TCA

DECEMBER 1985

The Canadian Amateur Radio Magazine

La Revue des Radio Amateurs Canadiens

The Longest Skip of All

—Page 21

—The ICOM IC 745 HF transceiver—
—New CARF Pacific Director—
—What your President does in his spare time—

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ISSN 0228-6513

TCA

THE CANADIAN AMATEUR

December 1985 Vol. 13 No. 11

ADVERTISING REPRESENTATIVE
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RR 1 Lombardy,
Ontario K0G 1L0
613-283-3570

DESIGN & PRODUCTION
County Magazine Printshop Ltd.
RR 1 Bloomfield,
Ontario K0K 1G0

Printed in Canada

TCA— The Canadian Amateur is published in Canada 11 times per year to provide Radio Amateurs, those interested in radio communications and electronics, and the general public with information on matters related to the science of telecommunications.

Unsolicited articles, reviews, features, criticisms, photographs and essays are welcomed. Manuscripts should be legible and include the contributor's name and address. A signed article expresses the view of the author and not necessarily that of C.A.R.F. Publications Limited.

TCA— The Canadian Amateur is published by C.A.R.F. Publications Limited, 370 King St., P.O. Box 356, Kingston, Ontario, Canada K7L 4W2. It is recommended by the Canadian Amateur Radio Federation Inc. and its members receive it automatically. Indexed in the Canadian Periodical Index: ISSN 0228-6513.
Second Class Mail Registration Number 5073

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The Canadian Amateur Radio Federation, Inc. is incorporated and operates under a federal charter, with the following objectives:

1. To act as a coordinating body of Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
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1		R	146.940	"
3		T	157.845	GE Royal Exec
3		R	152.585	"

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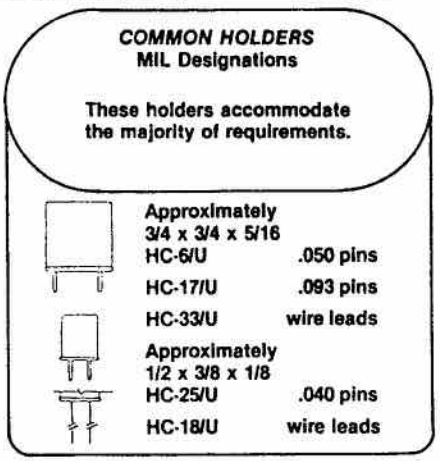

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Overload indication:	Indication of "1".
Calibration adjustments:	DM6013A-One internal adjustment for accuracy. One front panel adjustment for zero.
Zero adjust:	External adjustment for zero value of the display. This is limited to ± 20pF.
Out-of-Range indication:	Indication of "1".
Sampling times:	0.5 second
Time base:	Crystal O.S.C.
Operating temperature:	0°C to 40°C (32°F to 104°F)
Operating humidity:	less than 80% RH
Power supply:	006P DC 9V battery
Battery life:	Approximately 200 hours on alkaline or 100 hours on carbon zinc battery with normal usage. (Typical consumption current 3-4mA on 200pF-200uF range)
Dimension:	17.5x8.5x3.6cm (6.9x3.4x1.5inch)
Weight:	280g (0.62lb)/(including battery)
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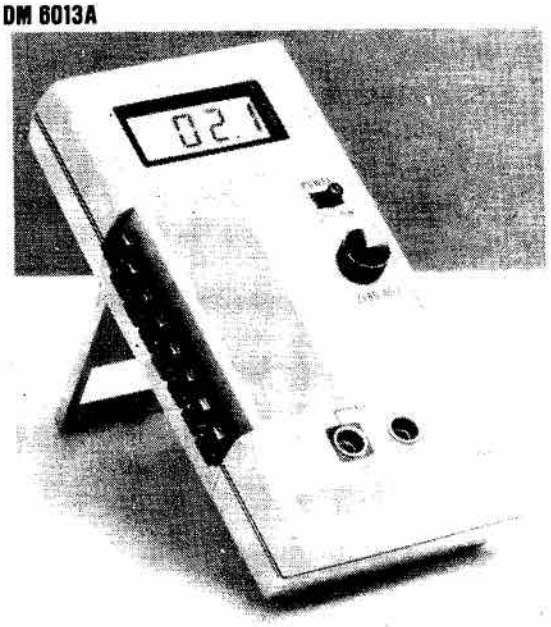
DM 6013A



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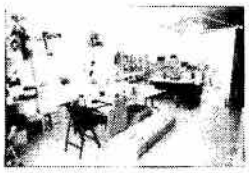

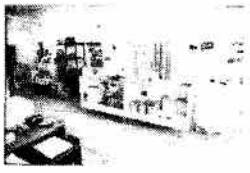


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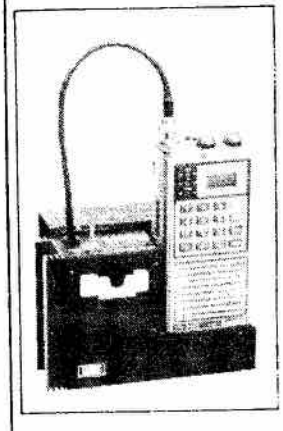

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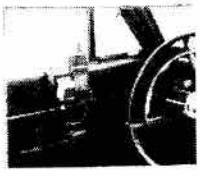

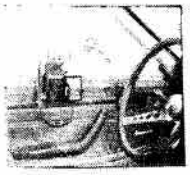

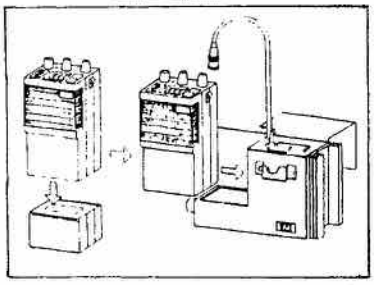

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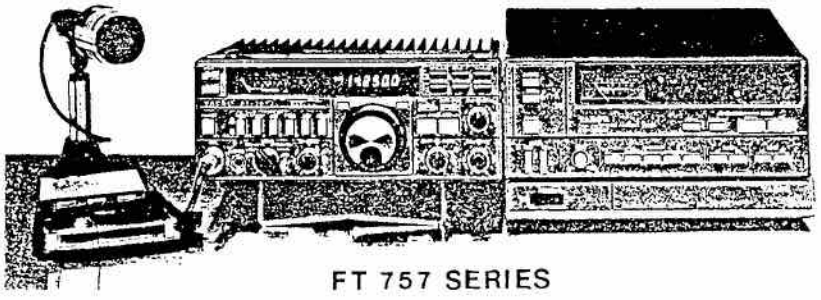

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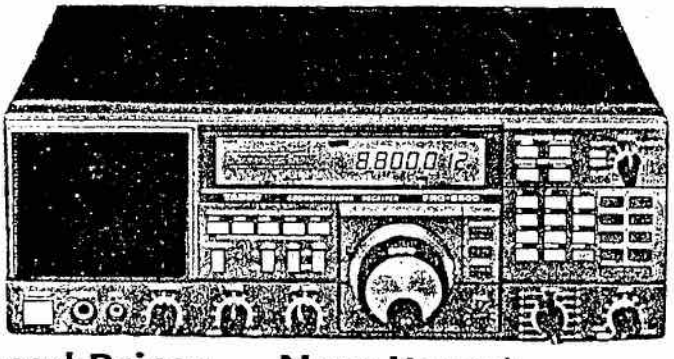

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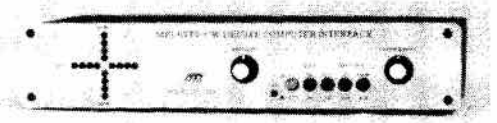

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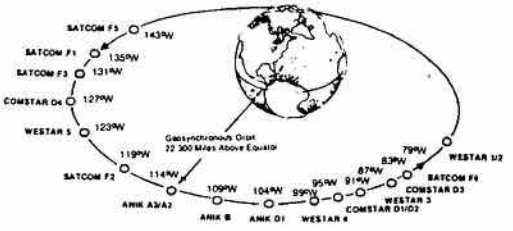

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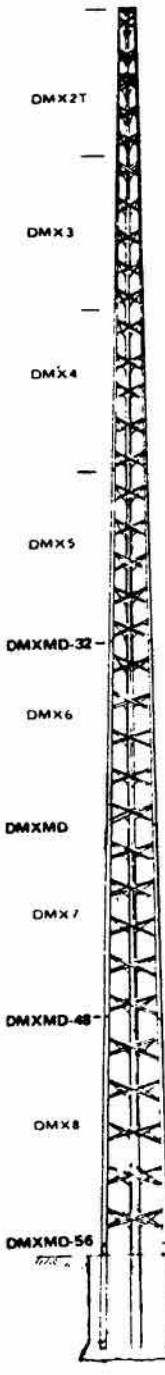

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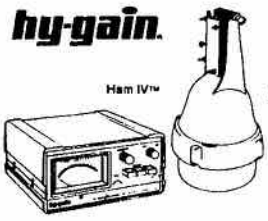
RG8X coax 50 ohm ..... 25¢ft.
Rotor cable 8 cond. ..... 45¢ft.

hy-gain



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15BAS 3el. 15 meter $245.00
204BA 4el 20 meter $489.00
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5BDQ 80-10 doublet $189.00
18AVT/WBS 80-10 vert $199.00
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A4 4el Tri-band $499.00
A744 40mtr.adapter re A4 ..... $149.00
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ARX-2B Ringo 2 mtr. $79.00
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TCA

ISSN 0228-6513

December 1985
Vol. 13 No. 11

QUA CARF

News from the President

Please address correspondence to the Editor at Box 855, Hawkesbury, Ontario K6A 3C9, telephone 613-632-9847.

COVER PICTURE:
THE ISLAND QUEEN

"Another boat picture on the cover? What do you think you're doing, editor?"

"Our President's first mate aboard her."

"H'm. Pretty, ain't she?"

Artwork by Paul Papps

A letter from the Maritimes came in recently. It asked the poignant question: Don't we count? The answer is: Of course you do! However, to count you must stand up and be counted. Since our previous Director, Leigh VE1ZN, resigned we have had exactly zero nominations for Atlantic Director. We have no coverage of Atlantic affairs without a Director at the head of the organization.

So my answer to the Atlantic Amateurs is: *get busy and nominate a Director!* Send us a representative from the East to funnel your affairs into head office! We are struggling to cover the Maritime Hamfest because of this situation! Don VE1WF asked us to come. (He is a CRRL SEC.)

The same situation existed in B.C. and the Yukon, but two people have sent in their nominations. Elsewhere in this *TCA* you'll read about the new Western Director— Jim VE7CWC.

The recent RSO-CRRL Convention in London, Ontario was well organized. The SORT organizing committee is to be congratulated for their great effort. Over 500 Amateurs registered.

The big topic at the Convention was relations between CARF and CRRL. There is great support for the merger of the two organizations into one governing body for Canadian Amateur radio. The rounds of applause I received in both the CRRL and CARF forums indicated that this is so. CARF and CRRL boards of Directors have made motions to investigate a merger. Tom VE3CDM and I met on August 9 to discuss cooperation on many issues.

Representatives from Saskatchewan, Alberta, New Brunswick and Quebec supported a merger and pressed me to pursue it. RAQI representatives were very supportive of a merger.

From the comments of CRRL officials and members, I myself believe the time is ripe for a merger. I also believe that we have the right kinds of people on the boards of both organizations to bring it about.

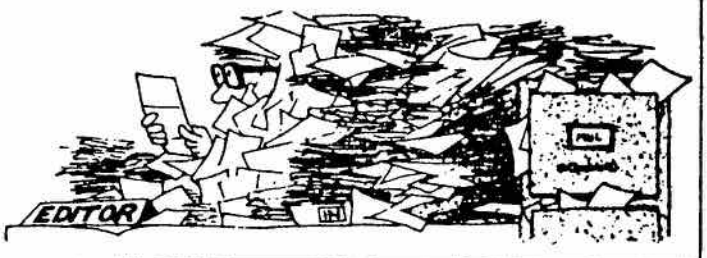
All Amateurs, all clubs, each provincial organization should consider this merger idea most carefully, and write to both CARF and CRRL headquarters to express their views about it. If you want a merger— or not— now is the time to tell the people in charge. Indeed, there is no better time than right now to merge. We should modernize the Canadian Amateur governing body when the very structure of Amateur radio is being revised.

For the long-awaited DOC paper on the restructuring of the Amateur radio service should be released on October 25. It will appear in *TCA* immediately after release.

This is a big paper as it will set the course of our service for many years. There will be about a six month comment period and we will need all the input we can get to set a joint policy with other organizations. Now is the time to make your ideas and comments heard. You won't get another chance for some time. Δ

—VE3IDW

LETTERS



STORM WATCH

The Heritage Amateur Radio Klub will be running a winter storm watch on 2 metres from November 1 to April 1. They will monitor 146.25 MHz. This storm watch will cover highways 401 and #2 between Newtonville and Trenton. They will assist any Amateur mobiles in bad weather and will supply local road reports.

73 Bill VE3MDE

A first-class service! Any other clubs care to extend this from Toronto to Montreal?— Editor.

CLUB PUBLICITY

Just wanted to drop you a line at this time to thank you for the handout materials for our club radio display held this past Saturday.

We had a very good turnout in terms of the general public showing an interest as well as local support from the Amateur fraternity. Local broadcast public service announcements seem to have paid off.

Liked the September issue also. I just may build that Foxx Mini-transceiver for fun... will keep it on file.

73, Jim VE1CHI

MEXICAN EARTHQUAKE

Sid VE3JFP told me that *TCA* would appreciate news of VE involvement in the Mexican earthquake. I passed four pieces of H&W traffic in response to an appeal for help from a local TV station. There was no answer to three of the Mexican phone calls, but the fourth party and their family were safe and well. The traffic was handled via the OFN through Henry VE3GNW. The service was efficient and prompt, a reply being received within 24 hours! The people who enquired were extremely grateful for the reassuring call.

73, Carlton VE3GHT

'LITTLE BUDDY' APPEAL

The British Post Office informs us that a postcard appeal launched on behalf of an invalid boy at Paisley, Scotland under the fictitious name of 'Little Buddy' was closed in 1983.

It would appear that some of your members sensitive to the appeal are still sending postcards to P.O. Box 26 in Paisley. Consequently the British Post Office is asking us to inform the Canadian Amateur Radio Federation that the appeal on behalf of 'Little Buddy' of Paisley no longer requires the attention and generosity of its members.

We would appreciate your co-operation in bringing this information to the attention of your members.

Yours sincerely,
J.G. Halpin
National Director
Canada Post Corporation
International Postal Affairs

H.M.C.S. GLOUCESTER

H.M.C.S. Gloucester Club Station VE3GLO gave many on the air today their first interest in this hobby. A few of these are: VE3AUM, VE6YB, VE3YC, VE5EK and VE3BGX. Art VE3CHJ was our Commander, the one in charge of all stations, bases, equipment, and personnel. We were convinced the one and only was Art's only boss, and the one and only required Art's permission on occasion, with or without the Pope as info addressee.

Mel Beemer retained the VE3GLO call as his personal call when this radio school closed some years ago. Apparently Mel has moved to VE5 land. Mel and I received our first radio training at this school in the mid 1950's. Does another former member have this call?

