted by the renowned jeweller Henry Birks and Sons, and that donations of \$35 or more will receive a limited edition "commemorative cover" with special Soviet and Canadian stamps, commemorative cachets, and autographs of the four Canadian expedition members. *No donation is too small.* Given the

number of Amateur Radio operators who monitored and followed the expedition's progress, even a few dollars from each would add a significant sum to help defray expenses.

Donations and requests for pins and commemorative issues should be forwarded to:

Polar Bridge Expedition, Inc
Suite 300, 55 Murray St
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All donations by cheque of money order should be made payable to "Cross Country Canada" and forwarded to the same address.

The Polar Bridge Expedition worked "arm in arm" with the Canadian Radio Relay League and Canadian Amateur Radio to conclude a highly successful precedent-setting international expedition. We would welcome and be most appreciative of whatever support it would be possible to amass in this, the expedition's final chapter. —*Peter N Baird, Manager, Polar Bridge Expedition*

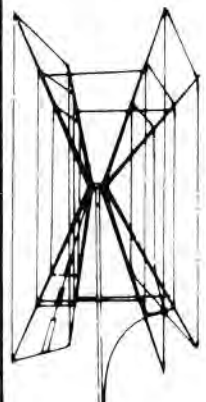
DOC PROSECUTION

Recently an unlicensed radio operator was found using a modified amateur portable radio commonly referred to as a synthesized radio. Investigation revealed that the operator was aware of his legal obligations under the *Radio Act* but chose to ignore them. As enforcement action was necessary, the Department of Communications prosecuted this individual. On May 18, 1988, the operator was sentenced to \$500 or thirty days in jail by a Toronto provincial court for operating a radio without a licence. The radio seized as evidence was forfeited to the Crown.

To become a certified radio operator, an individual spends many hours studying and preparing for an examination. Once certified and licensed by the Department, the amateur is a competent user of the air waves. The portion of spectrum used by amateurs is sometimes subject to use by unlicensed operators. These unauthorized radio users are not just a nuisance. Interference to the radio spectrum can threaten the daily operation of businesses and life-saving organizations that depend on radio communications.

The Department of Communications spends many hours locating these offenders. Once confronted, they usually conform to the regulations. However, on occasion, it becomes necessary to take legal action to keep the air waves clean.

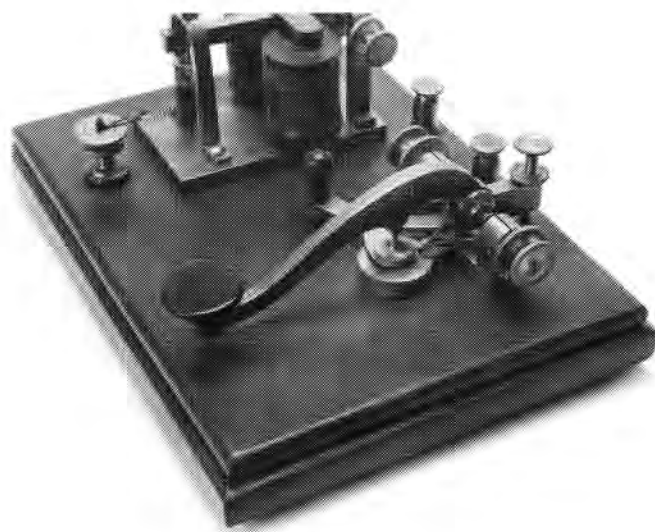
The Department of Communications works continuously to educate the public on the proper use of the radio spectrum. These efforts help ensure that radio communications are free from interference caused by untrained and unlicensed operators. —*M E Power, Director, Toronto Regional Office, Department of Communications.*

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History of the Canadian Key

Part 1: Earliest days to 1930

By Murray Willer, VE3FRX
557 Spadina Rd
Toronto, On M5P 2W9



Until the beginning of the 18th century, the fastest means of communication was the horse on land and the sailing vessel at sea. However, some simple signalling systems had been developed over the years. The Greeks, Phoenicians and Persians used fire beacons with prearranged codes, usually in time of war. In Africa, native tribes used drums to pass messages from village to village, while in North America, the Indians used smoke signals. The British Navy used flags and pennants to signal between their ships. In 1792, Claude Chappe, a Frenchman, developed his semaphore system. It used manually operated arms mounted on high towers spaced five to ten kilometres apart. This semaphore system, with modifications, was adopted by several European nations. While these aural and visual "telegraph" systems were useful, they all had severe limitations.

What was the communications picture like in Canada? In the 1840s, there was one short steam railway in Canada East (formerly Lower Canada, now Quebec) and one short horse-railway in Canada West (formerly Upper Canada, now Ontario). Steamboats plied the Great Lakes

and canoes travelled the smaller rivers eight months of the year. These, plus foot paths and a few highways, the condition of which left much to be desired, afforded the only means of travel and communication. If an important event happened in Europe, it could be several months before a farmer in Canada West heard about it.

In 1844, Samuel Morse demonstrated his electromagnetic telegraph system to the US government. That demonstration, on a line between Washington and Baltimore, was a complete success and within relatively few years, telegraph lines connected most the major centres in the US. When one of the New York telegraph lines reached Buffalo, a number of Toronto entrepreneurs decided to connect in. The Toronto-Hamilton-Niagara Electromagnetic Telegraph Company was incorporated in October, 1846. On December 19, 1846, the company's line had been completed to Hamilton and at twelve noon, civic dignitaries and representative citizens gathered in Toronto to hear and see telegraphers carry on communications with operators in Hamilton. By June, 1847, the line had been ex-

tended to Queenston, Lewiston, NY, and finally, Buffalo. Thus, news from Europe reaching New York could be telegraphed to Toronto via Buffalo and communications in Canada took a giant step forward.

The Hand Key

Hand keys used in these early telegraph operations were either of the camelback type (Fig 1), so called because of their curved levers, or the straight lever type shown (Fig 2). These were supplied by instrument builders in the US. In 1881, James Bunnell, a telegraph operator during the US Civil War, patented a steel lever key, and this design was soon adopted by most telegraph companies in Canada. The Bunnell design was a good one. This was evident by the number of companies that copied it after the patents ran out. A Canadian key made by Ahren & Soper of Ottawa (Fig 3) was based on the Bunnell design. The long legs of this key allowed it to be permanently fastened to the operating desk. Connections were made underneath. Similar keys without the legs were called "legless keys" and became the standard key for Canadian telegraph operators.

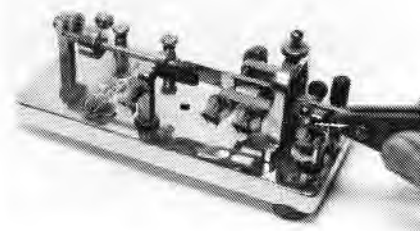
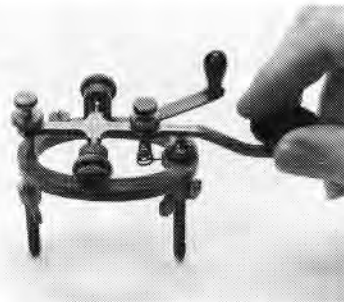


Fig 1 (top of page): Early American camelback key. Fig 2 (left): Early American straight lever key. Fig 3 (centre): Early Canadian telegraph leg key by Ahren & Soper, Ottawa. Fig 4 (right): Xograph Key by Rolph Brown, Toronto.

The Semi-automatic Key

In 1904, Horace Martin, an American, obtained a patent for his "telegraphic transmitter" and, in this patent, just about sewed up the design of a semi-automatic key he called the "Vibroplex". Martin and the Vibroplex Company built many different semi-automatic keys. Collecting one of each would be a fair-sized project. During the 1920s, Vibroplex patents started to run out. A number of other companies jumped in to manufacture their own semi-automatic keys or "bugs" as they had come to be called.

In the 1920s, Rolph Brown of the Canadian Pacific Telegraph Company in Toronto brought out a bug which he called the "Xograph" (Fig 4). This was a neat small bug with a black or nicked steel base. It is possible that Vibroplex got one or two of their ideas from Rolph. Rolph died young and serial numbers indicate that less than 500 Xograph keys were built.

Another Canadian, Fred Wilcox of the Canadian National Telegraph Company in Toronto, was an excellent machinist. He even had a machine shop at home and, in the 1920s and 30s, built a number of bugs for his telegraph friends (Fig 5). Fred did not use standard tooling and his various bugs show slight differences in detail. However, all had heavy nicked steel or brass bases. It seems that Fred didn't want his bugs moving around on operators' desks. Serial numbers on these bugs ran to about 1500.

Paul Dow of Winnipeg also manufactured bugs. Paul and Horace Martin were good friends and it was Paul Dow's demonstration of the Vibroplex bug to the Western Union Telegraph Company that helped convince that company to allow their operators to use bugs. Paul built a number of them, varying in design, but still similar to the Vibroplex. However, he believed that the most natural operating position was for the hand to be inclined to the right and, in one of his keys (Fig 6), he inclined the pendulum and contacts 30 degrees off vertical. This was dubbed the "bent bug". Later, Paul carried this idea further in his rotatable bug (Fig 7), in which the whole pendulum and contact assembly could be rotated to the most convenient operating position and then locked by tightening a screw at the top. The Dow Company was later taken over by an American company and some of Dow's bugs carry the identification "Warren, Minnesota" instead of "Winnipeg, Manitoba".

Wireless Keys

When wireless came along at the begin-

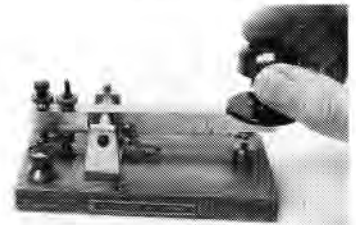
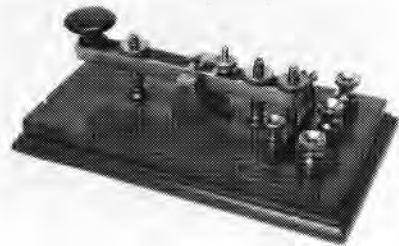
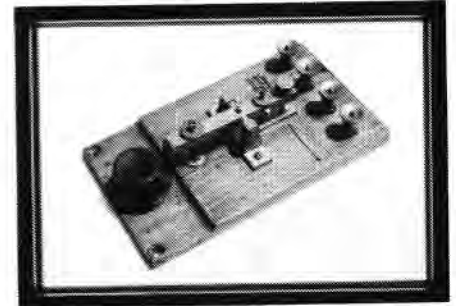
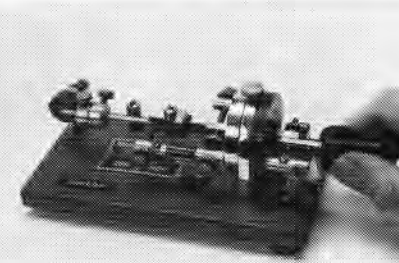
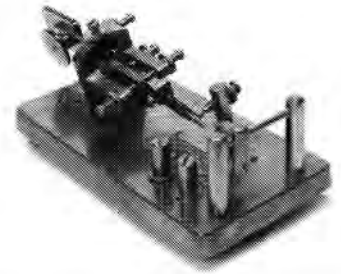
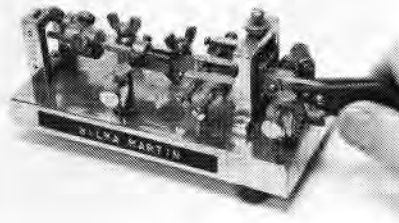


Fig 5 (top left): Fred Wilcox Key, Toronto. Fig. 6 (top right): Bent bug by Paul Dow, Winnipeg. Fig 7 (middle left): Rotatable bug by Paul Dow, Winnipeg. Fig 8 (middle right): Key by Marconi Wireless Telegraph Company of Canada. Fig 9 (bottom left): Marconi Wireless key. Fig 10 (bottom right): 1930 RCAF key. (All photos courtesy VE3FRX)

ning of the twentieth century, all transmitters were spark. Because of the high currents that had to be keyed, landline telegraph keys with their small contacts were not suitable and heavier keys with larger contacts had to be developed. Marconi's efforts were of great interest to the Canadian government which provided financial assistance to establish a station at Glace Bay, Nova Scotia, from which the first regular transatlantic wireless messages would be sent. The Marconi Wireless Telegraph Company of Canada was formed in 1904, and by 1904, this company was fulfilling a Canadian government contract to supply and install equipment for eight coastal stations for shipping and commercial wireless message traffic.

Canadian Marconi Company equipment included transmitters, receivers — and keys. The nameplate on a key made before World War 1 (Fig 8) is clearly marked *Marconi Wireless Telegraph Company of Canada Limited*. There were many different ways of keying a spark transmitter and disabling the receiver during transmissions. On another key made

by Canadian Marconi (Fig 9), extra contacts at the rear of the lever helped to do the job.

Marconi keys were quite large and could truthfully be called brass-pounders' keys. American and Canadian operators usually mounted their keys at the rear of their desks, operating with arms and elbows on the desks, but British operators preferred mounting their keys at the front of their desks, pounding away with wrists and arms in mid-air. They felt this provided greater operating freedom. Canadian Marconi was closely related to the parent company in Britain. Perhaps this is why Marconi keys were so large and heavy.

The tradition continued. A well-made key used by the Royal Canadian Air Force (RCAF) during the early 1930s (Fig 10), carrying a name plate marked "R.C.A.F. REF. NO. 10A/556", with its long heavy straight lever and strong tension spring, was typically British.

Part 2, which describes keys used during World War 2 and how to collect keys, will appear next month.

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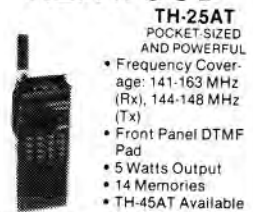
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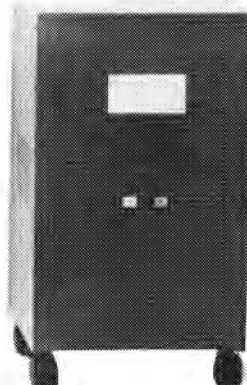
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FCC Reallocates US 220-222-MHz Band

On August 4, the US Federal Communications Commission (FCC) adopted a Report and Order in General Docket 87-14, the proposal to reallocate the 220-222 MHz band to the US Land Mobile Service. Apparently, in balancing the impact on existing users, emergency communications and future growth of the Land Mobile Service against US Land Mobile requirements, commissioners concluded that the reallocation was in the public interest. To reassure amateurs of its continuing support for the Amateur Service, commissioners emphasized that the remaining 3 MHz of the band, 222-225 Mhz, would now become Amateur on an exclusive basis. Effective date of the reallocation was not announced, but is widely expected to be

1990 January 01.

ARRL continues to oppose the FCC decision and there is a reasonable chance it can be overturned. In its Petition for Reconsideration, ARRL will point out that the only concrete proposal for actual use for a new Land Mobile Service on 220-222 Mhz was made by United Parcel Service (UPS) six months after the deadline for comments had passed and that FCC erred in considering the UPS proposal. There is a resolution in Congress, which, if approved, would overturn the decision. Finally, upcoming presidential elections may help. FCC commissioners hold office at the pleasure of the US President. Normally there are five commissioners, but at time of the

reallocation decision, there were only three. Attempts by President Reagan, a Republican, to fill the two vacancies on the FCC have been blocked by the Democratic majority in Congress. If a Democratic president is elected, there could be five new commissioners who might see the reallocation decision in a different light.

For Canadian amateurs, impact of the US decision should be minimal for at least the next few years. However, if the decision is not overturned, we can expect to see pressure on our 220-222-Mhz band as soon as commercial equipment for this band becomes available in the US. Let's hope we're found to be making good use of our 220-MHz band when that happens.

NEW RADIOCOMMUNICATIONS BILL

On August 17, Communications Minister MacDonald tabled a new Radiocommunications Bill, the first major revision to the *Radio Act* since 1938. Quoting from the press release, "The *Radio Act* is the instrument the Department of Communications uses to promote the use and orderly development of radiocommunications in Canada. By this means, interference is controlled and the maximum number of uses and users are ensured access to the radio frequency spectrum and to the benefits of radiocommunications."

What features of the bill will affect the Canadian Amateur Radio community? The bill will set up a ticketing system which will decriminalize some regulatory offences and allow Communications Canada inspectors to issue a summons by mail, ending the need for a full, formal prosecution for every offence against the *Radio Act*. It will allow Communications Canada to compile and make public a register of all radio licence holders. It will give the Minister power to seek court injunctions to end harmful or potentially harmful interference and increase penalties for offences to \$5000 for individuals and \$25,000 for corporations.

Most important for radio amateurs, the new Radiocommunications Bill will offer some relief from RF susceptibility in consumer electrical and electronic equipment (see sidebar). But patience will be needed. The bill will not likely be passed before the next federal election. Even then, it will only provide enabling legislation to permit the Minister to set standards. Development of those standards, according to what we have read in

correspondence from the Radio Advisory Board of Canada, will take at least two years.