We were a special breed. This is the reason the Navy classified our branch Radioman Special. We were noted for our ability in handling fast CW. We would never admit to old age, so arthritis, rheumatism and similar ailments would be our excuse for failing to 'fall in' in top form today, Art. A CW net, with this station as net control, would be a great way to keep in touch.

By the way, does anyone know the whereabouts of a PV500H and PV500L, or the more modern PV500 if all else fails? We need these in order to restore a resemblance of life in CGTJ, Canada's last corvette, H.M.C.S. Sackville.

73, Spud VE1BC

CALL LETTER CHANGES

In reference to Al Leith's (VE3FRA) proposal in June *QST* and September *TCA*, Mr. Leith mentions logic and simplicity in his proposal for call letter changes. I see nothing further from the truth. His proposal will bring extensive cost to the DOC, confusion and discontent among all but a few of the Amateurs.

As I see it, why should we go for an all-out prefix change when at this time Ontario is near 70% completed the VE3 allocation and the next province is Quebec and British Columbia with about 30% of the calls completed. It will be a few more years before Ontario completes the VE3 prefix and many more before the other provinces need a new prefix.

A simple cost effective way to handle this problem is to issue a new prefix to Ontario when this one is full. For example when the VE3 is

completed then start with VA3. When BC completed the VE7 prefix it too would start VA7. The calls would be issued to new Amateurs as they pass the exams. This would eliminate the cost of re-issuing calls.

Also Mr. Leith discriminates against the vast majority of Amateurs when he makes a statement like "only those licensed prior to 1950 be allowed to obtain a new call." Somehow the Amateur society has determined that being old is a prerequisite for a two letter call.

I believe that Mr. Leith is not really concerned about the fact that Ontario will have a full VE3 prefix but that Mr. Leith can obtain a one- or two-letter exotic call for himself and fellow 'OLD TIMERS.'

Obviously Mr. Leith has not considered the expense involved in his proposal. The cost of re-issuing new calls will be passed on in our licence fees. Therefore if Mr. Leith's ludicrous idea does take place I propose that the calls be issued to the new Amateurs as they are licensed or if Mr. Leith wishes to change his call he should pay a $500 fee plus re-write the exam.

I also feel that it must be about time that these old-timers re-write the regulation portion and CW portion of the examinations. Especially those licensed prior to 1950 HI HI.

73 Daryl VE4AKN

READ THIS TO A WHITE-CANER

We have been hearing some scuttlebutt about the 'low power' of the Argosy compared with the HW12/32. The HW12/32 is rated at 200 watts input, and the Argosy at 100 watts. Hence, it is true— the Argosy has only half the power of the HW rigs.

But, what does this mean in actual operation? Power ratios are most conveniently expressed in decibels. A power ratio of two represents three decibels. While there has been no standardization of S meter calibrations, which are voltage and not power, the most common scale is that one S unit represents six decibels in voltage. Now, six decibels in voltage is three decibels in power. Hence, it is fair to say that in most cases, a power reduction of three decibels would result in one S unit lower reading on a receiver. For practical purposes then, using the same set-up except changing the rig from an HW to an Argosy would produce a signal one S unit less.

Is it noticeable? In most cases, no. Try listening to an S8 and then an S9 signal and see if you can tell any difference without looking at the S meter. The difference might be detectable if the signal is just on the verge of being readable— but just might be. Even under these adverse conditions it is highly unlikely to make a noticeable difference.

One of the members of our Administrative Board, Bill Loucks VE3AR, used an Argosy from July 10 to Aug. 17, 1984, as part of our evaluation program. During this time he made 707 QSOs on it, using the four low bands (10 and 15 were not open). Contacts were made with 40 countries on four continents. Signal reports were just as good as had been received using his Collins KWM 380. In most cases, the received signal report was at least as good as the report given.

We are convinced the Argosy is a good rig for the white-caner. We were well aware that its power is three decibels less than that of the HW rigs, but we also were aware that this difference is seldom significant in actual operation. Therefore, we had no hesitation in adopting the Argosy as our current standard rig. Δ

73, Bill Loucks VE3AR,
Fred Roberts, VE3AA
CNIB Amateur Radio Program

Please send mail directly to: Frank Hughes VE3DQB, P.O. Box 855, Hawkesbury, Ont. K6A 3C9.

QUA CARF

New Pacific Region Director

TCA welcomes J.L. (Jim) VOIGHT VE7CWC as the new Pacific Region Director. Here is his biography:

A native of the Chilliwack District and only son of a family that moved to the Fraser Valley in 1905 from the U.S.A. I grew up in the Ryder Lake community about 11 miles south east of Chilliwack and completed all my schooling in the local school, even secondary school by correspondence course.

I joined the RCAF in 1942 and graduated as a pilot in 1943 and when the war ended in 1945, was transferred to the Reserve forces. For 15 years after W.W. II I was involved in a logging and lumber business in the district.

In 1949 I met Gladys and we were married that summer. We raised five daughters (boy, was I out-numbered). Somehow they all grew up and are doing their own thing; we now have seven fine grandchildren.

In the early 1960's the opportunity presented itself to put my flying experience to good use; I spent the next ten years earning a living as a commercial pilot, mostly instructing. I spent several years as CFI Manager of the local flying school. But in the early 1970's we went back into business for ourselves and in 1975 purchased a stopping place (Motel, Cafe and Service Station) at Mile 932 on the Alaska Highway. We spent 7½ years at that address and moved back to Chilliwack in 1982.

My activities in Amateur Radio started in the mid 1970's and after much study and sweat I passed the first exams for Amateur in April 1977. I became a Charter Life member in CARF in 1977 also. I was founding Chairman of the Alaska Highway Communications Society that represented all the business people and residents along the Alaska Highway for 250 miles from Mile 351 to the Yukon Border; I carried on the Chair duties of that group for four years. I was appointed by the Federal Government in 1980 to sit on an Advisory Council for the proposed Alaska Highway Gas Pipeline for a two year term.

We came back to Chilliwack in 1982 and we plan to make one more short move. We hope to sell the house here in town and move the 11 miles out to our 19 acres in the Ryder Lake District.

I would like to thank those members of the Chilliwack ARC that nominated me to represent them as Western Director of CARF. Δ

Jim VE7CWC

Islands of the World

Anticosti

ANTICOSTI: Jacques Cartier sighted the island in 1534, and named it Assomption. His first impression: "The whole of this coast is flat... with beautiful fields and meadows marvellously green." What he saw was actually a great expanse of peat bog. Sailing along the coast he found most of the island was thickly forested.

Shaped something like a giant slug in the mouth of the St. Lawrence, 140 miles long and 35 miles across at its widest, Naticousti— as the Montagnais Indians called it— means "hunting ground of the bear."

Anticosti was uninhabited until 1680, when Louis XIV granted it to explorer Louis Jolliet in recognition of his journeys to the Mississippi and Hudson's Bay.

The treacherous currents and limestone reefs around the island have claimed some 400 shipwrecks over the years. Jolliet tried to reduce this toll by spending six years mapping the river from its mouth to Quebec City.

In 1690 raiders from New England destroyed Jolliet's home and the settlement on Anticosti. A few years later Jolliet, whose exploits made him the first native-born Canadian to achieve world fame, died in poverty.

After Wolfe's victory at Quebec, Anticosti became part of Newfoundland. Attempts at colonizing the island were unsuccessful, and it was "shunted back and forth like an unwanted orphan," as Donald McKay wrote in his book 'Anticosti: The Untamed Island.' In 1825 it was returned to Quebec, and has remained part of the Province to this day. One of a handful of settlers was Louis Gamache, whose name was used to frighten children along the Gaspe coast. Legends, mostly fostered by Gamache himself to keep unwanted visitors away from his home, had him standing in his boat and communing with the devil; deceiving the Hudson's Bay factors with false beacons; and having clothes smelling of brimstone. Yet he went out in the fiercest storms to rescue many a shipwrecked sailor.

Innumerable tales of shipwrecks around the coast make grim reading. In 10 years, 1870 to 1880, 106 wrecks were recorded on Anticosti. Four lighthouses were built between 1831 and 1871, and several more later; in 1928 the Encyclopedia Britannica estimated the population of the island as 250 "chiefly lighthousekeepers".

Towards the end of the 19th Century a government survey counted 127 settlers, engaged in fishing. In 1872 Anticosti was bought by the Anticosti Company, and grandiose plans for development were announced; settlers came from New Brunswick and Newfoundland. Mismanagement and bad planning soon turned the whole scheme into a total disaster. The island was re-sold to a Londoner named Stockwell, and again ambitious but unrealistic plans ended in fiasco.

Next came a buyer with great and glamourous ideas, and unlimited riches to turn a dream to reality. Henri Menier, multimillionaire sportsman and owner of the renowned Chocolat Menier in France, had sailed the world over looking for an island he could turn into his own private empire. Anticosti, bigger than Corsica, would be just the place. A flurry of building started in 1896, and soon a model village arose at the west end of the island. A farm was established, a road built, telephone lines strung up, and a variety of game brought in— deer, moose, beaver, reindeer. A group of settlers from Newfoundland opposed Menier's autocratic rule of his domain, and had to be expelled by the Canadian government. Rumours (quite unfounded) suggested that war materials were being hidden on Anticosti in preparation for a French campaign to reconquer Canada!

Menier's energetic manager, Martin-Zede, worked hard to develop and organize life on Anticosti; in 1901 Monseigneur Guay reported that "in 3 years Menier has done more on the island than has been done in the century before. It was French genius to put civilized life on this savage, deserted island." Schooling and hospital care were free. A lobster cannery and other enterprises were launched. A splendid 30-room chateau, sumptuously furnished, was built for Menier, and the village of Port Menier had a church with room for 600, and a community centre with library and auditorium. With all this encouraging activity, Martin-Zede hatched plans for a 300-room luxury hotel and various attractions for tourists, when Henri Menier's death brought things to a halt. World War I followed and everything on Anticosti went into decline. Henri Menier's brother, Gaston, sold the island in 1926 to pulp and paper interests. Port Menier became a boom town: the harbour was dredged, roads and dams were built, thousands of tons of machinery brought in, and nearly 2000 men were working. But now the great Depression struck, and the pulpwood operations were closed down. The Consolidated Paper Corporation did all it could to look after the islanders, and encouraged a sport fishing development, which kept many of them employed for a while. In 1937 a furor was caused by a German attempt to buy Anticosti ostensibly for pulpwood operations. After a thorough airing in the press involving both the Federal and Quebec governments, Prime Minister Mackenzie King announced that no foreign interests would be allowed to control the island. And during World War II German submarines sank numerous allied ships in the Gulf of St. Lawrence, and islanders were pressed into service as lookouts, under the lone policeman at Port Menier.

After the War, logging was resumed and for some years boom times returned, with as many as 1300 people on the company payroll, and 25-ton trucks hauling timber around the dock. But costs were soaring, while modern technology was making the Anticosti operation less and less competitive. Finally in 1973 logging was halted; most of the workers found jobs at Sept Iles and Chicoutimi and the Quebec government bought Anticosti for more than $26 million, ending almost 300 years of private ownership for this island larger than one of Canada's provinces. Anticosti's see-sawing fortunes are now replaced by the more stable status as a provincial park and game reserve. Δ

Read this to a white caner

Are you interested in subscribing to *Recorded Periodicals?* It's not a freebee, but if you're 'warming up' to Computers, you can subscribe to *Computer World, Computers, Datamation Plus,* or you may be keen on *Radio Digest, Popular Science, Popular Mechanics.* Drop a line to Recorded Periodicals, 919 Walnut Street, 8th floor, Philadelphia, PA, 19107.

Does your local library carry the radio Amateur call books? If not, ask them!

Crosswaves

By Ralph Cameron VE3BBM
30 St. Remy Dr., Nepean, Ont. K2J 1A3

An over-eager intercom

A new home owner installed an eight-station intercom system only to find out every station was full of a local broadcast station (CFGO). Since the complainant lives 3-4 miles from the station, it is obvious susceptibility is not necessarily confined to nearby transmitters.

Lack of Shielding

An investigation of the installation revealed a complete lack of shielding on the multiconductor cable, no amplifier station shielding and a very time consuming job to filter each preamp input. The system was manufactured off-shore and had no warranty, no schematic, and was very difficult to apply any bypassing or filtering because of its all-plastic, screw-together construction. One consolation— the price was low! Caveat emptor.

Cable Pickup

One interesting aspect of the above case was each intercom station had a markedly different level of interference. It appeared to be how much cable was oriented in a particular direction relative to the B.C. station. Essentially all eight stations are connected in parallel and filtering and bypassing the immediate preamp input seemed to be the best solution as the interference increased as volume was increased. Terrible distortion was present, I might add. This complainant was a non-Amateur.

More furnace interference

VE4AMI of Minitonas, Manitoba confirmed that he too suffered from Electronic furnace control susceptibility. The control was a Lennox Model similar to the one described in the Ravenscroft case. The heat sensor line connecting the room sensor to the controller is the sensitive lead. Totally unshielded, it looks right into a high impedance DC amplifier. Ideal circumstances for audio rectification. VE4AMI applied an RF choke in series with this lead and connected a bypass to the case at the same point. Suitable values for most Amateur bands would be RC 2.5 mH and 0.1 μF 100 V capacitor. The toroid core used in the Ravenscroft case effectively added sufficient impedance to the RF when added at the same point. (The original susceptibility article said the toroid was installed on an AC line and this is incorrect and the result of misinformation.) Lennox no longer manufactures this controller as it was deemed to be less efficient than desired.

Control by Mears

While it is only academic, the actual control used by Lennox was designed and supplied by Mears of Beaverton, Oregon. I intend to call them during a visit to that area in September and make them aware of the problem.

U.S. furnace interference

To close the case of the Lennox controller one Amateur called me to say a couple of W1's on the East coast were talking on 20M about a case of interference to an electronic furnace control, same symptoms, same problems as the case of VE3SR. The Amateurs' identities are unknown but I hope they learn the solution costs less than $3.00.

More Organ EMI

Space limitations prohibit anything more than a mention of another case of electronic organ interference, this time 22 floors up— in an East end apartment building. We'll talk about it next month.

VCR Immunity?

By the way, has anyone found a VCR that has any kind of immunity? I've rented three and all three go into orbit with very low 80M power radiated (25W). Please write and tell me. Δ

Regulations Changes

Volume 49, No. 21, of the Canada Gazette, Part II, dated Oct. 16, 1985, carries amendments to the General Radio Regulations, Part II, and to the Radio Operators' Certificate Regulations affecting the Amateur Service.

According to the explanatory notes in the Gazette, the changes to the General Radio Regulations, Part II are:

(a) clarifies the provisions relating to occupied bandwidth;
(b) permits repeater operation in the 29 MHz band;
(c) permits slow-scan TV in the HF bands;
(d) permits 6 MHz bandwidth for television;
(e) permits visiting Amateurs to use the 144-148 MHz band;
(f) removes the restrictions presently applicable to Amateur stations operating in the 1.8 to 2.0 MHz band; and
(g) exempts U.S. Amateurs from written approval while operating their stations in Canadian territory.

and in the Radio Operators' Certificate Regulations

(a) provides for the inclusion of figures, punctuation marks, 'Q' signals and emergency signals in the Morse Code receiving test or the Amateur Radio Operator's Advanced Certificate; and
(b) revokes the requirements
  (i) for oral and practical examinations respecting Amateur radio equipment and
  (ii) to draw schematic diagrams respecting radio circuits for the Amateur Radio Operator's Certificate.

Details of these changes, which were recommended by the CARF National Symposium held at Winnipeg, Man. in May 1983 are being prepared as an amendment to the CARF Radio Regulations Handbook and will be available shortly from the Kingston Office.

DOC has released the following:

All Canadian 'Commercial Users' of the 18 MHz Amateur Band have been totally removed from this band. The process for changing the regulations for Amateur use has now begun.

Most of the 'Commercial Users' of the 24 MHz band have been removed. We expect the balance to be removed quite quickly. The process for amending the regulations for Amateurs will be under way shortly.

PHOTOGRAPHERS— TAKE NOTE

If processing expense puts you off taking black-and-white photographs for *TCA*, try using Ilford XP1 400 or Agfapan Vario-XL Professional film. These emulsions are 'chromogenic,' black-and-white, have enormous latitude, and when developed by the C-41 or equivalent colour process yield a black-and-white print. Now that black-and-white photofinishing is so expensive, this looks to be a cheaper way of getting good magazine halftone reproduction.

—Tnx VE3HVX

By the Deep, Nine!

Who hath desired the sea?

By Ron VE3IDW

Many people wonder just what does the President of any organization do when he is not working for them?

Well, like most people, I have a family which ranks first. My wife, Dawn, and daughter Jennifer, age 9, and I try to do as much as we can together. Teaching elementary school, curling and working on an M.Ed. degree take up the rest of the working year.

However, the summer provides me with the chance to do something different. I have worked on the tour boats of the St. Lawrence river since 1967. It helped pay for my University degree from Queen's. I became a Captain in 1969 and commanded a 65 foot vessel, the Lady Kingston.

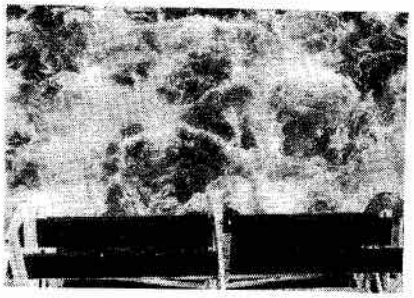
About four years ago I went back to relieve on the boats, to provide days off and replace sick people. I have been working for the past four summers part time. I recently received my Minor Waters Master's Certificate. For three summers I worked aboard the Miss Kingston II. This was a 108 foot 900 hp 400 passenger vessel. She was sold this year and I wondered if I would have a boat to work on.

However, I was asked to take the same position with the Kingston and the Islands Boatline on the Island Queen III. This is a 100 foot 650 hp 300 passenger vessel. It is built to resemble a stern-wheel steamer and is unique in this area. I made about 70 trips this year as MATE on the vessel and thoroughly enjoyed the experience.

The hobby of Amateur radio still shows up here. First of all, I met Paul Papps, the son of VE3LFF. He, like me, is interested in Great Lakes history, although he is a much better photographer and an infinitely better artist than I am, as his drawings show. He has sold many of these drawings over the past four years. I met many Amateurs on the boat and even directed people to the dock by 2M FM.

The radios on the boat and the antennas became my responsibility and I was even called to assist a remote radio broadcast of the sinking of an old ferry as a diver-training site. I hope that I meet many more people from the Amateur fraternity in this job. By the way, this is how I met W2YLM, Bob Boyd and family. He is a ship buff like myself and has a cottage right on the Seaway channel. Needless to say, I visit there regularly. The Amateurs in yachts, on islands and touring the area in cars have been very enjoyable to talk to. I hope to operate a little more regularly this coming summer. I guess VE3IDW mobile will be as active as ever. Hope to work you from the ship.

"... and three gallons of green oil for the starboard light." First Officer Walsh orders stores via ship-to-shore radio.



... her immense and contemptuous surges,
The shudder, the stumble, the swerve, as the star-stabbing bowsprit emerges?

More White-Caners

By Albert Diamond VE4AIP

In October, 1984, Albert Diamond VE4AIP and Keith McConnell VE4BC, members of the Winnipeg Senior Citizens Radio Club—VE4WSC, started a class in the CNIB building to introduce a group of 'White-Caners' to Amateur Radio. It was no small undertaking.

Classes were held every Monday evening at 7:30. Of course, some dropped out for one reason or another. But on July 19 six of them felt that they were ready to take the test. Four of them passed, two failed, one on code and one on regulations. However, within a month all six had graduated.

It was no give-away and the boys really earned their tickets. Two inspectors from the DOC, Wayne Hay and Yvon Bissonnett came to the CNIB to give the test. They were more than generous with their time but really put the boys through the hoop. The inspectors were amazed at how well the class had grasped the subject.

Those who graduated were: Vic Pereria VE4ANV, Ed Bodnar VE4AOF, Ed Funk VE4AOB, Pete Haertell VE4ANK, Meno Dirkson VE4ANX and Val Wagnor, VE4AOP (now moved to Seattle, Washington).

The remaining five now have their own club station which is set up in Room 30 of the old Fort Osborne barracks. The club call letters are VE4MWC. The graduates voiced their appreciation by saying: "Words cannot express our feelings at being on the air for the first time... Our instructors were Albert for theory and Keith for code. These gentlemen who are blest with patience, understanding and kindness, helped us over seemingly unsurmountable hills on the way to our exam date..."

Public Service

In Winnipeg, on Friday, July 19, at 2:45 p.m. at the Municipal Hospital Complex, 1 Morley Avenue, things were operating normally when suddenly all telephones went dead. The Winnipeg Senior Citizens radio club is situated in the old nurses' residence. Albert Diamond VE4AIP and Charlie Harvey VE4FG were on duty when one of the officials of the hospital staff rushed in and asked if we could help them. We were able to give them emergency Auto-Patch communication service until 5:30 p.m. when the telephone service was restored— A road building crew had accidentally cut the main telephone cable with a bulldozer blade.

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The longest skip of all

By Stuart L. Harvey VO1OO

Most of us during our years as Amateurs have encountered cases of hams we have known who have suddenly given up the hobby and disposed of their gear. And then there are the others who suddenly decide to change their callsigns.

Have you ever wondered why?

For the last few minutes of the conversation with his friend Henry VE2XRN in Montreal, the static build-up had made copy difficult, so Sam had signed out and left Henry to answer the call from the African station who had broken earlier. Sam, however, had not been able to hear the African at all.

Pretty poor conditions for keeping any scheds on short skip, Sam was thinking to himself as he turned down the audio gain and prepared to leave the shack. But I'll leave the rig on and maybe see how things are in a couple of hours.

This was the way propagation had been during these last few months as the trough of the sunspot cycle was approaching, but the static this evening had to be heard to be believed. It had risen gradually to S8 on the meter of the XYL88xs, and there had been occasional bursts lasting maybe ten or 15 seconds when it had registered as high as plus 20. Certainly not the kind of conditions to encourage a ham who had been around long enough to know the difference.

The shack was silent now that the audio was backed right down, and Sam was just starting for the door when a sound from the rig attracted his attention. He turned round in time to see the needle of the S meter dropping back to the bottom of the scale, and he realized that what he had heard was the light tapping that occurred when a particularly strong CW signal caused the needle to hit the pin at the top of the scale. He started back to the rig thinking that it might be prudent to turn the rig off and ground it out if there was so much static around, but as he watched the needle he could see that the regular pattern of movement was obviously not caused by static.

He reached for the audio control and turned it up slightly until he could hear the signal. It required very little gain before it was clearly audible, and Sam could distinctly hear the Morse Code letter V being repeated over and over, quite fast, and with extraordinary clarity and precision. But what was even more noticeable was the unusual tone, a ringing quality like that produced by a narrow filter, though without the usual fuzzy character.

As he listened the code faded, and the static which had brought about the end of the conversation with Henry, replaced it, until he could hear nothing else.

Well, so much for that! he thought. But his curiosity got the better of his frustration, and he sat in front of the rig and tuned along the band just to see if anything was still there. Nothing but more static, not even that RTTY stuff that usually inhabits the top of the CW band, so this time he switched off completely, turned the antenna selector to ground, and walked out of the shack, closing the door behind him.

The clothes dryer in the basement adjoining the shack had been giving some trouble the last few days, so Sam decided that now would be a good time to have a look at it. Like every good Amateur, he generally set aside times like this, when radio propagation was poor, to do those perpetual but irritating little jobs around the house that Kitty thought up for him. So out came the tool box and off came the top of the dryer. It did not take long to find the problem— a wire whose insulation had been worn away by prolonged contact with the rotating drum— and Sam was deep in thought trying to explain to himself why any appliance manufacturer with any pride at all would turn out a machine with so glaring a potential fault as this. Kitty had described what happened: a snapping sound, the smell of burning, a blown fuse, and no further life from the dryer. She had replaced the fuse, but had achieved nothing, and had reported the malfunction to Sam when he came home from work this afternoon. She could have been electrocuted, he thought, if there had been an interruption in the grounding system, and all because some stupid...

At this point the telephone rang, and Sam entered the shack and picked up the receiver, to hear the voice of Ken, a ham friend who lived a few miles away. Ken worked for the local radio station, and often had the chance to pick up bits and pieces of used gear which would otherwise end up in the garbage dump or the scrap-yard, and he generously shared his good fortune with Sam and the others. This time he had acquired several hundred feet of used coax of various dimensions from the transmitter site where new equipment had recently been installed, and was offering some to Sam, who accepted. The conversation soon turned to their common hobby, and Ken remarked on the number of DX stations to be heard on the 20 metre band.

"Couldn't copy any of it here," complained Sam. "Too much darned static!"

"Strange," replied Ken. "The band was perfect here half an hour ago."

Sam reached out and switched on the XYL88xs and was surprised to hear a clear, quiet band, with stations from Europe and Africa coming in as well as any time he had heard them in his six years of hamming.

"That is weird," he remarked. "Only half an hour ago the static was so bad here that I gave up on Henry, and went QRT. But I did hear what seemed like a snatch of powerful CW which came right through just before I turned the rig off. Figured it must be somebody nearby, but I don't know of anybody new getting on the air, and anyway, it didn't sound like a new ham by the speed of it. But it had to be close by; it was pinning the needle."

"That is strange," agreed Ken. And the conversation went on a few minutes more.

"Sam, is the dryer fixed?" called Kitty from upstairs. "I've got a pile of wet laundry to get through."

"Okay, just a minute," Sam responded. And to Ken, "I guess I'd better get that job finished, so I'll pick up the coax next time I come over. Thanks." He hung up the receiver and returned to work on the dryer, with no further thought about the CW signal.

It was about a month later, and Sam had completed several of his weekly scheds with Henry VE2XRN in Montreal. These scheds usually lasted between half an hour and an hour, and quite often they would be interrupted by a DX station who wanted a signal report. This particular time, they had been interrupted no less than three times, and then Sam noticed an effect similar to that he experienced on the evening he fixed the dryer: Henry's signal began to fade and the static built up.

"Did you see any change in my signal, Henry? break," asked Sam.

Continued on next page ▷

But when Henry replied, if he did, Sam had lost him completely, and the noise of the static was virtually roaring at about thirty over nine. The sound was so overpowering that Sam reduced the RF gain as well as the audio, all to no practical effect, and was just about to switch everything off when the needle was pinned by the most powerul CW transmission imaginable. It was the same transmission as before, a series of V's, as if someone was testing a high output transmitter in the next room, but here was the same strange effect as before as of a sharply filtered signal, that ringing quality. Yet at the same time the signal was perfectly clear: a string of V's sent at about 30 words a minute.

Sam listened, amazed at the strength of the signal, and totally unable to decide where it could be coming from. It was so strong that it had to be originating in the immediate vicinity, yet there was to his best knowledge no other transmitter as close as that one had to be. And even his neighbour a couple of hundred feet down the road did not put so strong a signal into Sam's receiver. However, thought Sam, that must be the answer, and turning the audio right down he picked up the telephone and called the neighbouring ham.

"Hello Jack, this is Sam. Listen, Jack, have you been testing a transmitter just now?" he asked.

"No, boy, I haven't," Jack answered. "I've only just come in the house. Why?"

Sam explained the strange phenomenon he had just witnessed, and Jack too was unable to explain how so strong a signal could suddenly appear apparently from nowhere, unless it was emanating from some transmitter in the area.

"It is still there now, that signal?" asked Jack. Sam looked at the meter and noticed that it was not registering at all. He turned the controls back to their normal settings, and discovered that the signal was no longer there, the static was reduced, and the ordinary signals were coming through again.

"It's gone, Jack, not a trace of it now."

"Well, Sam, I think you must be hearing things. I should get rid of that XYL88xs if I were you."

Sam realized that Jack was not going to believe his story since he could not prove it. "I'm not kidding, Jack, it really was there. Just about blew me out the shack right before I called you!" But Jack remained sceptical.

"I'll record it for you next time it happens, Jack," offered Sam. "Then you'll hear just what it is like. That's if I hear it again." Jack muttered something about having to drive his wife over to a meeting, and he couldn't stay to talk about Sam's strange noises. Sam hung up. It was most frustrating to experience something like that, to be unable to explain it, and also unable to convince his friend that it had really happened.

Sam sat thoughtfully in front of the much-maligned XYL88xs, idly tuning along the band but only half listening to what was there. Maybe he should call Henry. He looked at the clock. It was only about ten minutes since he had been having a normal QSO with Henry, so perhaps he might still be on the frequency. He called a CQ followed by VE3XRN several times, listened carefully, tuned a few kilocycles each way, listening all the time, but Henry did not reply. After trying this for about ten more minutes, he decided to call Henry on the telephone.

"Hello, Henry, Sam here. I guess you're wondering what happened to me?"

"Right on," said Henry. "What did happen, you blew your finals? or was it the power company's fault?"

"Neither one," said Sam, thinking that here was another one who would not believe his story. And he recounted the events of the last few minutes.

"Well," said Henry, "you sure dropped out quickly. The last I heard from you was you asking if I heard any differences in your signal. You said 'break', I answered 'no difference,' and that was the last I heard of you."

"Did you hear any CW, Henry?"

"Not a dit or a dah, old man. Just a bit of splatter from a PY2 a couple of KC's away, but that was all. You had been S9 plus all along."

"Good Lord, Henry, that CW was deafening here. I had to turn everything down and it still pinned the needle. I can't figure this one out."

And so it was with all his friends. Not one could offer an explanation, and many refused to take it seriously.

"Get a decent receiver, Sam! That old XYL88xs you've got there needs to be scrapped!"

"Be more careful with the VFO control, Sam. I hear fellows like you all the time, tuning past while they are transmitting."

"You're hearing things, Sam. Better take it easy for a while. Cut down on the contesting!"

"That old rice box of yours sure must have a loose VFO, Sam."

"Sure you weren't listening to your own CW, Sam?"

Poor old Sam only had to show his face at the local ham club meeting for someone to ask if he had heard any good CW lately. It was getting most embarrassing.

Weeks passed, and Sam experienced no recurrence of the signals, but he had made a point of having a tape recorder by the rig just in case, and sure enough, when he was almost ready to forget all about it and write it off to his imagination, it happened again.