DOC, COM OR CC?

You've probably noticed that, this month, we have been a bit inconsistent in our use of the terms *Department of Communications* and

Communications Canada. Several months ago, some pretty high-level people told us that the new name for the Department of Communications (DOC) was Communications Canada. Recently, in a plain brown wrapper of course, we received a copy of a DOC (CC?)

From Recent DOC Press Releases: New Radiocommunications Bill Control of Substandard Devices:

The current *Radio Act* deals only with radio equipment and only with the use of radio equipment. It makes individual licence holders liable for interference caused by the use of substandard equipment and is enforceable only through inspection of an individual licensee's equipment. The current act does not prevent the manufacture, import or distribution of substandard radio devices. This places an unfair regulatory burden on individual users who might inadvertently purchase substandard or unauthorized equipment.

The new Radiocommunications Bill will permit the Department of Communications to set minimum technical standards for the manufacturing, importing, distribution, leasing and sale of radio equipment. Enforcement of these standards at the level of importation, manufacture and distribution will be more efficient and provide greater protection to purchasers of radio equipment.

The existing *Radio Act* contains no authority to set standards for electromagnetic immunity, the ability of non-radio electronic devices to reject unwanted signals and operate normally in their presence. Radio signals can sometimes cause malfunctions in equipment that contains electronic controls, including heart pacemakers, railway crossing gates, computers, stereos, televisions, microwave ovens and furnaces, where such equipment is poorly designed and not sufficiently immune to interference.

The Radiocommunications Bill will allow the Department of Communications to set immunity standards for non-radio electronic devices that must be met by importers, manufacturers, distributors and users. These new powers will match powers in similar regulations in the United States, United Kingdom and Australia.

Licence Information

At present, there is a conflict between the *Access to Information Act* and the *Privacy Act* about the release of licence information. The Privacy Commissioner's opinion is that there should be limited disclosure of licence information. The Access to Information Commissioner's opinion is that there should be full disclosure.

Release of licensing information is essential to enable coordination of spectrum requirements with other users. The Radiocommunications Bill will enable the Department to publish a registry of names and addresses of licence holders and related technical information. The Department will continue to protect confidential and national security licensing information.

memo which explained that *Department of Communications* was still the legal name for the Department of Communications, but the Department would use *Communications Canada* for most public applications since it had a nice ring to it, worked in both French and English and so on. Still, the waters were muddy. All of our correspondence from Ottawa was arriving on Communications Canada letterhead and all our correspondence from Regional offices said Department of Communications. Press releases on the new Radiocommunications Bill were on Communications Canada paper but the text mentioned only the Department. In an attempt to elucidate the extent of the muddification, as Fotheringham says, we did a little survey. We telephoned ten DOC offices across the country and kept score. Final results: Communications Canada: 8, Department of Communications: 1. Information, can we help you?: 1. On that basis, in this publication, we'll go with Communications Canada, with the occasional lapse back to Department of Communications and DOC.

One thing is for sure. Our improvised abbreviation for Communications Canada, CC, was wrong. It's supposed to be COM or Com. We won't make that mistake again.

DIRECTOR ELECTIONS UPDATE

The CRRL Elections Committee met on August 27 to consider nominations received for the office of CRRL Regional Director. No nominations were received from the Quebec Region which will be resolicited for nominating petitions in next month's *QST Canada*. Only one valid nomination was received from each of the Atlantic and Pacific Regions and the following were declared elected by acclamation: incumbents Andrew McLellan, VE1ASJ (Atlantic Region), and David Fancy, VE7EWI (Pacific Region). Two valid nominations were received from the Ontario Region and three from the Midwest Region. Candidates for Ontario Director are George Gorsline, VE3FIU, and Raymond Perrin, VE3FN. Candidates for Midwest Director are John Gowron, VE4ADS, Kenneth Oelke, VE6AFO, and David Snyder, VE4XN. Ballots for elections in the Ontario and Midwest Regions will



The ON4CLM (Canada Liberation Movement) Award commemorates the liberation of Knokke Heist, Belgium, in 1944. ON4CLM will be on the air from October 28 to November 02. Check this month's *QST Canada* Calendar for details.

be mailed to members on October 01. Returns will be received until November 20 and counted shortly after that. Results will be announced on the *CRRL News* bulletins and in *QST Canada*.

JACK RAVENSCROFT UPDATE

An August 15 news release issued by Ralph Cameron, VE3BBM, indicated that, because of vacations and the need to confirm all proposals in writing, little progress had been made in the month before. Two appliances in the Houghtby's home remained susceptible to Jack's Amateur Radio transmissions. Work on these was continuing. Appeals to cover a \$15,000-20,000 shortfall in the Jack Ravenscroft Susceptibility Defence (JRSD) Fund had been quite successful. By August 15, the fund was in receipt of all but \$3000 needed to pay Jack's legal expenses. Donations are still needed as, even now, the case is not wrapped up. Please send your cheque to the JRSD Fund, Box 8873, Ottawa, ON K1G 3J2.

CRRL AMATEUR OF THE YEAR

Congratulations to Libby Stevens, VE3IOT, of Thornhill, Ontario, who was recently selected 1988 CRRL Amateur of the Year. Libby was first licensed in 1977. Since that time she has helped establish the Thornhill Radio Amateur Club, has provided countless hours of "watchdog service" on VE3TTY, a Toronto-area 2-metre repeater, and served as a mem-

ber of ARES in the Mississauga train derailment and Barrie tornado. Libby organized Amateur Radio communications in "the mudslide incident" when, for 52 hours, a Toronto-area hospital was without telephone service. She also organized a fund-raising drive to help Jocelyn Lovell, the cyclist who became a paraplegic, become a radio amateur.

At present, Libby serves as a special assistant to the administrative board of the Canadian National Institute for the Blind's Amateur Radio Program. She also works on behalf of CLARA, the Canadian Ladies' Amateur Radio Association, and CRRL. All who meet her find that, through her work and her personal qualities, Libby epitomizes the highest standards of the Amateur Radio fraternity. She is a truly worthy choice for Amateur of the Year.

NOTES FROM ALL OVER

□ To help publicize International Development Day, Communications Canada, in cooperation with the Canadian International Development Association, has made the following special prefixes available for use on 1988 October 03 only: CK1 and CK2 in Newfoundland and Labrador, VX1 in the Yukon Territory, and CZ1-CZ8 in the remainder of Canada.

□ Congratulations to Manitoulin Amateur Radio Club which was recently awarded a \$13,500 New Horizons grant to develop a 2-metre repeater system for senior citizens in the Manitoulin-North Shore areas. VE3RMI, Little Current, will operate on 146.28-88 MHz; VE3TOP, Elliot Lake will operate on 147.60-00 MHz. The club has also been active providing code and theory classes for prospective amateurs.

□ The CRRL VE7 Incoming QSL Bureau has moved. The bureau's new address is c/o Alex Ivic, VE7CNE, 8922 148th St, Surrey, BC V3R 3W4.

ABOUT THE COVER

Murray Willer, VE3FRX, can be found at most Ontario hamfests and Amateur Radio fleamarkets displaying his fine collection of keys. (VE3GRO photo)

Rules, First Annual CRRL VHF-UHF Fall Sprints

1) **Object:** Two-way communications on authorized amateur bands 50-2304 MHz.

2) **1988 Contest Periods:**

A) 50 MHz Sprint: 1000 UTC Saturday October 29 to 0300 UTC Monday October 31. Operate a maximum of 24 hours.

B) Sprints on other bands: 1800 "local time" until 0300 "local time on the days specified. Operate a maximum of 4 hours. Days are as follows:

144 Mhz: Monday, October 3
220 MHz: Tuesday, October 11
432 MHz: Wednesday October 19
902 MHz: Thursday, October 27
1296 MHz: Thursday, November 3
2304 MHz: Thursday, November 10

3) **Recommended Frequencies:** CW: 50.1, 144.1, 220.1, 432.1, 903.1, 1296.1 and 2304.1 MHz. SSB: 50.2, 144.144, 220.2, 432.2, 903.1, 1296.1, 2304.1 MHz. FM: 52.525, 146.52, 223.5, 446.0, 906.5, 1294.5 MHz. Packet: 51.0, 144.91, 221.0, 441.0, 904.1, 1294.1 MHz. ATV: 439.25 MHz. As an experiment for this set of sprints, contacts on 146.52 MHz will be considered valid. Avoid operation on 50.11 MHz for North American contacts.