He had finished the sched with Henry, and was in conversation with an American located in Arizona, called Butch, when the signal began to fade and the static increased as on the previous two occasions. Sam switched on the recorder, and sat back to enjoy the incident, confident that now he would be able to prove to everybody that he really had heard what he claimed to have heard. Butch's signal faded down to inaudibility, and the static rose to the previous level, continuing to increase until the meter was pinned by the static alone. By this time, Sam had cut back both R and audio, and had switched in the attenuator, and then, suddenly, there was the Morse again, the string of V's. Sam smiled to himself with satisfaction. Now they would have to believe him.

Sam listened attentively to the code signals, the perfect V's one after another at a speed rather greater than he could copy. But this was no problem. The string of identical letters was easy to distinguish, and the power of the signal overcame the static background noise. He watched the tape rolling past in the little cassette window, and checked the indicator to make sure that the recorder was in fact picking up an adequate recording level. The tape itself was a brand new one he had bought for the purpose, and not one of those bargain tapes either. This was a professional quality product, guaranteed to do the job.

Didididah, didididah, didididah... On it went, clear and loud, with that strange ringing tone he had noted on both previous occasions. He was listening intently, yet with relaxation, exactly as he did when copying code in a normal contact... Didididah, didididah, didididah....

Suddenly Sam sat bolt upright, his eyes wide open with surprise, his heart beating loud in his ears as fast as the code. Was he mistaken, or did he actually hear what he thought he heard? Could that really be his own callsign coming blasting out of that receiver on the desk in front of him? He concentrated all his effort to pick out the letters of his call, and sure enough, he was not mistaken. His call was coming through, loud and clear, with a pause between each repeat of it. There could be no doubt about it. That was his callsign, his very own personal identification issued to him by the DOC eight years ago, his call, and this mysterious station with the powerful code was calling him.

When Sam finally recovered his

senses, the transmission had stopped, the static had dissipated, and the band was back to normal. But Sam did not mind. He was so excited, and didn't he have the entire episode on tape this time? He reached over, rewound the tape, and called his wife.

"Kitty, Kitty, come down here quick! I got it! Come and listen!"

When Kitty arrived, not knowing whether the situation demanded joy or sorrow, fear or exaltation, Sam was proudly standing with his finger on the play button ready to start the recorder.

"Listen to this, Kitty. They've been laughing at me before, but now I've got proof of it!" He pressed the button, and waited. Gradually his expression of triumph faded as he waited for the code which did not come. All that was on the tape was the normal sounds to be heard on the 20 metre band under good conditions. Sam slumped in his chair, disappointed, a broken man.

What do you do in situation like the one Sam found himself in? Do you rush out and tell everybody? Not likely. They refused to believe him before this last occurrence, so they certainly would not accept the idea of his hearing his own callsign. He could imagine their reactions.

"Hey, boys, Sam's been hearing things again... You still stuck with that old tinpot rig, Sam?...If I were you, Sam, I would go and get a thorough medical check-up... Sure you're not running a fever, Sam?"

Even his own wife had trouble accepting this latest incident. After all, she did not hear his callsign coming through as he did, and what he heard on the tape would certainly convince nobody. Besides, Kitty was always a little sceptical about Amateur radio anyway, and had gone along with his interest mainly to humour him, and, as she told her friends whose husbands were not hams, "When he's down in his radio room talking to his friends, at least I know where he is. Can you say the same?" So, much as she might express agreement with what he was saying, he knew that she had her doubts about the whole business, and very specifically about the CW matter.

So there was really nothing more for him to do than to keep it to himself and say nothing about it. Perhaps one day it would all be resolved, but he would have to see it through himself. He was totally convinced that he had heard his own callsign that last time, repeated a number of times. He was aware that his ability to copy the code was somewhat limited, but hearing your own callsign was something like hearing your name: it was distinctive enough that you could pick it out under very diverse conditions, when other words were uncopyable.

Thus it was that Sam decided to follow this whole thing through, in spite of his friends' laughing at him, or his wife's scepticism. If he heard that code again, he would answer it, and never mind about getting it on tape to convince anyone else. He did not know what he would reply, but he would certainly send back a QRZ and his callsign in acknowledgement.

Months passed, and the poor HF propagation of summer had improved again into the customary DX opportunities of the winter months, but Sam had encountered no recurrence of the strange CW phenomenon. He had completed several of the regular Tuesday scheds with Henry, his total of DX countries worked had shown a respectable increase, and his ham friends had all but forgotten his hilarious reports of last winter. Then, just when he had written off any hopes for a repeat performance, it happened again.

It was a Saturday in November, a night of good propagation and quiet band conditions on 20 metres. Sam had just worked an FR7 on Reunion Island, and was feeling pleased with himself, since he had been able to get through the QRM of a dozen or two stations, and the contact had been more than the usual exchange of reports. He had then worked a couple of Soviet stations, and was straining his hearing to pick out the mushy audio of a third one who had been riding slipstream on the others, when the signal faded below the increasing noise level. It took Sam a few seconds to assimilate what was happening, but as soon as the realisation dawned, he flipped over to CW and pulled the paddle to where he could comfortably reach it, switched on the keyer, and set the speed a little higher than was easy for him. Then he waited.

As usual the static noise built up, and Sam reduced the gain, watching the meter needle creep past S9, to plus ten, 20, 30, and finally touch the pin at about plus 40. This was the strongest he had yet seen it, thought Sam, his heart beating fast and his fingers poised next to the paddles.

Then the CW came crashing in, with that same tone so hard to describe, but quite different from any other signal he had ever heard... Didididah... didididah... didididah, repeated over and over until he lost count. Then the hypnotic beat of the V's changed, and there it was, unmistakeably clear, his own callsign! If he had doubted it before, he had no such doubts now. Every letter was perfectly clear, sent with what seemed like an expert hand, and with pauses just long enough to allow a response to break in. Sam took a deep breath, listened to his call one more time, and closed his thumb and finger on the paddles.

& 73

QRZ QRZ QRZ sent Sam, followed by his callsign, and a pause for any response. For a few seconds nothing happened, and then back it came, as loud and clear as ever. Sam sat there, his pencil poised over the notepad to write, but he did not put pencil to paper at all. Instead, he listened intently, and gradually the colour drained from his face, his poised hand sank slowly to the table, until the end of the transmission, when he reached out in a determined and business-like manner, and switched off the rig. Then he stood up, disconnected the rig from the power socket, and the feedlines from the rig, until all the various accessories were separated, and the cables loose.

The next day, all Sam's Amateur gear was up for sale at a very reasonable price, and his friends noticed that he showed signs of distress if they called him using his full first name, Samuel... △

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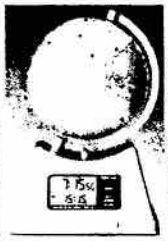

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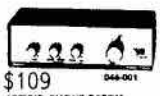

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mlates the trainer por-n of AEA's KT-2 Keyer
iner Helps you increase r proficiency

DING Analysis
ps you improve r sending ability
lysing characters and rd spacing

EVING Game
deo game that helps recognize Morse aracters under pressure

SE Keyboard Routine
ut plain text for training any speed 5-99 w.p.m.

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es your C-64 icrocomputer
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Strategies working WAS

By J.F. Hopwood VE7AHB

Working for WAS (Worked All States) awards can be an interesting and rewarding challenge. You will enjoy many pleasant QSO's, receive many opportunities to improve your operating skills, and in the case of the Five-Band award, be encouraged to develop more efficient or versatile antennas and equipment to help guarantee successful contacts. In addition, this activity will help provide greater occupancy of all Amateur bands, so important if we are to hold the frequencies we now enjoy.

WAS is one of the more popular awards offered Amateurs around the world. As the name implies, it requires two-way confirmed contact with each of the 50 United States. Fortunately, a number of strategies can be adopted to ensure working on WAS can be fun and doesn't take a month of Sundays to wrap up. Selecting the band, the time of day, the season of the year and adopting some tried and proven operating techniques, plus taking a disciplined approach to QSL management, will guarantee successful results.

WAS awards are sponsored by the ARRL. The challenge is to complete and provide written confirmation (QSL's) of a two-way contact with each of the 50 states. A W or VE Amateur must be an ARRL (American Radio Relay League) member to qualify for the awards. Other nationals (DX) are exempt from this requirement. QSO's on the new WARC bands (12, 17 and 30 metres) are not valid for WAS awards. Five-Band WAS awards are available to those Amateurs verifying QSO's on any 5 bands. Detail rules and requirements are contained in an ARRL booklet (CD-4) 'An Introduction to Operating an Amateur Radio Station' published by the ARRL and available for 50 cents (US).

The basic WAS award assumes mixed CW and SSB mode contacts on Amateur frequencies. Endorsements are available for all CW, SSB, QRP and any single band. Specialty awards are available for OSCAR satellite, SSTV, RTTY, 432 MHz, 220 MHz, 144 MHz, 50 MHz and 160 metres. Phone and CW segments of a band do not count as separate bands for the 5-Band WAS award. Also, contacts prior to Jan 1, 1970 do not count for 5-Band WAS.

The application for an award certificate must be made on a CD-217 form available from ARRL headquarters by forwarding a self-addressed stamped envelope (SASE). When completing and sending the application, the accompanying QSL confirmation cards must be placed in alphabetical order together with a separate list showing call signs, dates, bands and modes.

QTH and Bands to use

During the current low in the sunspot activity cycle, contacts will probably be limited to the 20, 40, 80, and 160 metre bands. Five-Band WAS is a rather difficult goal to reach in the next year or so, but now is the time to complete various single band roundups while waiting for the 15 and 10 metre bands to recover from the current inactive period. The general locale of a QTH on either the east or west coast, the prairies, and central or northern Canada will influence the seasonal and daily selection of the band to use.

The 20 metre band offers reasonable coast to coast QSO opportunities during daylight hours, while 40 metres can, when conditions are good, provide similar signal coverage during the hours of darkness. Short skip conditions on 20 metres between adjacent provinces are also useful. Signals from the more central Ontario/Manitoba regions both , to the east and west coasts happen fairly regularly.

The 40 metre band is a good continent-wide operating band for both CW and SSB. The novice portion at 7.100 to 7.150 MHz is active day and night, but somewhat marred by foreign broadcast QRM during the evening hours. Serious U.S. extra-class Amateurs haunt the 7.000 to 7.025 MHz CW portion of the band mainly looking for DX. Daylight propagation on 40 metres is usually restricted to neighbouring states and provinces.

Of course, hours of darkness favour the 80 and 160 metre bands also. Coast to coast contacts are more difficult to make, but QSO's with stations in adjacent areas are usually easy to complete. Once again the active novice portion 3.700 to 3.750 MHz is excellent for CW contacts. Distance contacts improve as the winter solstice period is approached and passed. The 160 metre band is becoming more active now that low sunspot counts are forcing us off of the higher frequency bands.

Operating Strategies

If you hold an Amateur class licence, WAS on CW seems likely unless you hold a DOC 'Schedule VI' endorsement for 160 and 10 metre bands for SSB contacts. The Advanced class Amateur has the opportunity to go for all CW, all SSB or mixed modes over all the legitimate award bands.

Monitoring the bands and trying to identify a state QTH by call sign can be troublesome for two reasons: first, U.S. district call sign prefix numbers cover more than one state, e.g. the 7th district includes Arizona, Idaho, Nevada, Montana, Oregon, Utah, Washington and Wyoming. Second, U.S. hams now keep their call sign when they move their home QTH from district to district. While a very minimum of W1's now reside in sunny W4 land, one is nevertheless obliged to listen for the QTH identification, or quickly refer to the most current U.S. call book for QTH assurance. There are also confusing U.S. overseas and continental call sign prefixes, such as KL7Z in Washington state and KL7ZZ in Alaska or a KX6A in California or KX6YZ in the Marshall Islands. The one letter suffix usually indicates a stateside QTH.

The American novice band segments offer a gold mine of opportunities for WAS on CW. Many U.S. novices eagerly seek awards and DX. A QSO with a VE station is often appreciated. In addition, if your CW skills are rusty, novice QSO's are frequently slow and easy. Many novices are teenage students and a good time to look for them is right after school or early in the evening. So, become familiar with the time zone of the states you are seeking and 'home in' on the novices.

Another band segment strategy that is productive is to monitor the DX portion of the bands where U.S. extra-class operators reside. An extra-class operator is frequently a serious hobbyist and is actively chasing DX or engaged in ragchews with other skilled operators. This becomes important when you are seeking contacts in sparsely populated states where the extra-class ham fraternity is more consistently active than other hams. Such states as Delaware, Vermont, Maine, New Hampshire, Rhode Island, West Virginia, North and South Dakota and Wyoming are good examples of states to listen for in this portion of the bands. Be tactful and patient and wait for breaks in calls or QSO completions before breaking in. Be sure to tell the contacted operator that you are

working on your WAS award and request a swap of QSL's. Keep the QSO deliberately short so the DX chaser can return to his priority activity and you ought to get that QSL every time.

Perhaps the most lucrative quick source of contacts for WAS is during a contest such as CARF's Canada Contest and ARRL Sweepstakes. State QSO Parties such as the Delaware QSO Party or the Vermont QSO Party are great opportunities to pick up the rare ones on all bands. So preview the contest calendars of the various American ham magazines for dates, times and assigned band segments. One again, use tact when QSOing by getting off his frequency right away so he can go on scoring with a minimum of interference from a QSL chaser. Better still, be an active contestant so that the QSO can be scored and tallied for points.

Last, but by no means least, is the use of Nets. The rare states are almost always represented by hams who enjoy working nets, especially the public service and some of the social nets such as OMISS (OM International Sideband Society) which operate almost daily on all bands. *QST*'s 'Selection News' column provides a wealth of information on Nets in all states and often lists local Net frequencies and operating times. The trick is to listen to check-ins before you make your presence known or to go on quickly and ask if there is a station listed or monitoring from the state you're seeking. If there is, then 'bingo,' a short QSY, a request for a QSL for WAS and you pick up another one. Again, observe operating tact, courtesy and protocols.

Logs and QSL Cards

The effective management of QSO logs and QSL records is a vital consideration, especially if you are determined to track contacts for the 5-Band award in one or more modes. The figure (courtesy Cushcraft and W1HR) is a sample tally sheet for a quick status check on confirmed QSO's. A separate tally sheet should be used for each mode. Keeping WAS QSLs separate from regular QSL's will save a scramble to retrieve them later when you are ready to send for your award certificate.

Old QSL's are valid too, provided the contacts were made from the same location, or from locations no two of which are more than 50 miles apart. Under the above rule, the call sign is immaterial provided it is licensed to the applicant.

If you want to receive your QSL's quickly, direct mail with the contacted party is recommended. American hams are quick to offer direct mail for a WAS award seeker. If this method is too expensive, then, unfortunately, you must patiently await return cards from the QSL Bureau with its inherent delay and response problems. Psychologically, it is better to ask for direct mail while the whole exercise is fresh in the distant operator's mind, thus prompting a commitment for a quick exchange of cards.

Go for it

So there you are— go for it— give it a try! Find the strategy that works best for you and soon you'll be the proud owner of a WAS certificate hanging on the ham shack wall. Next, or even while you're at it— go for CARF's Canadaward and the Nortown Amateur Radio Club's (Ontario)

to all

WAVE (Worked All VE) and WACAN (Worked All Canada) awards. More on that in a future article, because QSOing into the far reaches of Canada almost requires the assistance of Wambezee shamans and Tibetan soothsayers with the added support of Canada Post (no disrespect intended).