4) **Exchange:** For a valid contact, each station must send and receive call sign and grid square. Signal reports are optional.

5) **Logging:** Separate logs for each sprint. Logs must indicate time, call sign, and grid

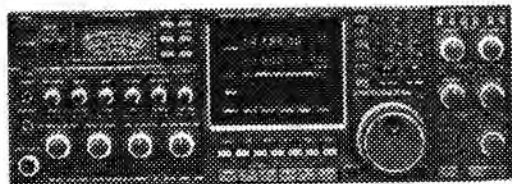
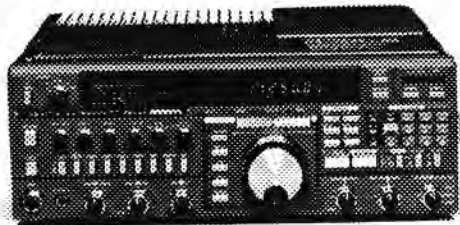
square, time on and off and total operating time. 6) **Scoring:** Each sprint will be scored separately. Count one point per valid contact. For final score, multiply contact points by number of grid squares worked in the sprint.

7) **Reporting:** Send log and score sheets to CRRL Fall Sprints, Dana Shtun, VE3DSS, 500 Willard Ave, Toronto, ON M6P 2S1. Please use a separate envelope for each sprint and indicate the sprint entered on the upper left-hand corner of the envelope. To be considered, entries must be postmarked no later than 1988 December 01.

8) **Results:** Results will be published in *QST* and *QST Canada*.

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The CRRL Field Organization Forum

SECTION MANAGER ELECTION NOTICE

To all CRRL members in the Ontario Section: you are hereby solicited for nominating petitions pursuant to an election for Section Manager. Name of the incumbent appears on this page. A petition, to be valid, must carry the signatures of five or more CRRL Full members residing in the Ontario Section. It is advisable to have more than five signatures. Photocopied signatures are not acceptable. Signatures must be on the petition. Petition forms, FSD-129-C, are available from CRRL Headquarters in London, Ontario, but are not required. The following form is acceptable:

..... (place and date)
 CRRL Field Services
 Manager Box 7009, Station E
 London, Ontario N5Y 4J9

We, the undersigned CRRL Full members residing in the Ontario Section, hereby nominate

..... (name and call sign)
 as Section Manager for this Section for the next two-year term of office.

..... (signatures and call signs)
 (addresses with postal codes)

A Section Manager must be a resident of his or her Section and a licensed radio amateur holding a Canadian Advanced Amateur Certificate or equivalent, and have been a CRRL Full member for a continuous term of two years at time of nomination.

Petitions will be received at the CRRL Headquarters office until 1600 EST 1988 December 10. If only one valid petition is received, the person nominated will be declared elected. If more than one valid petition is received, a balloted election will take place. Ballots will be mailed from CRRL Headquarters on 1989 January 02. Returns will be counted after 1989 February 17. A Section Manager elected as a result of these procedures will serve for a two-year term of office beginning on 1989 April 01.

If no valid petition is received the Section will be resolicited in the 1989 April *QST Canada*. You are urged to take the initiative and file a nominating petition immediately. — Jack Strangleman, VE3GV, Field Services Manager

Alberta: SM/STM/DEC: VE6ABC, ASM: VE6AMM, SEC/TC: VE6AFO, OO: VE6TY. Not much formal activity in the Alberta area at present. Most amateurs getting their antennas up and preparing for fall club meetings and Amateur Radio classes. Many thanks to the CRRL for going ahead with the *Canadian Amateur Call Directory (CACD)* to supply bureaus and Callbook, Inc with updated Canadian calls. If you know of any changes or have a new call, be sure to let CACD know at Box 56, Arva, ON N0M 1C0.

Manitoba: SM: VE4JA. The International Peace Gardens Hamfest at the Manitoba-North Dakota border was very successful. Many thanks to all involved for making this event so enjoyable. A big

Section Managers of the CRRL: For purposes of the CRRL Field Organization, Canada is divided into seven Sections, each headed by an elected Section Manager (SM). Your SM welcomes reports of individual and club activities. CRRL Field Organization appointments are available for a wide range of volunteer interests. Check with your SM for details.

Alberta	William Gillespie, VE6ABC, 10932 68th Ave, Edmonton, AB T6H 2C1 (403-438-2510)
British Columbia	Ernest Savage, VE7FB, 4553 West 12th Ave, Vancouver, BC V6R 2R4 (604-224-5226)
Manitoba	Jack Adams, VE4JA, 227 Davidson Ave E, Dauphin, MB R7M 2Z4 (204-638-9270)
Maritimes-Nfld	Carl Anderson, VE1BQO, 25 Lawnsdale Dr, Dartmouth, NS B3A 2N1 (902-469-9756)
Ontario	Larry Thivierge, VE3GT, 34 Bruce St W, Renfrew, ON K7V 3W1 (613-432-5967)
Quebec	Harold Moreau, VE2BP, 80 rue Principale, St-Simon PQ J0H 1Y0 (514-798-2173)
Saskatchewan	Bruce Rattray, VE5RC, 128 Durham Dr, Regina, SK S4S 4Z2 (306-584-2059)

thank you to Burghardt's for their Amateur Radio booth. Makes a fellow wish... Many thanks to those who submitted my name for Manitoba Ham of the Year and to those who voted for me. Greatly appreciated and a very nice plaque. Now is the time to keep eyes and ears open for someone to honour next year. By the way, Dave Snyder, VE4XN, says that next year's hamfest will only be better. Great work, Dave. Those who did not hear the CRRL bulletin on VE4QST may not be aware that at the CRRL Board Meeting, CRRL changed membership direction. You can now belong to CRRL without receiving *QST*, but you will still receive *QST Canada*. This membership is less than the old membership which includes the famous *QST*. Members who still wish to receive *QST* may do so at a little higher cost. Don't forget your Elmer and then seriously consider becoming an Elmer yourself. CRRL has all the materials you'll need except RIC-24 and RIC-25 which can be obtained from Communications Canada. Hopefully, by the time you read this, we in Dauphin will be busy instructing a class of prospective amateurs and prospective CRRL members.

Maritimes-Newfoundland: By the time this reaches you, I hope to have met many amateurs from our Section at the Atlantic Hamfest in Fredericton. Thanks to Roly, VOIBD, I have a few news items from Newfoundland-Labrador. VOIQST, operated by Mitch, VOIAW, attained the highest Newfoundland score in the CARF Canada Day Contest. Globetrotting VOIs include Warren, VOIKS, who operated in Syria as 4U/VOISK and in Jordan as JY8KS recently, and Rick, VOISA and Don, VOIQF, who operated C18C at Resolute Bay during the Canada-Soviet Skitrek Expedition. Rick also operated UA0/VOISA in the Soviet Arctic. (The above "portable designations" may seem backwards, but they're in accordance with new IARU procedures.) Now that I am officially your Section Manager (see August *QST Canada*). I will be making field appointments. Stu Hunter, VEIBKM, will continue as Net Manager (NM) for Atlantic Phone Net (APN). I am looking for a Bulletin Manager to recruit and coordinate Official Bulletin Stations (OBS) in the Maritimes and Newfoundland-Labrador. Additional OBS will be most welcome. OBS receive CRRL bulletins by mail and/or packet radio bulletin boards and read them on the air. This can be done on HF or VHF nets or during special bulletin transmissions. In our Section, we have three OBS who hold CRRL *QST* call signs: Roly, VOIBD/VOIQST covering Newfoundland, Ben, VO2CZ/VO2QST covering Labrador, and myself, VE1BQO/VEIQST covering the Maritimes. On July 1, I had the pleasure of operating portable at Camp Canada, a Nova Scotia Girl Guide Camp, to handle message traffic to and from guides attending an international camp at Echo Valley, Saskatchewan. On the other end was VE5GGC, ably manned by members of the Regina Amateur Radio Club, who filed hundreds of messages during the ten-day camp.