Δ

New ICOM IC-1271A 1.2 GHz transceiver

ICOM announces the IC-1271A full-featured base station transceiver. With coverage from 1240 to 1300 MHz, the IC-1271A features 10 watts of RF output power, 32 memories, scanning and multi-mode operation including ATV (Amateur TV).

Additional features

- Front end GaAs FET's for exceptional receiver sensitivity
- CW/FM/Upper and Lower SSB
- Scanning— memory, program or mode scan
- 12V DC or 117/240V AC (optional)

Options include the TV-1200 ATV interface unit, IC-EX310 voice synthesizer, UT-15S CTCSS encoder/decoder and IC-PS25 13.8V DC internal power supply.

The IC-1271A will be available in October 1985. The suggested retail price is $999.00, U.S. funds

5B-WAS QUIK TALLY

	80	40	20	15	10
Alabama					
Alaska					
Arizona					
Arkans					
Calif					
Colo					
Conn					
Dela					
Florida					
Georgia					
Hawaii					
Idaho					
Ill					
Ind					
Iowa					
Kansas					
Ky					
Louisna					
Maine					
MD					
Mass					
Mich					
Minn					
Miss					

5-BAND ARRL SECTION CHECK LIST

	80	40	20	15	10
1					
Conn					
E. Mass					
Maine					
NH					
RI					
Vermont					
W. Mass					
2					
E. NY					
NY-LI					
NNJ					
SNJ					
WNY					
3					
Dela					
E. Pa					
Md-DC					

	80	40	20	15	10
6					
SCV					
SD					
SF					
SJV					
SV					
Pac					
7					
Alaska					
Arizona					
Idaho					
Montana					
Nevada					
Oregon					
Utah					
Wash					
Wyom					

W1HR's excellent tally sheet.

Social Events

Ex-Whitehorse RCAF Communications Reunion

Were any of you ever stationed up in Whitehorse 1948-1968 with RCAF Communications? Then you'll be interested to know that a reunion is being planned, tentatively, for July 12 and 13, 1986. For starters we need some feedback on the number of ex-Whitehorse RCAF Comm people who would be interested in making the long trek back to Whitehorse, where a lot of us spent many enjoyable years.

If any *TCA* readers fit the above, please write to me and, at the same time, spread the word to any ex-Whitehorse RCAF Comm people you might know who would be interested. Other *TCA* readers are asked to spread the word via their nets for many of us are, of course, Amateur radio operators.

One further bit of information; we now have our own Airforce Telecom Association formed at the 50th Anniversary Telecom Reunion May 84 held at CFB Kingston, Ont. Membership is a mere $6 for three years and a lot of excellent information is available. The following additional reunions are in the wind— Trenton or Kingston 1987, and the 50th anniversary of No. 1R&CS Clinton for 1991. Write Airforce Telecom Association, Kingston Directorate, CFB Kingston, Kingston, Ont. K7L 2Z2 for your application form.

Essayons/Try these

From recent DOC Amateur examinations

13. The licensee of an Amateur station may
1) permit anyone to use his station and take part in communications
2) allow qualified persons and permit other persons to use his station so long as he retains physical control of the equipment.
3) permit anyone to use his station without restrictions.
4) permit anyone to take part in communications only if prior written permission is received from the DOC.

13. Le titulaire d'une licence de radioamateur peut:
1) permettre à quinconque d'utiliser sa station et de prendre part aux communications.
2) permettre à des personnes qualifiées et à d'autres personnes d'utiliser sa station à condition qu'il conserve le contrôle matériel des appareils.
3) permettre à quinconque d'utiliser sa station sans restrictions.
4) permettre à quinconque de prendre part aux communications seulement s'il a préalablement obtenu la permission écrite du MDC.

14. The maximum bandwidth authorized for a facsimile transmission in the frequency bands below 434 MHz is:
1) 3 kHz.
2) 400 Hertz
3) 6 MHz.
4) 900 Hertz.

14. La largeur de bande maximale autorisée pour une transmission par fac-similé dans les bandes de fréquences inférieures à 434 MHz est:
1) 3 kHz
2) 400 hertz.
3) 6 MHz.
4) 900 hertz.

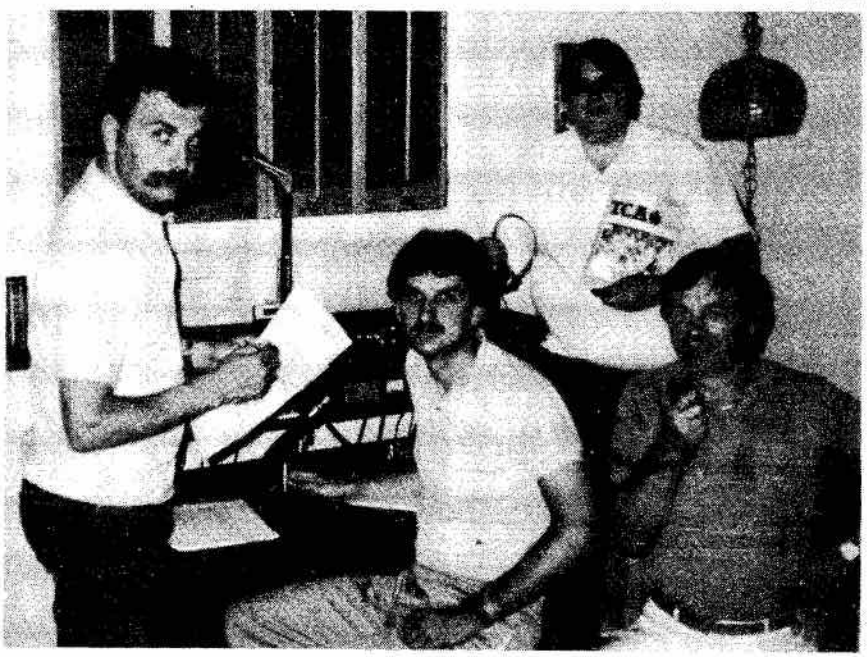
Answers/Réponses:
13—2
14—1

CALENDAR

Oct. 16-Nov. 16: Special prefix CH authorized for Amateurs in Manitoba. Details Sept. *TCA.*
Nov. 9: York Region ARC Newmarket Fleamarket. Details, Oct. *TCA.*
1986
Jan. 16: Applications for DOC licence examination.
Feb. 8: Niagara Peninsula ARC Hamfest. Details Feb. *TCA.*
Feb. 12: DOC licence examination.
March 19: Applications for DOC licence examination.
April 16: DOC licence examination.
May 21: Applications for DOC licence examination.
June 18: DOC licence examination.
July 12-13: Ex-Whitehorse RCAF Communications reunion.
Sept. 17: Applications for DOC licence examination.
Oct. 15: DOC licence examination.
Publicize your get-together here. Write the Editor, TCA, P.O. Box 855, Hawkesbury, Ontario K6A 3C9.
Let TCA know about your events three months in advance to list them in the Calendar.

Contributors— please note the next *TCA* deadline is Nov. 18 for January copy.

A prudent person profits from his own experience; but a wise man profits from the experience of others.



Voici quelques sansfilistes qui ont participé au concours CARF Jour du Canada. De gauche à droite: Norman VE2QX, Sylvain VE2FOT, René VE2AHC, et Marcel VE3GUY.

VE3DQB

Free CARF QSL Service

An interesting complaint

Recently I received an 8-line typed communication. No call, no signature, nothing on the envelope to identify the writer either, but will look forward to hearing again from him.

This Amateur says he receives only 1% QSLs from the INCOMING bureau. Which of course is the CRRL bureau. He goes on to say he does not like rubber stamps on his incoming cards. Then to further puzzle me, he suggests advertising if we want to run a bureau. I was not aware I was running anything. I'm just a worker, volunteer like the rest of the TEAM.

I would like to correspond with this Amateur— OM or YL. He sounds as though he may have some interesting suggestions as to how to better run the bureau services. I hope he reads this, recognizes his comments, and writes to me. I'd like to meet him. Wonder why I think it's an OM.

To him and anyone who wishes to write to me about suggestions, comments and/or complaints. I answer every one, though must admit delays are common with answering letters. The QSL cards must take priority in processing.

—Jean VE3DGG

Incoming QSL Bureaus

V0
P.O. Box 6,
St. Johns, NF A1C 5H5

VE1
P.O. Box 663,
Halifax NS B3J 2T3

VE2
A.G. Daemen VE2IJ
2960 Douglas Ave,
Montreal, PQ H3R 2E3

VE3
The Ontario Trilliums
P.O. Box 157
Downsview, ON M3M 3A3

VE4
Larry Lazar VE4SL
30 Bathgate Bay
Winnipeg, MB R3T 0L2

VE5
B.J. Madsen VE5ADR
739 Washington Drive
Weyburn SK S4H 2S5

VE6
Norm F. Waltho VE6VW
General Delivery
Morinville AB T0G 1P0

VE7
Burnaby A.R.C.
Box 80555,
South Burnaby, BC
V5H 3X9

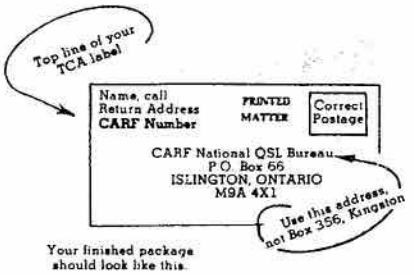
VE8
Rolf Ziemann VE8RZ
2888 Lanky Court
Yellowknife, NT
X1A 2G4

VY1
W.L. Champagne VY1AU
P.O. Box 4597
Whitehorse, YT
Y1A 2R8

Outgoing QSL Service

The CARF Outgoing QSL Service will forward your QSL cards to anywhere in the world. This service is **free to CARF members.**

1. Sort cards alphabetically by prefix.
2. Sort Canadian cards numerically by call area.
3. Place small lots of cards in strong, heavy envelopes and seal securely. Include the label (or copy or facsimile) from your current copy of *TCA*. Wrap heavier packages in strong paper or put in a cardboard box. Tie securely. **Do not staple.**
4. Address your package as shown in the diagram.
5. **Do not register the cards!** This only delays them, costs more and is not really necessary.
6. If you want proof that CARF received your cards, enclose a self-addressed, stamped postcard or envelope with 'Receipt' marked on it.
7. If a package should be damaged on arrival (very rare), CARF will send you a list of cards received so you can check to see if any were lost.



Your finished package should look like this.

SWAP SHOP

FOR SALE: Yaesu FTDX 400 HF transceiver. 500 W CW, 560 W PEP. 80-10. Aligned. Spare Finals. Original shipping cartons. $300. Freight collect. Tom VE3MAH, 354 Cyrus St., Cambridge, Ont. (519) 653-9315.

WANTED: 40 to 50 ft. crank down or tilt-over Ham tower in good condition. Les Nelson VE3BLD, 81 Marlborough Rd., Guelph, Ont. N1E 3X9. (519) 822-1975.

WANTED: 500 Hz filter for Drake TR7. Telephone 1-519-885-5216. Eric Enns VE3BB, 119 Marshall St., Waterloo, Ontario, Canada N2J 2T6.

WANTED: Commercial mobile HF/LF Antenna (Hustler, etc.) VE3MSH, 22 Crittenden Square, Scarborough, Ont. 416-291-4540.

Send your 'Swap Shop' notices to the TCA Swap Shop, Box 356, Kingston, Ont. K7L 4W2. Single insertion is $1.00 minimum (10 words) and $1.00 for each additional 10 words. To renew, send copy and payment again. Please print or type, and put your membership number and call (not counted) at the end of your ad. Include your full address with postal code; if using a phone number, include the area code. TCA accepts no responsibility for content or matters arising from ads. This feature is for the use of members wishing to trade, buy or sell personal radio gear.

From the Clubs

By George Morgan VE3JQW
687 Fielding Dr.,
Ottawa K1V 7G6

With the fall upon us, club activities are starting up again and I have beeen receiving an increasing number of very interesting magazines and club bulletins. I enjoy reading each of them cover to cover, and I am intrigued by the variety of approaches taken by different clubs to appeal to their members. I can see that as the number increases even more I am going to have quite a problem deciding which material to select for this column. But that's a nice kind of a problem to have!

I would like to repeat a request I made a couple of months ago. Among the records lost during the computer crashes was the up-to-date list of affiliate clubs. I have been searching through old files trying to put the records back together again but I know that I have not recovered all of the lost information. I would appreciate it very much if each affiliate club would send me confirmation (perhaps your club QSL card) along with the name, callsign and address of your CARF representative.

So here is a sample of what I have received from the clubs this past month.

First of all, we have an example of how Amateur radio turned out to be useful. According to the Halifax Amateur Radio Club's bulletin, on Tuesday, Aug. 6, Serge VE1KG was travelling along one of the city's main thoroughfares when he observed a couple of teenagers, with the aid of a screwdriver, trying to gain entry to a parked auto. Serge was on 2 metres at the time with Herb VE1ADA, and he had Herb call the police on the phone. They maintained a continual conversation with the police, advising them what the punks were doing. In the meantime, a police cruiser was on its way to the location, and they apprehended the culprits.

Well done, fellows.

In the Saskatchewan ARL's magazine, Glenn VE5GG, really puts his finger on a situation that many of us can identify with. He states that a few years ago and for many years SARL had an evening 80-metre net. It was a loosely organized thing, and as the hams checked in or answered the roll-call there were comments about the weather, the crop, Uncle Charlie or Aunt Grace or the kids— in fact generally most anything. The net would go on for an hour or more. Then some fellows decided the net should be more 'efficient': roll call eliminated, check-in by areas, no more comments, move off the frequency, etc. The result was the fun of the net was eliminated and many hams were also eliminated. Maybe, says Glenn, there should be a return to a less 'efficient' operation.

I know of one person who would agree entirely.

Thanks to Eric VE3ISD, for the following article in the Niagara Peninsula ARC bulletin, *Feedline:*

In response to an appeal in *TCA* (and with a little urging from Dave VE3FOI), I volunteered to assist in demonstrating ham radio at the Canadian National Boy Scouts Jamoree in Guelph from July 4 to 11. Much to my surprise there were about 10,000 scouts and about 5000 volunteers (not all doing radio!!) If you ever needed your faith in the youth of today restored you should attend a scout jamboree!

Apart from the fact that it took three hours before I found anyone who knew where the ham station was— plus the usual confusion regarding CB— it was a most enjoyable week. When I found the marquee it contained about 50 or 60 IBM computers, five video terminals and 33 ham radios. Would you believe— all the ham radios were rigged up for SSB! Well, it didn't take very long for me to convince the ham in charge that ham radio consists of CW, so the 40M set was converted to 'real ham radio' and the special call VE3SCJ was used.

The scouts came around in groups with a leader and you tried to demonstrate QSO's, etc. while talking AND amid the noise. The only place that I could hear my sidetone was on the 20M rig behind me.

One computer was rigged up to accept messages from the scouts to their parents; I didn't know about this until about Wednesday, by which time my rig was disappearing under the growing mountain of traffic. Never having sent traffic I was at a loss what to do with it until a VE3KK answered my CQ and asked if I had any traffic... DID I HAVE TRAFFIC!! So we started, and after a settling down period we were passing messages at the rate of one per minute for three hour stints. I simply couldn't send fast enough for the mysterious VE3KK (I didn't know his name or QTH). We just rattled away at 25 wpm plus hour after hour; in three days we had disposed of 480 messages. What a slick operator— took me back to the 1939-45 era. They were going to pull the plug at about 4 p.m. on Friday so I asked who he was. Well, it was Marshall Killen of Waterloo, net controller for the OSN, and 81 years old and a ham for 66 years.

Marshall lived in the Azores working for Western Union (and did work for Intrepid), came to Canada for training, then to the U.K. as an instructor at Cranwell. He then went to Algeria/Tunisia (radar), then to Italy, then back to Canada and Newfoundland. After demobilization he went back to the Azores (when the station there was closed, he left millions of dollars worth of equipment as scrap!) He uses his old Western Union key and can still get 30 wpm out of it.

Incidently, getting back to the Jamboree, Marshall actually shook hands with Lord Baden-Powell as a child.

The October Peterboro ARC News contains the following interesting write-up on the recent earthquakes in Mexico.

There are about 3000 hams living in Mexico but only about 150 who are very active and just 60-70 who speak English. A good number of these were active along with southern state U.S. hams who crossed the Rio Grande to provide further assistance with communications after the recent earthquake.

I'm sure when the news broke about this disaster one of the initial reactions for most of us was to switch on the HF rig and start searching out the source of the action which would most certainly involve ham radio. No doubt we all know a little or a lot about the ham side of things but for the record and for those who failed to listen in or help in some way, here is a minor glimpse of the action on just one of those busy days.

Tuning 20M SSB alone revealed a band saturated with more than 17 English speaking Health and Welfare QSO's in progress. At 14.300 XE1L was 'broadcasting' up to the hour statistics and info for Government and Red Cross, etc., listeners world wide. On another frequency, Nellie XE1CI, a Red Cross nurse, was dividing her time between passing traffic and nursing duties. Yet another frequency had Mexico City hospital linked with a Baylor, Texas, hospital discussing urgent medical supplies and so it

Continued on next page ▷

QUA CARF

& TCA

Long Delayed Echoes

By Doug VE3CDC

In 1945 the best Christmas present for Canadian Amateurs was to get back on the air after six years of wartime shutdown. The huge Ottawa bureaucracy had survived the war and with the wind-down of wartime activities must have been looking for something to do, as Amateurs received a questionnaire with some 20 questions which had to be answered in order to get the old station in operation again. It all sounds rather redundant in this day and age but the answers had to be sent to Ottawa or the divisional radio inspector in order to validate the pre-war station licence.

It really got down to nitty-gritty detail which seems absurd in this day and age... like a description of receiving apparatus, make and model, types of tubes, circuit, etc. The same went for the transmitter, plus the circuit, type of oscillation control, etc. In this day, trying to answer even these two questions just for starters would require a knowledge of Japanese!

The list went on to ask how you measured power, modulation and frequency and just what you used as a power supply for filaments (remember those?) and plates. The whole thing ended with question 20 as a real clincher: "Anything else of interest?" Just what was done with the four or five thousand replies boggles the imagination. They must have cluttered up filing cabinets in Ottawa in the old Department of Transport (although oddly enough the certificates of the day were signed for the Minister of Reconstruction and Supply by one G. Bennett, according to my yellowing station licence).

XTAL MAGAZINE was back with its third post-war issue as the official voice of the first and then the only all-Canadian Amateur society, the Canadian Amateur Radio Operators Association and was struggling to increase its membership among the rather limited numbers of operators of the time. Its technical articles in the December issue were of the same high quality as those of its contemporary from the U.S., *QST*, journal of the American Radio Relay League. Many *TCA* readers will remember articles by the late Bud Punchard and his interest in antennas was evident even then, shown in an excellent and still timely article on antenna coupling circuit design. Another article by A.P.H. Barclay on resonant transmission lines is as relevant today as it was then.

A report on one of the first post-war hamfests noted that the staggering total of 150 people attended the gathering in Toronto. One of the exhibits showed formerly secret special tubes developed by the government organization, Research Enterprises Ltd. for the Forces.

It would be interesting to hear from the survivors of the group who worked hard to keep *XTAL* and CAROA going. The names on the masthead were, S.B. Trainer VE3GT, T.G. Powell VE3ZE, J.V. Purdue VE3QK, A.H. Gillier VE3AZI, P. Posniko VE4ATR, L. Horsall VE3AZ, E. Bartman VE3VD, T.S. Carpenter VE3BD, F.M. Haines VE3MQ and Ivor Nixon VE3ACL.

I'll open another bottle of Geritol and see what I can tell about what went on in VE back in 1945, in the next issue of *TCA*. Δ

Norm VE6VW, CARF's Midwest Director, at the controls for XJ6VCA (Voice of the Canadian Amateur) on Canada Day.

▷ *Continued from Page 30*

went... There was all kinds of query traffic regarding friends and relatives, but to become involved in this required that some time be spent in listening about the band first as many different methods of formatting, funnelling and message reply systems were being used.

On some frequencies XE's were making immediate phone calls and providing instant replies (60% of domestic phones were OK, but no out-of-country lines) while on other frequencies messages were taken but responses were to be found on another outgoing frequency. Yet another station was employing a DX technique of working by call areas as hundreds wanted to pass traffic to him. Another method involved DX-type 'list-taking.' If you had a message to go, get your call only on his list. This orderly list would, after some time, be used to give you a clear shot at passing your message to another station without QRM from other callers and minimize delay for the station in receipt.

Often serial numbers were assigned to messages as different nets had different blocks of numbers assigned from a co-ordinator. Sometimes too, callers-in could only submit about five queries when they had perhaps 15 or more pending.

Information was given out periodically as to when and where to go to seek replies— meaning you had to be flexible, as this sometimes meant returning later at night on a different band.

Another group (about two or three hams) pulled station after station out of a pile-up and took messages consisting of only one name and a seven digit phone number! These fellows worked quickly and relentlessly all day as though in a DX contest and when finally going QRT in the evening informed listeners that they would make about 800 phone calls overnight and be back on the air next morning with replies and then start the whole process all over again. (Some have long criticized DX and contests as nuisances and worthless pursuits, but here is a case where valuable skills learned were put to very good use!) Δ

CONTEST SCENE

By John Connor VE1BHA
18 Deerfield Dr., Apt. 1112, Nepean, Ont. K2G 4L2

As promised, this month we will have a look at the results from the 1984 CQ WW CW DX Contest, as reported in the October issue of *CQ Magazine*.

The current conditions are definitely taking their toll, as can be seen by the scores in this contest. Only two new Canadian records were set, with Yuri bettering his old 40M score and XN3BVD setting a new multi-multi record.

The higher frequencies did not prove to be too popular, with only two entries *in total* on 10, 15 and 20. I bet that there are a few people out there who made some contacts on 15 and didn't send them in. Now don't you wish you had?

The low frequencies, on the other hand, were quite popular, as would be expected. On 80M, VE7IG edged out XN3FRA. Although FRA had 23 more multipliers, it wasn't enough to overcome 'IGs 168 QSO margin. However, if Al could have found two more multipliers, that would have given him first place. Remember, in the CQ contests, one QSO can yield two multipliers, one for the country and one for the zone. So one QSO could have made the difference between first and second place. Kind of makes you think twice about getting up from the rig, doesn't it?

The competition on 160M was pretty tight as well, with VE3OME besting VE3MFA by only 31 QSOs and 2 multipliers. VE3INQ, in third place, was only 6 QSOs and 2 multipliers behind VE3MFA.

The all band competition was not close at all. KE7V apparently enjoyed visiting VE7WJ in 1983, because he returned in 1984 and once again was the top single operator all band entry in Canada. At least he doesn't get the trophy. That goes to VE2AYU in second place, some 1300 QSOs and one million points back. Do I hear faint cries of "Yankee go home" in the audience? Come, come gentlemen. It's only a game, right?

Multi-single honours went to VO2WL, from rare Zone 2, while XN3BVD was number one (of one) in multi-multi action.

Interest in contests does seem to have a fairly strong correlation with the sunspot cycle, especially in the multi operator categories. Currently, there are rumors about several 'super-stations' being built in Southern Ontario in anticipation of some large multi operator efforts during Cycle 22. We will all just have to wait and see how many of these plans actually bear fruit.

1985 Canada Day Contest

Norm VE6VW has been toiling diligently out in the wilds of Alberta and has compiled the results for the 1985 Canada Day Contest. With the cooperation of the Kind Editor, they should appear in this issue. The all band competition went to XJ3XN, with a record score of 384k. The top dog on 80 was W3GM, a familiar call to DX contest participants.

Forty went to XJ3OOS, while XJ3KOY ran up 48k for first place on 20 metres. Last, but certainly not least, VE3OIP was the lone entrant on 15. In multi operator category, VE7ZZZ scored 368k to lead the pack, while establishing a new record for future multi operator efforts to shoot for.

Special thanks to those who sent pictures and stories regarding their efforts in this contest. I hope room can be found to print them.

Odds and Ends

Lastly, I shouldn't ask people to send me their results if I'm not going to use them. So allow me to thank Dean VE1CBF for passing along his IARU score of 106k in the single op, phone only category. FB, Dean.

My filing system is best described as CHAOS— Connor's Hopelessly Arranged Ordering System.

Well, on that note, I think that I should definitely finish up. Have a Merry Christmas, and see you in 1986. Δ

CANADIAN RESULTS
1984 CQ CW WW DX CONTEST

CATEGORY	CALL	SCORE	QSOS	ZONES	COUNTRIES
28 MHz	VE2ASJ/3	799	47	8	9
21 MHz	no entry				
14 MHz	VE4AIY	17,550	184	21	24
7 MHz	XN3BVD	436,100	1306	36	104
3.5 MHz	VE7IG	100,595	778	20	35
	XN3FRA	98,124	610	22	56
	VE1AIN	49,664	346	15	49
1.8 MHz	VE3OME	12,056	280	8	14
	VE3MFA	10,420	251	8	12
	VE3INQ	8,712	245	7	11
	VE7BS	4,688	142	9	7
	VE5XU	2,844	162	4	5
ALL BAND	VE7WJ (KE7V op)	1,389,025	2055	103	172
	VE2AYU	456,111	776	66	177
	VE3DZW	298,004	621	67	136
	VO1KP	249,458	551	50	137
	XN3WBE	206,326	651	51	99
	VO1AF	192,812	464	50	122
	XN4WV	161,025	706	47	66
	VE3SZE	114,392	232	60	121
	VE5APK/3	95,310	487	37	53
	XN7LDO	62,937	330	36	45
	VE4AEZ	58,344	246	38	64
	VE3CYZ	39,312	153	48	60
	VE3UOT (VE3EZZ op)	29,835	142	38	51
	VE3GWH	11,880	115	27	28
	VE3OLU	11,016	99	25	26
	VE2YA	6,050	57	26	29
	VE7DSI	1,139	32	10	7
MULTI MULTI	VO2WL	539,840	1633	56	102
	VE3SDO	329,114	997	56	102
	VE2CF	135,113	944	24	47
MULTI MULTI	XN3BVD	2,996,269	3096	124	295

1985 Canada Contest Comments

Contest QRM: If we had a bonus for mosquito bites then we'd be #1... XJ3PCL, Nice log-ed... AA6XX, Tried to work VE8RCS-CW over an hour but no luck... VE3NYT, I was pleased to hear so many stns on... VE1BWP, Here is my stupendous log— I don't imagine I'll place 1st... VE3GWM, Too Many Dupes from Dabblers— one guy worked me 3 times on one band/mode... VE5ADA, Lots of fun... VE3DJ, QTH— west end of Lake Ontario 'Yacht Keeper'... VE0MJN, It was hard going trying to find anything from North America... G5MY, Even though the day was nice and hot— the bands seemed to be hotter... VE1TE, I realize now that I should have made some effort on CW for more multipliers but CW is not exactly my bag... VE7DGI, 1st Contest ever— had fun... VE7APX, My first CARF Contest— very enjoyable with lots of CW stns taking part so I am looking forward to next year...VE3KK, Lousy propagation as usual... VY1CW, ok fellows, let's all point our beams north for Bill, Had a power leak noise varying from S4 to S7 most of the time of the contest... XO1AW, In total I worked 19 different National Parks or Historic sites... XJ3XN, Tnx for an excellent contest but where were the VE4s 5s 6s 7s and VY1 on 40 and 80? Had fun and no Murphy— C U In Dec... XJ1CBF, I even heard a few 'Ws' calling CQ Test... VE3NBE, Hope to do a little better next year... XJ1DX/PEI, What Frank— No comments?... VE3DQB, Conditions were not overly good— but we had a great time... VO1PJ/VE8RCS, A very gentlemanly Contest— we always look forward to them... DA2CF, Super Contest— there seemed to be lots of activity and interest— the best CARF sponsored Contest yet... VE1BEI, My second shot at the 40 metre category— the quantity may have been down but the quality was up. See you next time... VE3OOS, A couple of the local hams challenged each other and this added to the fun... VE7EJS, A poor antenna location hindered our score... XJ3YRA, My first Canada Day Contest— really enjoyed it... VE1CAN, Thank you and good night... VE1AUU, Talk about weak signal work— I thought for awhile I was copying QRN hi... XJ3LFJ, Lots of representation from all over— my first VE8 in 5 years... VE3KHE, Great Contest... VE7CAL, Very bad propagation conditions for me... LU1EWL, Finally— a decent multiplier total... VE3KOY, Best wishes to our VE friends... K1BV, Next year I'm going to have to put in air conditioning in the shack... VE3NMT, What happened to the CARF Official Stns VCA/TCA? Never heard one on either phone or CW... VE3MEW.

QUA CARF

CARF CANADA CONTEST

Well the airwaves have finally cooled down enough after the contest to finally sit down and get these tabulations done so they can be in the December issue of *TCA*. With over 75 entries this year, I would like to say that the contest has been the best one in the 80s. This is a record number of entries and maybe we have finally set a trend for the Canada Day contest in that this is the thing to do on Canada Day? From all of the results that have come in, the 1985 Canada Day National Parks Centennial Celebrations was a great success. Some of the parks that were manned with Amateur Radio were: XJ6NP, Banff; XJ1VAS, Fortress Louisbourg; XO3GP, Gros Morne; XJ1CBI, St Peters; XJ1CR, Cape Breton Highlands; XJ3PCL, Pelee; XJ4RMP, Riding Mountain; XJ4LFG, Lower Fort Garry; XJ6APU, Rocky Mountain House; XJ6VCA/VE6VW, Elk Island; XJ6ZK, Waterton; XJ1QW, Kejimkujik; XO1NP, Terra Nova; XJ1PEI, PEI; XJ7CBL, Pacific Rim; XJ6YAC, Jasper; XJ5EB, Prince Albert; XJ7ARB, Revelstoke; XJ3YRA, Harbourfront Park, and probably some more that I have missed. There have been some comments that this Contest should be run in conjuction with Parks Canada, and there are also comments on either having a CW class or a points difference or the operation of CW only. How about some comments to me on these matters?