Ontario: SM: VE3GT, BM: VE3GSA, SEC: VE3GV, STM: VE3CYR, TC: VE3EGO, OBS: VE3AR, VE3BBS, VE3BDM, VE3CDS, VE3DZH, VE3EFX, VE3GSA, VE3LSU, VE3MGQ, VE3MNI and VE3TNL. The 1988-89 executive of Lakehead ARC consists of President VE3JSC, Vice President VE3JAU, Secretary VE3TRE, Treasurer VE3ILX, and Directors VE3ECV, VE3NHX and VE3BCD, with Station Manager VE3OTZ and Repeater Repair VE3BCD and VE3HTM. The Society of Wireless Pioneers (SWOP) is open to anyone who has ever been paid to operate as a radio operator: i.e. on a ship or aircraft, or at a land station, either civilian or military. A self-addressed envelope and \$US .30 for postage to SWOP Executive Director Paul N Dane, 146 Coleen St, Livermore, CA 94550 will bring details. Any amateurs who are fireman and interested in swapping flashes with an out-of-province fire department, please contact me. VE3PXS is Metro Toronto's ARES Director of Simulated Emergency Tests and will represent the group on the Pulse '88 Committee of Red Cross. New amateurs include VE3EBL, VE3SID and VE3WCT. VE3NVJ is now ORS. I enjoyed a summer vacation in the Maritimes where it was refreshing to hear fellow VE1 amateurs on the road acknowledge call sign licence plates by tooting their horns — a practice we seem to ignore in Ontario.

Quebec: SM: VE2BP, BM: VE2ALE, SEC: VE2LYC, STM: VE2EDO. I hope everyone had a good summer and is now ready to resume activities. If interested in an ORS appointment, please contact your SM or STM. J'espère que vous avez tous eu de belles vacances et que les activités reprendront avec l'automne. Prompt rétablissement à Gilles, VE2 AYH, qui a subi une operation pour hernie.

Saskatchewan: SM: VE5RC. Congratulations to Regina ARA and Regina-area hams for a first-class job operating VE5GGC from the Girl Guides International Camp at Echo Valley near Ft Qu'Appelle, July 12-22. Excellent exposure for Amateur Radio. 1500 messages handled with thanks to hams across Canada and also DX stations who moved the traffic. Very big thanks to the crew, headed by VE5AFQ and VE5WM: VE5s AAA, AEO, AHW, BW, ELJ, EP, FMW, GF, IG, JAK, KF, KZ, MR, OI, OJ, RC, RN, TA, TH, VCO, VJ, UJ, and ZO. Moose Jaw ARC manned an emergency network during the 1988 Air Show on July 9-10. VE5DI coordinated with the Air Force as control station in command post, crewed by VE5AV. Union and Providence Hospitals RF was handled by VE5s CD, MW, NG and QN. Show was a success with no emergencies. Regina public service events: Buffalothon 5/15-km run: July 30, Travellers' Day Parade: August 5, Kids' Triathlon: August 6, Downtown 10 km-dash: August 27. After 26 years, VE5RC finally got his act together and got his DXCC, hi! Hope everyone had a good summer. Back to the grind now and 73!

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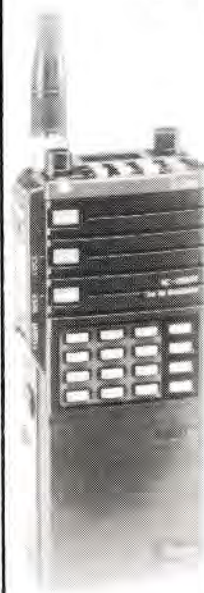
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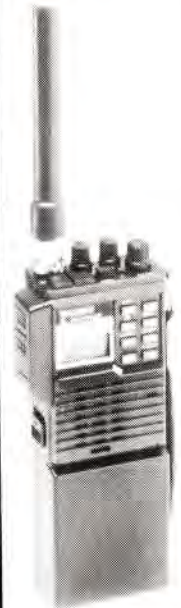
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Mission Miscou

In a recent letter, Brent Taylor, VE1APG, passed along details of a recent VE1MUF Islands on the Air (IOTA) expedition to Miscou.

"We first planned the expedition as a solely VHF effort. The island happens to lie within two relatively rare Maidenhead grid locator squares, FN77 and FN78. Recent other attempts at VHF weekends brought many hours of boredom interspersed with brief and furious 6-metre activity. This time we decided to bring HF gear along to fill in the time between VHF openings. When John McKendry, VE1BF, learned about the demand for Miscou as an IOTA credit, we agreed to devote more time and equipment to HF.

Miscou is located at the extreme north-eastern tip of New Brunswick. It has a long history of settlement and abandonment and is currently populated by several hundred New Brunswickers of both English and French descent. The island is served by a cable ferry which crosses the narrow strait to the island of Shippagan several times each hour. From Fredericton, the home of our MUF Contest Group, it's a four and one-half hour drive to the island.

John, Greg Gilmore, VE1XH, and Mike Steeves, VE1BDW, and I left Fredericton on Friday morning, July 15, and stopped briefly in Doaktown to retrieve the group's seventy-foot tower left there from Field Day the month before. Arriving on the island late in the afternoon, we began to set up the 6 and 2-metre stations in a small two-room schoolhouse which had been donated for the weekend. That evening, the fifth member of the group arrived with all the VHF equipment. Based near Chatham, Glenn Taylor, VE1BDK, only had a three-hour drive. He brought his TS-120 and a homebrew linear amplifier using four 811 tubes. That half kilowatt really helped later! The main HF antenna was a three-element tribander at thirty feet, rotated by an "Armstrong" rope-assisted system.

Conditions were only fair that weekend. On 15 and 20 metres, signals from Europe were somewhat weaker than usual, but they were readable. We received good reports from all over Europe where the largest group of IOTA enthusiasts reside. We had a nice chat with Roger Ballister, G3KMA, manager of the IOTA program. He and many others thanked us for the 450 HF contacts we provided that weekend. We were quite satisfied that anyone who wanted an NA-68 contact for their logbook got a fair shot at it from our activity. In fact, sometimes the pileups were tremendous. I guess announcing the location as "the Isle of Miss-Koo" sounded pretty exotic and some of the big guns and little pistols in the US didn't want to Miss-out, hi. I think we even made a few converts to island hunting. Several stations said they would look over their island totals.

12 **QST CANADA**

VHF activity? It was a near washout. We made no 2-metre contacts at all. On 6 metres, we experienced only one brief opening: six lucky Americans worked FN77 on Saturday evening. Thank goodness for HF!

The VE1MUF Contest Group would recommend IOTA activation to anyone. It does help if you live near the East or West coast, but that's not an absolute must. Remember holiday trips! Our VE1MUF group had a ball on Miscou and we fully intend to activate another island next summer."

John, VE1BF, a professor of sociology at St Thomas University in Fredericton, has been an amateur for twenty years. John made several of the last contacts while the site was being cleaned up. Once relegated to the back of the van, VE1MUF ran barefoot. This contact was with Jack Ravenscroft, VE3SR.



VOIIMD: INTERNATIONAL MARCONI DAY

On April 23, members of the Society of Newfoundland Radio Amateurs (SONRA) operated VOIIMD, one of six special events stations around the world that commemorated International Marconi Day, the Saturday closest to Marconi's birthdate. All six stations were located at sites that represented significant milestones in Marconi's life and work. VOIIMD operated from Cabot Tower at Signal Hill. St John's, where, in 1901, Marconi copied the Morse code letter "S" transmitted from Cornwall, England — the first transatlantic contact. GB4IMD operated from the Cornwall site and VEIIMD operated from Glace Bay, Nova Scotia, where Marconi completed his first two-way transatlantic wireless contacts. Glace Bay

will soon be the location of a new Marconi Memorial Museum. EI2IMD operated from Cork, Ireland, site of the first Ireland-England contacts and K1VV/IMD operated from Cape Cod, Massachusetts, location of the first US wireless station to make transatlantic contacts. IY4PGM operated from Bologna, Italy, Marconi's birthplace.

Interest was high. VOIIMD logged 524 contacts in its twenty-four hours of operation, and many amateurs around the world were able to contact five of the six stations to earn a commemorative certificate from organizers of International Marconi Day, Cornwall Amateur Radio Club in England. —VE3GRO with material from VO1BD



Cabot Tower, Signal Hill, St John's, Newfoundland, site of Marconi's reception of the first transatlantic wireless signals in 1901. That's the VO1IMD tribander and the VO1EN repeater antenna on top.



VO1IMD in operation during International Marconi Day, April 23. From left to right, Bob, VO1BL seated, Everett, VO1DK operating, and Paul, VO1PX logging. (VO1BD photos)

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1278

MFJ 1270B, 1274, 1278

Continuing Classes

This month, I will assume that classes have started and all is in confusion! I expect that all of us experienced the same confusion (depression? awe?) when meeting with our students for the first time and encountering the full curriculum for our Amateur Radio courses.

Exercises

If we consider only the topics indicated in RIC-24 and have no guidance as to the "depth" of knowledge required, we can easily be overwhelmed by the list of subjects that must be covered. My suggestion is that you get a copy of the *Canadian Amateur Question Bank* and sit down and dig out the questions for the topic(s) you intend to cover in the week. You can do a little cutting and pasting, or merely make a list of the question numbers for your students. The questions become assignments. You or one of your team cover the material during class time. Then the questions are assigned, and next week, a few selected by you are duplicated and given out as an in-class exercise or test. These questions are reviewed immediately and any other questions are answered. This technique will help your students prepare for writing the DOC exam. The homework, discussions, review and weekly tests will certainly help the prospective amateur overcome nervousness and develop the self confidence they need for success.

An added bonus of working with the *Question Bank* is that the type and depth of question is readily apparent to both the instructor and student. It is important to make the student realize that twenty or twenty-four weeks is a long enough period to develop an adequate knowledge of telecommunications. It is also important to introduce other related material at times when the very interesting topics of resistors, capacitors, inductors and dc becomes just too much...

CW

I always like to remind everyone that "CW is AI". I may be accused of being biased about this. 99% of my operating time is on CW and it must be apparent that either I am very slow in learning CW, or I really enjoy it. The latter is true. When I worked at Resolute in 1954-56, CW was the only form of communications between weather stations in the Arctic. All data was relayed via CW to Edmonton. Operating speed was always between 35 and 50 WPM. One major recreational activity was Amateur Radio so naturally I operated CW as VE8WN and VE8MB.

When you begin with your class, remember that to your students, Morse code at 10 WPM will sound like a blur. So it really isn't necessary to demonstrate 20, 30 or 40 WPM to create confusion and despair! Let me tell you about the method I have been using to teach CW, and mention an excellent computer

program that has produced great results.

I prepare three "alphabet tapes" and fifteen "weekly tapes" on cassette. The alphabet tapes use the Farnsworth method. Characters are sent at 13 WPM but with increased spacing between the letters. These tapes are given to the students and exchanged the following week for a new version with additional letters. After three weeks, all the letters, numbers and punctuation marks are learned. In addition, I give the student one tape — reviewing all this material — to keep. Next, the weekly tapes begin, with the student receiving a C30 tape with characters at 13 WPM but with 5 WPM word spacing, and a script of the material on the tape. Next week, this tape is exchanged for a new tape and script. This continues for fifteen weeks, each tape being just a bit faster than the last (word spacing narrowed down). At the end of each tape, I always have a three-minute 10-WPM segment, similar to the DOC CW test, to serve as a guide and a goal.

I use C30s because fifteen minutes on each side is a good length of time to practice. I encourage students to practice twice a day, suggesting thirty minutes a day as minimum. Statistics show that an average of 60 hours is needed to achieve 10 WPM, so with a twenty week course and three hours per week the students should succeed! I cannot and do not forbid copying of tapes, but suggest that this is not necessary and probably will slow students down. I feel that the students will not memorize tapes in a week, and having new tapes every week ensures that they are challenged. I would be pleased to prepare a set of the "weekly" tapes and scripts, as a class set for you. Contact me for details.

I have prepared the following hardware for teaching code in class: Pairs of phone jacks are installed in Hammond mini-boxes. Three such boxes are connected end to end by 3-4 feet of line cord and the last box has 3 feet of cord and a phone plug. All wiring connections are in parallel. I have four sets like this. Groups of students can plug in phones, connect the end plug to an oscillator and practice sending. Another group can use their line independently as I walk around and monitor progress. I have another line cord with single jacks on mini-boxes spaced every four feet. One end has a four foot cord with a plug. Now all the groups can plug into this master line which can be plugged into a tape recorder or even a receiver for checking live transmissions off the air.

And finally, a computer program that really works! It's called *CW* and was prepared by Lee Murrach, WD5CID. This program was purchased at the Dayton Hamvention (where else?) and has been so successful that I recommend it to all students with access to a PC. It is extremely comprehensive, providing several methods of learning CW. Since it does

not require BASIC, it's speedy. It's also menu-driven and very friendly. This program is much better than any others I have tried and allows the student to learn characters, receive, send and even conduct tests. All the normal options are available such as code speed, character speed and word spacing. There is also a QSO mode which allows the student to copy a simulated QSOs with different calls, QTH's and other data each time. Several students have used this program to prepare for the DOC test and, after a week's review, have been successful. As you can see, I am very impressed. The program is freeware and can be copied for non-commercial purposes.

SWLing

Listening is so important to the new (and old) amateur that I like to introduce it as a separate topic. Fortunately for me, there are several very active Short Wave Listener (SWL) addicts in the London area who have become amateurs. SWLs are an excellent resource for you and your class. An active SWL might not be an amateur but can add much to your class because of his particular expertise. Remember, the individual may not be an expert teacher, lecturer or speaker, but with a little support and help in preparation from you, can share his or her hobby with the members of the class.

By way of introduction, I will have covered the spectrum, and the class will have heard various modes on a receiver. The SWL might bring a receiver (have a piece of wire ready for an antenna) and sample QSL cards. A world map and ITU prefix sheet should be available so prefixes can be checked. I am sure the SWL will emphasize the patience required for SWLing and you can relate this to Amateur Radio. Propagation and time of day should be emphasized. Antennas used for receiving, directivity and transmission lines can be covered. Selectivity and sensitivity as it applies to receivers can be introduced and different modes can be reviewed. For added interest, a computer with one of the new multi-mode terminal units can be set up.

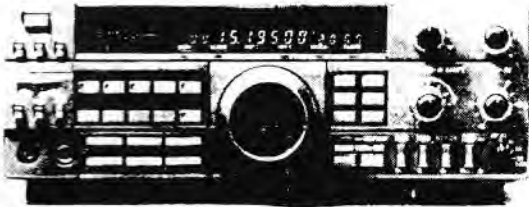
You can see that SWLing can be a very effective tool in an Amateur Radio course. No transmitter is required and every individual in the class with a receiver can now be assigned a task of listening for specific stations from different parts of the world. Relating calls, modes, time, propagation and antennas will help many pieces come together in your students' minds.

New Ideas

How about a correspondence course in Amateur Radio? Howie Masson, VE3MLA, has started such a course and describes it in an informative and friendly letter just received. Howie has some other great ideas which I will share in future columns. 73.

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Thoughts on Grounding

We all know that when we wet a finger and stick it inside a power supply, the rest of our body should not be grounded. Therefore, most ham stations have or should have adequate ac-power grounding systems to avoid overcrisping various parts of our bodies. However, this is only half the story. Since ham radio stations deal in receipt and transmission of radio frequency (RF) power, we also have to deal with RF grounding.

A proper RF ground serves two purposes. One is to complete the current path to and from the antenna. The other is to collect any unwanted RF and get rid of it. A shack full of unwanted RF gives you nasty tingles.

Ac power is easy to ground because it can be contained in a wire and shunted to a ground rod or the neutral terminal on your hydro entrance panel. RF power is another matter because it refuses to stay inside a wire. Instead, it dances along the outside surface of a conductor and, under Certain Conditions, can fly off in all directions. If the Certain Conditions are planned, the conductor is called an antenna. If they are unplanned, it is called a lousy RF ground.

Don't use dinky solid hookup wire for RF grounds. Use heavy stranded wire or even solid copper strapping. Keep everything as short as possible. RF ground conductors coiled up into loops become inductors which, with a little stray capacitance, can become tuned circuits that cause all kinds of problems. A good way to provide an excellent RF ground for your station is to place everything on a metal table. Connect the chassis of each piece of equipment directly to the table with a short ground strap. Run a sizable ground conductor from the metal table to a ground rod or other suitable exterior grounding point. If your operating table is not metal, you can place a thin sheet of metal along the rear edge of it. Then cover the whole table top, including the

metal, with a sheet of hardboard. Leave about 25 mm of metal projecting past the rear edge of the table and hardboard and use it as a ground bus for connecting ground straps from your equipment.

The sheet metal can be copper flashing from your local roofing contractor or galvanized heating duct materials from a plumbing and heating supplier. You can either solder the straps or use sheet metal screws.

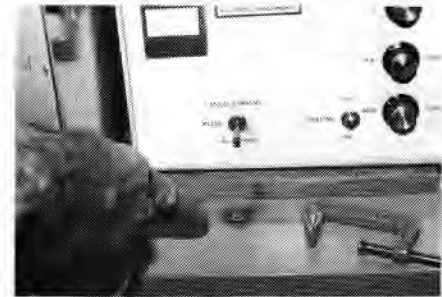
If you are feeding your antenna with wire leads rather than coaxial cable, connect the antenna ground wire directly to your antenna tuner or transmitter and not to the ground bus — which is probably very busy siphoning off unwanted RF.