Well this wraps it up for another contest, I will see you on the bands on Dec. 29 for the upcoming Canada Contest '85. Δ

73 Norm Waltho VE6VW

Alltime record scores for the CANADA CONTEST

Band	Call	score	multipliers	year
A	VE5DX	876,000	120	1981
28	VE6CKW	39,160	22	1980
21	VE3NOS	7,952	13	1982
14	W5FO	35,238	21	1984
7	VE7BS	8,932	14	1980
3.5	VE2JV	8,000	14	1980
1.8	VE7FCK	60	2	1982
M	VE1ASJ	687,095	131	1981
CANADA DAY CONTESTS				
A	XJ3XN	384,414	79	1985
28	VE1BUG	1970	-	1979
21	DF6VE	3015	-	1980
14	CJ5RA	54,820	20	1982
7	CY1CCM	13,266	18	1983
3.5	VE2CUA	22,872	-	1981
1.8	VE3INQ	297	3	1982
M	VE7ZZZ	368,412	66	1985

OFFICIAL RESULTS OF THE CANADA DAY CONTEST 1985

Band	Call	VE QSO's	Other QSO's	Multipliers	TOTAL
A	XJ3XN	391	194	79	384,414
A	XJ5ADA	393	262	49	254,212
A	XJ1CBF	307	78	57	177,840
A	XJ3NBE	206	110	45	118,350
A	XJ6JO	284	51	38	93,632
A	VE7DLM	198	100	35	87,500
A	W3ARK	192	34	42	87,192
A	XJ1BWP	178	33	33	66,726
A	VE4VCA	191	25	26	55,120
A	XO1AW	101	88	33	48,576
A	VE1AUU	113	246	19	40,546
A	XJ1BEI	93	83	26	35,152
A	VE3KHE	88	16	32	30,848
A	VE3MOL	103	19	26	30,836
A	VE3LQS	129	9	17	23,562
A	VE3CWE	53	6	29	18,386
A	VE3IOI	87	14	18	17,748
A	VE1CGV	79	20	20	17,400
A	VY1CW	76	14	15	13,440
A	XJ3LFJ	54	33	17	12,954
A	VE7CAL	67	6	17	12,478
A	VE6PW	50	7	19	11,172
A	VE2RO	40	27	21	10,668
A	VE3OMU	43	24	18	9,828
A	K1BV	51	9	17	9,622
A	VE6ADK	45	53	13	9,386
A	VE3NMT	46	12	17	9,316
A	G4IGI	59	1	14	8,316
A	WO1ZV	44	-	16	7,040
A	VE7EJS	33	36	11	5,214
A	VE3DJ	24	1	13	3,432
A	K6XO	21	18	10	3,020
A	VE6AGV	38	2	6	2,448
A	N3CZB	20	-	9	1,800
A	W6DNY	21	3	8	1,776
A	K8CW	5	78	4	1,448
A	VE3MEW	19	3	6	1,212
A	XJ1BWQ	7	-	7	840
A	VE0MJN	8	11	6	744
A	LU1EWL	5	-	5	250
DISQUALIFIED:					
	VE6CPP	119	34	19	26,714
No Band indicated:					
A		76	38	17	16,184
No Call					

CHECK LOGS

VE1BWQ, XJ6VCA, VE3AHZ

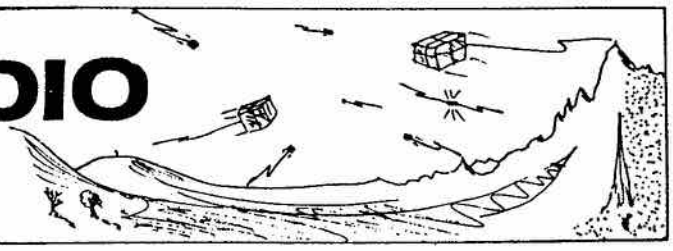
Band	Call	VE QSO's	Other QSO's	Multipliers	TOTAL
80	W3GM	97	19	16	17,216
80	VE6CPE	101	15	10	10,700
80	XJ1DX	60	23	8	5,936
80	VE3LMG	16	2	4	752
40	XJ3OOS	55	24	14	9,744
40	AA6XX	26	11	6	1,824
40	VE7BS	9	6	6	684
20	XJ3KOY	145	167	21	47,628
20	KR1R	136	18	15	22,080
20	VE7DGI	164	10	12	21,120
20	VE1CAN	101	68	12	15,624
20	VE3NYT	54	13	17	11,424
20	WB8ZAL	97	6	11	11,374
20	VE1TE	108	1	8	8,992
20	VE3KK	54	46	10	7,660
20	W2FCR	53	2 7	11	7,238
20	VE3LCZ	54	4	12	6,912
20	XJ7PRC	40	19	8	4,528
20	VE7CRW	26	11	11	3,784
20	AA4GS	32	25	7	2,940
20	VE3DQB	23	5	11	2,750
20	VE7APX	24	6	9	2,736
20	KS7P	22	-	10	2,400
20	W1DMD	21	-	8	1,680
20	WK4F	12	-	8	1,120
20	G5MY	11	2	4	472
20	VE2HAR	4	-	4	160
20	VE3GWM	2	-	2	40
15	VE3OIP	13	18	7	1,414
Multi:					
	VE7ZZZ	469	153	66	368,412
	XJ2FOT	308	161	46	177,284
	XJ2CDN	149	111	41	82,163
	VE8RCS	169	157	21	49,518
	XJ6VCA	71	26	27	26,298
	XJ3PCL	83	32	22	21,076
	DA2CF	116	112	20	14,652
	XJ3YRA	27	11	13	5,642
	XJ3DXY	37	3	8	3,856

Multi Operators:

VE7ZZZ-?VX,?SK,?AV,?XYL,VE3CRD
XJ2FOT-"2AHC,2GUY,2FQX
XJ2CDN-2AM,2GFN
VE8RCS-VO1PJ,VE3OSN,Glenn Ritchie
XJ6VCA-6CB,5HG,6VW
DA2CF-VE3JSY/DA2GH,VE3MNQ/DA2ZS, George Poitras, Dave Simard (log keepers)
XJ3YRA-3KCE,3ACK,3MQY,3JSJ,3CES
XJ3DXY-3ZW,3NFW,3NFU
XJ3PCL- 3AUI,3GRC,3MGD,3MGF,3MGU,3MGY,3OET,3WM

PACKET RADIO

By Brett Delmage VE3JLG
5-136 Woodridge Cres.
Nepean, Ont. K2B 7S9.



Packet Radio in the Far North

From July 11 through Aug. 28 of this year, packets could be heard coming from the "World's Most Northerly Permanent Habitation"— Alert, N.W.T.

Bob Hicks VE3OSN operated HF packet station VE3OSN-8 from the Amateur club station at CFB Alert. He used a TAPR TNC, Kenwood TS82OS, TRS8OC computer and a Hygain TH6DXX to beam packets to many parts of the world on 20 metres (14.103 MHz).

A total of 82 connections were made with Amateur packeteers from U.S.A., England, Norway, Cayman Is., W. Germany, Italy, Brazil and Togo. No connection was made with a Canadian station! (Any VE/VO/VY activity out there? Ed.) Regular connections were made with several PBBS's and in particular: Kjell LA6OCA in Norway, Hank WORLI in Mass., Karl N1DL in Mass. and Dennis W5XO in Gause, TX. These stations and many others operate as Gateway sites where HF packeteers may connect to local VHF packet operators.

Using only 100 watts output power, HF packet radio proved to be very successful for passing traffic and transferring files. 'Arctic flutter' adversely affected some packet transmissions, but reducing the packet lengths to approx. 30 characters/ packet improved things a bit.

HF packet is becoming quite popular. The 300 band, 200 Hz shift signals can be heard regularly on 14.103 MHz. Other frequencies used on HF are 14.080 MHz and 10.149 MHz. In addition, some experimenting is taking place on 40 and 80 metres.

And on the West Coast...

Peter Driessen VE7AB reports that the Northwest Experimental Radio Group of the Vancouver area will be placing a digipeater atop Mt. Seymour. At 4000 ft., on 145.07 MHz, VE7RRR should be operational by the time you read this.

Packet Radio reading

The following list of articles and books on Amateur Packet radio is based on a list compiled by VE3CWO which was provided to attendees of the Barrie Packet Radio Symposium:

Ham Radio:
'Amateur Packet Radio: Part 1,' July 1983
'Amateur Packet Radio: Part 2,' Aug. 1983

73:
'Join the Packet Radio Revolution,' Sept. 1983
'Join the Packet Radio Revolution— Part II,' Oct. 1983
'Join the Packet Radio Revolution— Part III,' Jan. 1984

PSR Quarterly (Packet Status Register):
Technical topics: published by Tuscon Amateur Packet Radio (TAPR) Box 22888, Tuscon, AZ., 85734

BYTE:
'Bulletin Boards in Space,' May 1984
Synchronous Packet Radio Using the Software approach; Richcraft Engineering Ltd., #1 Wahmeda Industrial Park, Chautauqua, NY, 14722
The New Industrial Revolution: Packet Radio and Local Area Networking; Cornell Drentrea WB3JZO, 7140 Colorado Ave. N., Minneapolis, MN, 55429

CARF PUBLICATIONS

Digital Transmission Techniques
One of the sections of the Canadian Amateur Reference File

TCA:
'Studying for the Digital Amateur Ticket,' Dec. 1981, Sept. 1982, May 1983
'Packet Radio Lives!' June 1984

ARRL publications

GATEWAY:
a biweekly Packet radio newsletter

QST:
'The making of an Amateur Radio Network,' Oct. 1981
'ARRL Board approves AX.25 Protocol,' Dec. 1984
'What's all this Racket about Packet?,' July 1985
'A Closer Look at Packet Radio,' Aug. 1985
'On Line,' Aug. 1985
Packet Radio— Integrated Data Communications, part of the section on digital communications, The Radio Amateur's Handbook (1985)
AX.25 Amateur Packet-radio Link-Layer Protocol
Fourth ARRL Amateur Radio Computer Networking Conference (1985)
Third ARRL Amateur Radio Computer Networking Conference (1984)
Second ARRL Amateur Radio Computer Networking Conference (1983)

Thanks to K1HTV, the keeper of the EASTNET maps, for the map which appeared in the September issue. Δ

TORNADO WARNING DEVICES

Montgomery Co. (MD) RACES/ARES

When a tornado warning has been broadcast for your area, you can use your TV set or radio as a warning device. Use the TV set first. Warm up your TV set and tune in Channel 13. Darken the screen to almost black using the brightness control. Next tune in Channel 2 and turn the volume control down. Your tornado detection device is now in operation. Lightning will produce momentary white bands of varying widths across the screen (colour sets produce coloured bands). A tornado within 15 to 20 miles will produce a totally white screen which will remain white (colour on colour sets). This occurs because lightning and tornadoes generate RF energy at about 55 MHz (Channel 2) which override the brightness control. Channel 13, which is at the high end of the VHF band, is not affected. That is why the brightness control is set at that channel. If the screen whites out (or colours out), turn off your TV set, take your portable radio, and seek a place of shelter immediately. Use the portable radio for emergency instructions and in case of power failure. If the radio is tuned to the 550 kHz-1600 kHz AM band, lightning will cause intermittent static. A tornado will cause steady, continuous static. Most homes have these two warning devices. It might be a good idea to keep a copy of these instructions during tornado season.

Compu-stuff

By Lyle Blake
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Map Generation

Since all chips in a computer must share the 'Common Buss,' consisting of address and data lines, some means of sorting out who's who is needed. The 'Map Generator' or 'Address Decoder' serves this function by decoding the Binary Address into a 'Chip (or device) Select' signal which in turn enables one device to come on the Buss with the CPU.

A very good example of this type of decoder is our telephone system. When you dial a friend's number you are setting up a numerical code which the exchange in turn decodes to one line and hooks your line to your friends. The term 'Map Generation' originates from the concept. Addressing a single location and this action is the same in a computer as it is at Bell.

Figure 1 illustrates one type of Map Generator. In this case for the memory selection the only decision required is RAM or ROM and the very simple arrangements shown do this nicely. G1 will come active (low) only when A15, A14, and A13 are all 0 (low) thus assuring that ROM is selected only at low address values (8k or less). G2 further assures that ROM is selected only during Memory cycles when MREQ is active (low). G3 and G4 simply select RAM during any Memory cycle when ROM is not selected. The signal ROMKILL is pretty much self explanatory and would be tied to an I/O port to disable ROM when not needed.

In Fig. 2 we see a different method of decoding addresses. It can be quickly seen that the 74S154 is a very handy chip for the job. It will decode four lines (A B C & D) into one of 16 lines (Y0-Y15). Depending on the state of G2 (which must be low to operate) one of the outputs will go low to reflect the Binary input.

Using the four high order bits of the I/O address we can very nicely divide the Z-80's 256 I/O addresses into 16 blocks of 16 addresses. Using 10-REQ to trigger G2 assures activity only during I/O cycles.

I'm quite sure the importance of this section is readily apparent. With no means of device selections our CPU would be in a room where everyone was named John. Δ

Figure 1 Memory Map Generator

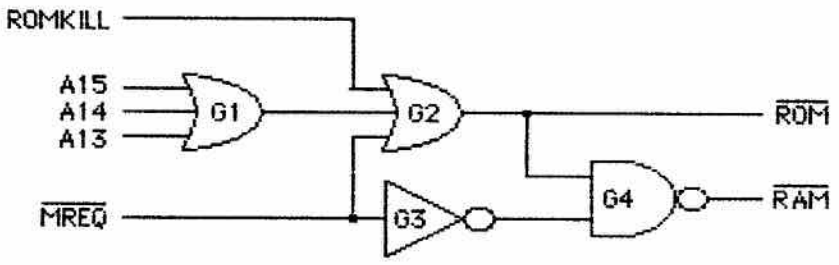
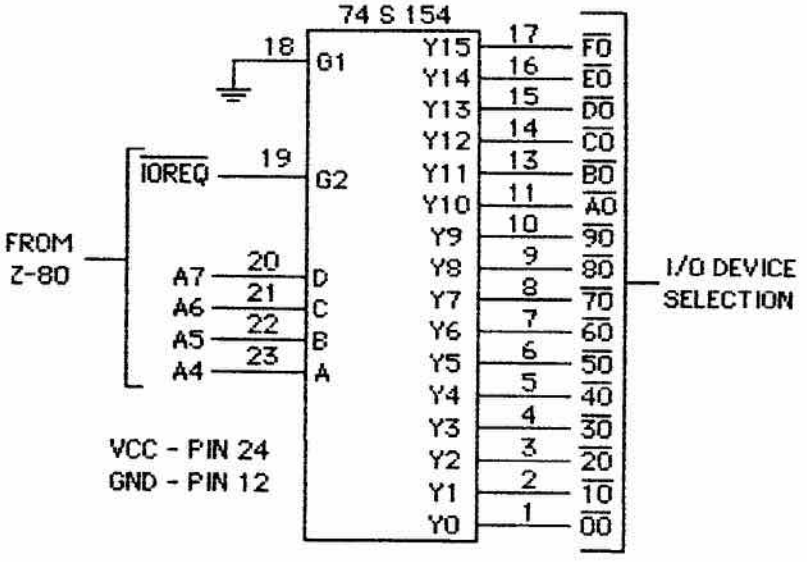


Figure 2 I/O Map Generator



Can you help Debbie?

CARF needs the addresses of these Amateurs. If you know where they are presently living, please tell Debbie. Her address is CARF, Box 356, Kingston, Ontario K7L 4W2.