Remember: Always provide a separate ground for the ac power and RF for each piece of equipment. Don't rely on interconnecting cabling to provide the two kinds of grounding.

LIGHTNING ARRESTERS

Here's a suggestion for a cheap lightning arrester from Lamar Allison of Emory, VA. It first appeared in a *Hints and Kinks* published in 1933. Get a blown-out plug fuse (generally there are at least one or two around every ham station), screw it into an ordinary porcelain lamp socket and mount it on the window sill. Connect the antenna and ground as with any other arrester. Preferably, the gap in the fuse should not be too great. 1/64 inch is about right, so pick one that has been blown gently!

My favorite lightning arrester was a conversation piece but it worked. I mounted a cheap but shiny (shack visitors do not recognize cheap, but do appreciate shiny) brass hand key on the window sill and connected the two terminals to my antenna lead-in and ground. The lever normally used to close the key for tuning up was used to short the antenna to ground when not in use. At one QTH I had three wire



Why the hole in the top of John Watson VE3EZF's filing cabinet? Lightning! More later.

antennas and three hand keys on one window sill. Visitors to the shack were convinced that I was a real avid CW nut with one key for each hand and one for QLF. (If you do not know about QLF, drop me a line.)

The craziest lightning arrester I've ever used was the head casting from the engine block of an old car, just laying on the ground. I ran a wire from my antenna lead-in to all the spark plugs. It worked well.

Lightning arresters are fine, but a more useful gadget is a lightning predictor. Very easy to make. Just run a heavy-gauge insulated wire from some high place (such as the top of your tower or the peak of your roof) to a ground rod. Plan the routing of the wire so it passes by the window of your shack. By some devious means or other, mount a fluorescent tube (a burnt-out one will work just fine) in the vicinity of the outside of the shack window and wrap several turns of the insulated wire around the tube. If there is any electrical storm activity in your area, the tube — and your shack — will light up.

Depending on your particular installation, the fluorescent tube may also function as a tuneup and RF output indicator when you are transmitting. Don't panic if it lights up except when you are not transmitting!

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Checklists

Disaster has struck and ARES has been asked to provide emergency communications! This is no time for a conscientious ARES member to start thinking about what to bring. That's why many ARES groups have prepared checklists of what should be in each member's emergency kit, so each member can, as quickly as possible, load the kit into a car and get on his or her way.

Good checklists consider both short-term needs and needs for a longer period of time, say 72 hours. An excellent list developed by one ARES organization appears in the sidebar. You may spot some glaring omissions or an item that you don't consider essential. Each individual will have a different idea of what may be needed. That's why it's called a *suggested* checklist. Some of the items in the list can conveniently be packed into a small trunk or suitcase labelled "ARES Emergency Kit". Other items such as perishable foods will have to be rounded up at the last minute. Most of us are not sufficiently well equipped to have a transceiver set aside just for emergency use, so that too will have to be packed at the last minute. Obviously, the fewer the items to be added then, the sooner the ARES member will be ready to begin.

One way to stimulate interest in emergency kits is to devote part of an ARES meeting to the subject. Encourage your members to bring along their own kits and display them. A prize could be awarded for the most complete kit or the one with the most innovative ideas.
— Bob Boyd, VE3SV

Suggested ARES Member's Checklist

1. Some Basics
 - ARES identification card and armband
 - ARES Emergency Communications Plan
 - Photocopy of operator and station licences
 - Driver's licence and car ownership certificate
 - Road maps of local area
2. Radio Gear
 - 2-metre transceiver with microphone and headphones
 - power supply for above, extra battery pack
 - power cord for transceiver with alligator clips to fit auto battery
 - spare fuses
 - antennas with mounting gear
 - extra coax with connectors
 - patch cords and adapters (BNC, PL259, RCA phono)
 - SWR meter
 - broadcast band receiver
3. Writing Gear
 - pen, pencil, eraser
 - note paper
 - clipboard
 - CRRL message pads
 - log book
4. Personal Gear (for short duration)
 - snacks and liquid refreshment
 - candy and throat lozenges
 - aspirin and personal medicine
 - extra pair of prescription glasses
 - money including quarters for pay phones
 - foul weather clothing
 - flashlight or lantern with spare batteries
 - wristwatch
5. Additional Personal Gear (for 72-hours)
 - three-day supply of drinking water
 - three-day supply of food in cooler
 - mess kit with cleaning supplies
 - first-aid kit
 - sleeping bag
 - toilet articles
 - mechanical alarm clock
 - candles and waterproof matches
6. Tool box (for 72-hours)
 - screwdrivers, pliers, socket wrenches
 - soldering iron, solder
 - electrical tape
 - Volt-ohm meter
7. Other (for 72-hours)
 - extra gas and oil for car
 - siphon and gasoline container
 - highway flares
 - jumper cables
 - length of 10 mm diameter rope

ARES Members: Don't forget SET, the Simulated Emergency Tests scheduled for the third weekend of October. Your SM or SEC has the details.

CRRL Field Organization Reports 1988 July

CRRL Section Traffic Manager Reports

Call	Orig	Rcvd	Sent	Divd	Total
VE1BKM	-	26	14	22	62
VE1BOO	18	8	18	8	52
VE1VX	3	3	18	3	27
VE1IH	1	5	9	-	15
VE2BP	5	14	17	14	50
VE2WH	2	11	14	12	39
VE2GEJ	6	8	7	7	28
VE2EC	6	9	6	4	25
VE3FAS	-	120	106	-	226
VE3ISD	12	59	94	8	173
VE3CYR	2	84	46	3	135
VE3GSQ	-	71	53	1	125
VE3GNW	-	26	50	-	76
VE3BCZ	2	31	32	1	66
VE3DCX	-	26	29	-	55
VE3DPO	-	42	10	-	52
VE3BUO	2	41	1	7	51
VE3EAM	5	21	5	18	49
VE3GT	-	20	26	-	46
VE3SB	-	10	17	-	27
VE3NVJ	2	8	3	8	21
VE3BAJ	-	5	2	5	12
VE3AJN	-	3	8	-	11
VE4JR	-	80	70	23	173
VE4FP	-	40	40	8	88
VE4JA	10	10	10	16	46
VE4TE	-	31	4	-	35
VE4LB	-	31	4	-	35

18 CANADA

CRRL Section Emergency Coordinator Reports

Reports were received from the following SECs (DECs and ECs reporting to SECs are listed in brackets), denoting a total ARES membership of 662:

Reporting	ARES Members
VE3GV (VE3s EFX, GNW, HNH, HSF, JJA, LFW, LKI, MB, SV, TNL)	555
VE6AFO (VE6CBJ)	107

National Traffic System

Net (Mgr)	Sess	QNI	QTC
KTN (VE3AJN)	13	102	10
OLN (VE3POJ)	27	416	28
OPN (VE3BUO)	31	523	119
OQN-1 (VE3GSQ)	22	41	37
OQN-D (VE3GSQ)	25	65	27
OQN-E (VE3CYR)	31	130	73
OQN-L (VE3CYR)	30	99	45
MEPN (VE4LB)	31	789	35
MMWX (VE4TE)	31	293	35
MTN (VE4IX)	16	90	15
BCEN (VE7EJU)	31	740	295

Service and Specialized Nets

Independent Net Managers: Your monthly reports are welcomed. Send to CRRL HQ, Box 7009, Station E, London, ON N5Y 4J9.

Net (Mgr)	Sess	QNI	QTC
ARES CANADA (VE3GV)	5	72	1
ARES ONTARIO (VE3GV)	1	5	-
ONTARS (VE3AQ)	31	13640	-

Public Service Honour Roll

This listing is available to amateurs whose public service performance during the month indicated qualifies for 60 or more points in the following nine categories (as reported to their SM). Please note maximum points for each category: (1) Checking into CW nets, 1 point each, max 30; (2) Checking into phone/RTTY nets, 1 point each, max 30; (3) NCS CW nets, 3 points each, max 12; (4) NCS phone/RTTY nets, 3 points each, max 12; (5) Performing assigned NTS liaison, 3 points each, max 12; (6) Delivering a formal message to a third party, 1 point each, no max; (7) Handling an emergency message, 5 points each, no max; (8) Serving as an EC or NM for an entire month, 5 points max; (9) Participating in a public-service event, 5 points each, no max. Amateurs who qualify for Public Service Honour Roll 12 consecutive months, or 18 months out of a 24-month period, will be awarded a special certificate from CRRL Headquarters.
PSHR: VE4JA (122), VE7BNI (89), VE4LB (82), VE3DPO (77), VE3CYR (68), VE7ANG (66), VE7EJW (62), VE3BCZ (60), and VE3GSQ (60).

Brass Pounders League

This listing is available to amateurs who report to their SM a traffic total of 500 or a sum of originations and delivery points of 100 or more for any calendar month. All messages must be handled on amateur frequencies, using standard ARRL-CRRL form, within 48 hours of receipt.
BPL: None this month.

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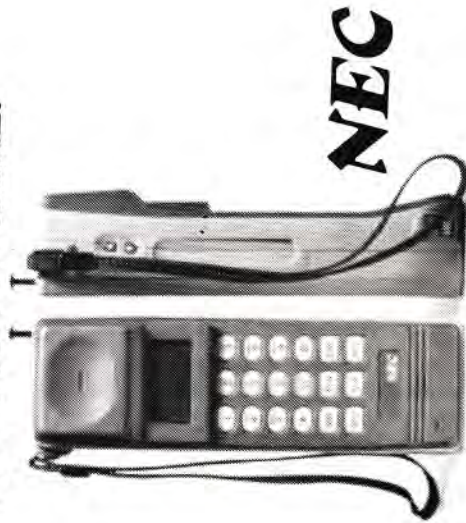
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We are always happy to answer queries by phone or mail. If the latter, a postage stamp to defray the cost of a reply would be appreciated. Due to the nature of surplus very few items are stocked in depth and as a result it is impossible to prepare a catalogue or listing which would remain valid for even a short period of time.

More items for our October 1988 advertisement.

(1) EG & G Model 911 digital humidity analyzer complete with sensors and manual. \$150.00 (2) AIL Model 210 sweep oscillator with plug-ins for 8-12GHz, 2-4GHz and 1-2GHz. Built in adj markers etc. \$375.00 (3) HP Model 606A signal generator, 50KHz to 65MHz \$200.00 (4) Electric Bostitch power stapler, uses standard staples \$12.00 (5) HP Model 4260A Universal RLC bridge \$390.00 (6) Commercial power supply by Plessey, approx 3000V at 1ADC. With schematic, blower cooled, solid state rectifiers, HD xmfr, chokes, on castors. Requires cabinet. \$210.00 (7) Good parts assortment contained in an AES dual 8" floppy drive system. Contains muffin fans, motors, PCB's, heavy DC pwr supply plus many other parts. All for \$15.00 (8) Data General Printers, for printer application or for parts. Contains stepper motors, pwr supplies, PCB's, AC motors, keyboard, etc. \$30.00 (9) U/Matic VCR with assortment of tape cartridges \$38.00 (10) U/Matic tape cartridges containing misc. recorded programs. 5 for \$1 (11) Radio Shack hard disc drive assemblies Model 26-4151, 8 Meg, for TRS80 system \$40.00 (12) Sony Betamax Model SL7200 VCR \$50.00.

Calendar/Calendrier

Conducted By Ray Staines, VE3ZJ

Sarnia, ON-Port Huron, MI: To commemorate the 50th Anniversary of the completion of the Bluewater Bridge between Sarnia and Port Huron, members of Lambton Amateur Radio Club and Eastern Michigan Radio Club will operate special-event station XL3IG on 80-10 metre phone and CW and 2-metre packet, September 30-October 2. QSL via AC8W or VE3IG.

Northeastern Quebec, Zone 2: Mini-Dxpedition sponsored by Union Métropolitaine des Sans-Filistes de Montréal. Work this rare zone between 0000 UTC 1988 October 01 and 2400 UTC 1988 October 2. Primary band: 20 metres. Others bands if conditions warrant. Frequencies: CW: 3.685, 7.025, 14.025, 21.025 and 28.025 MHz; phone: 3.785, 7.085, 14.185, 21.185 and 28.525 MHz.

Hamilton, ON: Sixth Annual Radio and Computer Symposium, 1988 October 8 at Marriatt Hall, Ancaster Fairgrounds, 625 Highway 53 E. Sponsored by Hamilton ARC. Opens at 0800. Space inside for 150 vendors. Admission: \$3.50. Talk-in on VE3NCF, 146.76-16 MHz, or 146.52 MHz simplex. For more information, contact Paul Hazen at 416-664-5247 or Hamilton ARC at Box 253, Hamilton, ON L8N 3C8.

CRRL Simulated Emergency Tests: Scheduled on an individual basis by Section Managers and/or Section Emergency Coordinators on the weekend of October 15-16.

31st Scouts Jamboree-on-the-Air: Begins 0000 local time, 1988 October 15, ends 2400 local time, 1988 October 16. Jamboree should be the biggest

ever with improved radio conditions due to the new sunspot cycle. Call "CQ Jamboree" on CW on 3.59, 7.03, 14.07, 21.14 and 28.19 MHz, and on phone on 3.74, 3.94, 7.09, 14.29, 21.36 and 28.99 Mhz.

London, ON: Annual Fleamarket, 1988 October 23 at Pot O'Gold Bingo Palace, Hamilton and Gore Roads. Sponsored by London ARC. Opens at 0900. Huge indoor sales area, large paved parking lot, concession table, test bench, free tailgate selling. Admission: \$3. Talk-in on VE3LAC, 147.66-06 MHz. For more information, contact Dave Noon, VE3IAE at 519-453-2292 London ARC at Box 82, Station B, London, ON N6A 4V3.

Knokke Heist, Belgium: To commemorate the Canadian liberation of Knokke Heist in 1944, special event station ON4CLM (Canadian Liberation Movement) will operate on the following frequencies on October 28-November 2: CW: 3.515, 7.012, 14.02, 21.02 and 28.02 MHz. SSB: 3.685, 7.045, 14.145, 21.245 and 28.545 MHz. A special award, with proceeds used to maintain memorial displays, is available.

CRRL VHF-UHF Fall Sprints: Throughout October and early November. See announcement in this issue of *QST Canada*.

CRRL QST QSO Award Party: CW: 1500-2200 UTC, November 5 and 6. Phone: 1500-2200 UTC, November 12 and 13. Primary operation on 20 metres, other bands as conditions permit. Award available for stations that contact any eight of CRRL's eleven "QST" stations. Send log data and SASE to CRRL Awards Manager Garry Hammond, VE3XN, 5 McLaren Ave. Listowel, ON N4W 3K1.

2-METRE FIELD TRIP

Richmond (BC) Amateur Radio Club requested two Surrey ops to help with the Disabled Children's Sportsfest, to cover the equestrian events in South Langley. Howie, VE7CNW, and Max, VE7CXB, covered the two days of radio contacts with their base station in Richmond, reporting arrivals, departures, emergencies and the like.

Help was also required to lift the boys and girls out of their wheelchairs and up onto the already saddled backs of the ponies. The smiles on the faces of these children, as the horses started to walk, made it so very rewarding that one really forgot about the radio on one's belt. We felt proud and privileged that we, as hams, were involved in such happy moments, even to the fact that we were required to hold the child up to the horse by a special leather strap and jog beside them as they trotted along the trails, to ensure their safety.

Do you know what it's like to lift a young boy out of his wheelchair and up onto a horse? You can imagine, I suppose, but it's so different when you say, "Put your arms around my neck, son, and I will put my arms under your legs and lift you up. There is nothing to fear." Then, when he holds you so tight around the neck, one arm goes around his back and the other you slip under his thighs. At that moment you sense that the thighs you are supporting are metal, and that this lad has no legs at all. —Max Farquhar, VE7CXB

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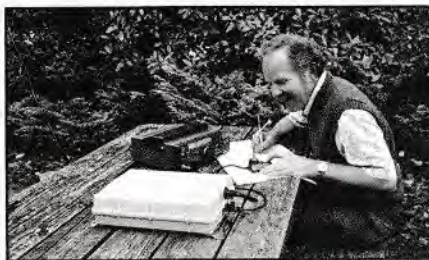
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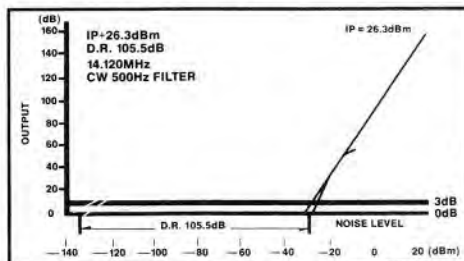
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