Vatche Nazarethian, 2435 Kipling Avenue, Rexdale, Ont. M9V 3A7;
Joss Tremblay, 1842 18 Street East, Calgary, Alta. T2C 0M6;
Ed Lukaweski VE3LKY, 102 Chelsea Avenue, Toronto, Ont. M6P 1C3;
Vera Leger, Box 1841, Shediac, N.B. E0A 3G0;
R. Gunn VE6OM, 327-21 Berkely Place, Lethbridge, Alta. T1K 5N1;
Jim Crawford VE3IYS, 150 Paisley Blvd #1603, Mississauga, Ont. L5B 1E8;
Don Bouce, R.R. 1, Site 1, Camp 5, Whitehorse, Yukon Y1A 3S7;
Philip Bergenham — R.R. 1, Pender Island, B.C. V0N 2M0;
Ken Viger VE7EXM, 4037 Lakeside Drive, Victoria B.C. V8X 2J6;
Alan K. Stevenson VE7EWB, 10523 155A St., Surrey, B.C. V3R 4K6;
D. Burton VE7ACB, 13265-85A Ave., Surrey, B.C. V3V 1R4;
John E. Norton, 9883-134th Street, Surrey, B.C. V3T 4B1;
J. Hobbs VE5KQ, 326 Thrin Cresc., Saskatoon, Sask. S7J 6N7;
D. Parks VE3BVZ, 212-1962 Yonge Street, Toronto, Ont. M4S 1Z4;
Thomas Potter, 12747-102nd Ave., Surrey B.C. V3V 3E6;
Alan K. Stevenson VE7EWB, 10523 155a St., Surrey B.C. V3R 4K6;
J. Raven VE1XO, 929 Millborne Rd. E., Edmonton, Alta. T6E 2Z6.

And if you move, please let her know in good time. Then you won't miss any of your *TCA*'s.

Δ

YL NEWS & VIEWS

By Cathy Hrischenko VE3GJH

We recently had some very interesting DX company.

ZS5YO Mimi spent a day with us. She is a medical practitioner. Her OM (who is not a ham) is a pathologist and one of their daughters is a veterinarian. We had a small luncheon for her and enjoyed the visit. Mimi became licensed in 1980. She works bands 10, 15, 20 and 40. Likes to ragchew. She enjoys meeting and learning about people. She said she missed her dog and was pleased to see our dog. She also enjoys gardening. We presented her with a CLARA crest and membership as a DX member.

Thelma (left) and Cathy (right) present Mimi ZS5YO with the CLARA crest and DX membership.

VE3CNE

For the past 6 years, Mary VE3COH has taken on the job of Net Control for the YL day at VE3CNE. This is the pre-season launch of the CLARA net the Tuesday before Labour Day. YLs operate the station for the entire day.

If any of you are in the big T.O. during Ex time, be sure to visit the Amateur Radio booth in the Arts and Crafts building. Mary had the following check in during the CLARA net: Jeannine VE1BUP, Betty VE5FI, Muriel VE3LQH, Diana VE7XYL, a VE4 Mobile, Lorraine VE3NDB, Frank VE5FH, John VE3FED and Frank VE3NEP.

The YLs in attendance that day were: Mary VE3COH, Jan VE3BII, Doris VE3BBO, Audrey VE3ILT, Jean VE3DGG, Elsie VE3LHW, Irene VE3IRS, Thelma VE3CLT, Iris ex-VE3DER, Audrey VE3CCO, Irene VE3AUR and yours truly Cathy VE3GJH.

Thanks Mary for a job well done, as usual!

More visitors: We had the pleasure of having Clare EI7CW and OM Ken EI9AB stay with us for a few days. An evening party was held at our home so Clare and Ken could meet the many Canadians they've been talking to over the years. They went on to visit friends and a few YLs in VE7 land, then back to Toronto and up to Ottawa to visit Marg VE3EQE and Larry. You see this whole visit came about because Marg and Larry had visited Clare and Ken in Ireland. While visiting the McKinley's they tasted some fresh corn on the cob and thought it was delicious. Clare has won the CLARA AC-DC award a couple of times.

Mary VE3COH, Clare EI7CW, Cathy VE3GJH and Irene VE3IRS at a party for Clare and EI9AB at Cathy's QTH.

What would a Christmas issue be without one? Humbug!

Twas the night before Christmas, when all through the house, not a creature was stirring, not even a mouse. The rig was tuned up with the greatest of care, in hopes that the station I sought would be there. My hubby was nestled all snug in his bed, but visions of Rare DX danced through my head. When out of the speaker there came such a splatter, I sprang to the dial to see what was the matter. Away to my Collins I flew like a flash, and then threw in the filter to cut down the hash. With gains turned back as far as they'd go, I waited to see if his call I would know. When what to my wondering ear should appear, but "MC2U mobile" solid and clear. What jolly old signal! I zeroed him quick, but I felt in my heart that it must be a trick. In many long years I had been in the game, I had ne'er worked a station with such an odd name. I had contacted Danzig, Paris and Bombay and some little villages in Paraguay. The QSL cards fairly covered the wall, but MC2U would be rarest of all. At last he stopped calling, twas time to let fly, if I messed this one up, I was sure I would die. With quivering lips and shaking knees too, I reached out my hand and the plate switch I threw. And then in a twinkling, I heard overhead, a racket enough to awaken the dead. My plate current jumped and the meters swung round, and down the chimney St. Nicholas came with a bound. He was dressed all in fur from his head to his foot, and his clothes were all covered with ashes and soot. A stump of a pipe he held tight in his teeth, and something encircled his head like a wreath. It circled his chest and his little round belly, like a meat ball surrounded by vermicelli. It seemed rather strange, this peculiar attire; Oh no! Could it be? My antenna wire!! He held up a feeder, the jolly old elf, and we laughed till we cried, Old St. Nick and myself. Then laying a finger aside of his nose and giving a nod, up the chimney he rose. As I watched from the window, he went straight to work, and in no time at all, he turned with a jerk. And there on the roof standing sturdy and tall was a beautiful beam, with rotator and all. As my eyes filled with tears that I longed to be shed, he peeked in the window and waggled his head. Don't thank me, my sweet, it's the least I can do. Cause you see, dear YL, I'm an Amateur too! Then he sprang to his sleigh, to his team gave a whistle, and away they all flew like the down of a thistle. And then, from the speaker, his voice loud and clear "Do you know what my call letters stand or my dear?" His voice became dim as he faded from sight, M for Merry, C or Christmas and 2 U a good-night! Δ

Written by Del VE3AJR, a YL around 1958.

MICROWAVES

By Michael Ross VE2DUB
988 Hudson
St. Bruno, Quebec J3V 3Y2

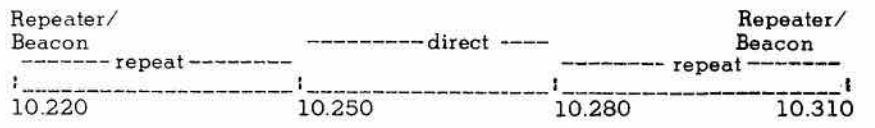
Last month we looked at a band plan for 10 GHz to optimize the chance of contacting other stations on direct paths. Now we'll look at the possibilities for repeater operation where the repeater provides each station a local oscillator signal. From our discussion last month you will remember we confined ourself to a region of the band from 10.220 to 10.310 MHz, the tuning range of Gunnplexers. With this limit in mind, let's look at the possibilities for repeater operation. A 10 GHz repeater, like any other, serves to extend the communications range of its users. On this band, line of sight is the predominant form of propagation. The operator faced with lugging everything up a mountain every time he wants to operate, doesn't get on the air too often! A link in the form of a repeater is the next logical step from beacons to encourage greater activity.

The simplest form of repeater uses one microwave head and one receiver, with the receiver audio output fed back into the modulation input. This mode was discovered while in communication with two other stations who reported being able to hear each other through my station while they could not hear each other directly. As FM is used, the stronger of the two captures the receiver but the weaker station is still copyable on CW. Using this mode, any station can become a repeater to stations within the beamwidth of his antenna.

In this configuration the two stations must be offset from the repeater frequency by their own receiver IF, which is the same as the repeater's, in this case 30 MHz. Using the beacon frequencies of 10.220/310 would place both stations on the same frequency of 10.250/280. Once again this would allow direct contacts between the two repeater groups if conditions permitted. While this approach is simple and will work, you may not be happy with the continuous mixing of signals and poor quality of transmissions.

The next step up would be to build a repeater using two microwave heads with high gain antennas in different directions, feeding two separate receivers. The inputs and outputs could be cross connected for full duplex communications between two stations. This would eliminate the competition to capture the receiver until a third station came along, when you would be back where you started. At least you would know that someone was listening!

As always, your input to this column is welcome and encouraged. I would like to hear from people specializing in other microwave bands. Δ



Third Party Traffic Agreements

Canada has concluded agreements with the following countries to permit Amateur radio operators to exchange messages or other communications from or to third parties: Australia, Bolivia (Republic of), Chile, Columbia (Republic of), Costa Rica, Dominican Republic, El Salvador (Republic of), Guatemala (Republic of), Guyana, Haiti, Honduras (Republic of), Israel (State of), Jamaica, Mexico, Nicaragua, Paraguay (Republic of), Peru, Trinidad and Tobago, United States of America, Uruguay (Oriental Republic of), Venezuela (Republic of).

Negotiations for the establishment of similar agreements or arrangements with Ecuador and the Federal Republic of Nigeria have been initiated.

Amateurs who wish to operate in Commonwealth countries other than those listed above should apply to the embassy in Canada or directly to the appropriate regulatory agency. Δ

EMergency COMmunication

By Ken Kendall VE3IHX

The name of this column is EMCOM, short for EMergency COMmunications. This column can be a forum to discuss the views and observations about the use of Amateur radio for emergency purposes. This column will be non-biased in its review of situations involving Amateur radio emergency communications and will provide insight into Amateur radio emergency communications.

If you have an article or information about an event or situation involving Amateur radio emergency communications units, feel free to send it to me for insertion in this column. Views expressed in this column are not necessarily those of CARF.

Barrie Disaster— A near disaster for Amateur radio

From reports received through various sources, it would appear that the Barrie, Ontario disaster earlier this summer was nearly a disaster for Amateur radio. It seems that although there was an Amateur radio emergency communications group in the Barrie area, their initial response to the emergency was very slow due to several administrative problems.

The Barrie group only has a handful of operators and, although there is a callup procedure in place, there were difficulties activating the callup. This was because the callup procedure depended on a telephone system that was overloaded due to a disaster.

Once the callup was completed, the next major difficulty involved getting the operators into the disaster area. A tight security cordon had been implemented by the Ontario Provincial Police and only residents of the disaster areas, police officers showing their badges, rescue vehicles and duly identified volunteers could enter the security cordon. Amateur radio operators who did arrive to render assistance, but who did not have proper emergency identification were turned away. Only after much soul-searching at the disaster command post was this situation remedied.

The repeater that was normally used by the emergency group was down due to a power failure and lack of a standby power supply. The group initially refused the offer of an alternative repeater that had a linking capability into Toronto.

Initially, the result was Amateur radio emergency operators who could not enter a disaster area to render emergency communications and whose own repeater was u/s and yet refused to use a repeater that could have immediately been put to use in an emergency.

Eventually, after precious time was initially lost, the situation was remedied and Amateur radio played an integral part in the Barrie disaster.

What can be learned from the Barrie disaster?

First and foremost, it would appear that, in an emergency, only Amateur radio operators who have PROPER, APPROVED IDENTIFICATION will have access to disaster areas.

Have you and your group been issued PROPER, APPROVED IDENTIFICATION that is recognized by the authorities in time of emergency? If not, you might as well stay home until the special authorizations are issued for you to enter a disaster area. If you do go to a disaster site without special authorization, be prepared to be treated just like any other ghoulish gawking disaster-hound who obstructs the access routes to the site— the same access routes that authorized emergency crews must use to get into and out of the area.

Secondly if you have been issued identification, do you carry it with you wherever you go? In an emergency, you may not have the time, or even be able to return home to get your emergency identification to assist in the disaster plan. Make it a habit to carry your identification with you wherever you go.

Third, a callup procedure that does not need to use the telephone system is much more advantageous in times of emergency. Generally speaking, the public will tend to swamp the telephone system in time of emergency. Unless only one person, who will be available 24 hours a day, 365 days a year and who is on a system called LINE-LOAD by the telephone companies, is responsible for calling up the whole group in an emergency , Amateur radio communications groups should consider the possibility of using a tone alert system on a pre-assigned frequency. REMEMBER, in time of emergency, the telephone cannot be relied upon to provide guaranteed immediate service for a call-up.

Fourth, in an emergency anything goes to get the message across. There should be NO ideological differences about whose repeaters should be used. The important thing is to get any emergency traffic cleared to and from the area immediately. Police at the Barrie disaster indicated that their own system was down, the telephone system was swamped, and Amateur radio was hung up trying to use a repeater that was virtually u/s because of the power failure in the area while another repeater, with linking capability into provincial police headquarters in Toronto was mysteriously not used.

Finally, do you have a call out kit that you use for emergencies? If you do, the kit should be kept in your vehicle at all times to facilitate a quick response to an emergency. The kit should contain all the necessary equipment that you might need to start emergency operations. There should be things like cables, portable antennas, power adaptor cables, writing material, a small tool kit and some light unspoilable food to tide you over until the emergency operation can gear up to supply you with the necessities of life.

Barrie could have been a real disaster, but fortunately the Amateur radio organizers were able to pull through, despite initial logistics problems, and provide a truly beneficial service to the community in time of public disaster.

(The editor asks you to add a camera to your emergency kit. One of the small, cheap ones will do. Get pictures of Amateur radio involvement to help CARF show the public and— most important— government what we do for them.)

Δ

CAN/AM CANCELLED

CRRL cancelled the CAN/AM Contest when the bands were needed for Mexican earthquake traffic. This prompt, responsible action is in keeping with the finest Amateur tradition, and deserves the highest commendation.

tuning dial without changing frequency to get a comfortable note.

There is also a built-in side-tone with adjustable gain, under the top cover, for those not accustomed to using the rattle of their bug as a monitor. Semi-breakin (ASK) is possible using the VOX function and front panel adjustable delay control to suit your sending speed. When tested with VE6AXW at speeds up around 30 wpm he reported no sign of clipping. With the VOX off the tone is audible in the receive mode and useful bug adjustments, code practice, or you can also practice your sending by repeating a keyer or keyboard during normal QSOs. This feature has triggered the CPU RAM back to 1944/45 when relaying traffic received at 30 wpm on one frequency (97 kHz) and sending about the same speed at the same time on another frequency (7910 kHz) while retaining only a skeleton copy with the other hand. Don't forget lighting your pipe, adding time relayed, to what station, phone calls, front counter, aircraft or ship calls and both operators' signs as well. These newfangled additions would have been useful back then when we didn't even have facilities to operate two transmitters together. Only by using one hand on the key and side slapping the bug with the other, could the workload be reduced and hourly weather reports relayed to all stations on the CQ net without any unnecessary delays.

Keep It Cool:

Among all the other outstanding features of this modern-day wonder is a built-in cooling fan which operates automatically through a temperature monitoring circuit. It will run at slow speed if the heatsink of the two 2SC2904 final amplifier reaches 120° F and at a faster rate (so the book says) when the temperature reaches a high of 195° F. Should this latter occur, output power then reduces automatically to about half, or 50W. With the output already set at less than half power it is doubtful the fan will ever get such a workout, unless someone sticks a pin in my coax. If such overheating does happen you are advised to refrain from transmitting again until the cause is determined and corrected.

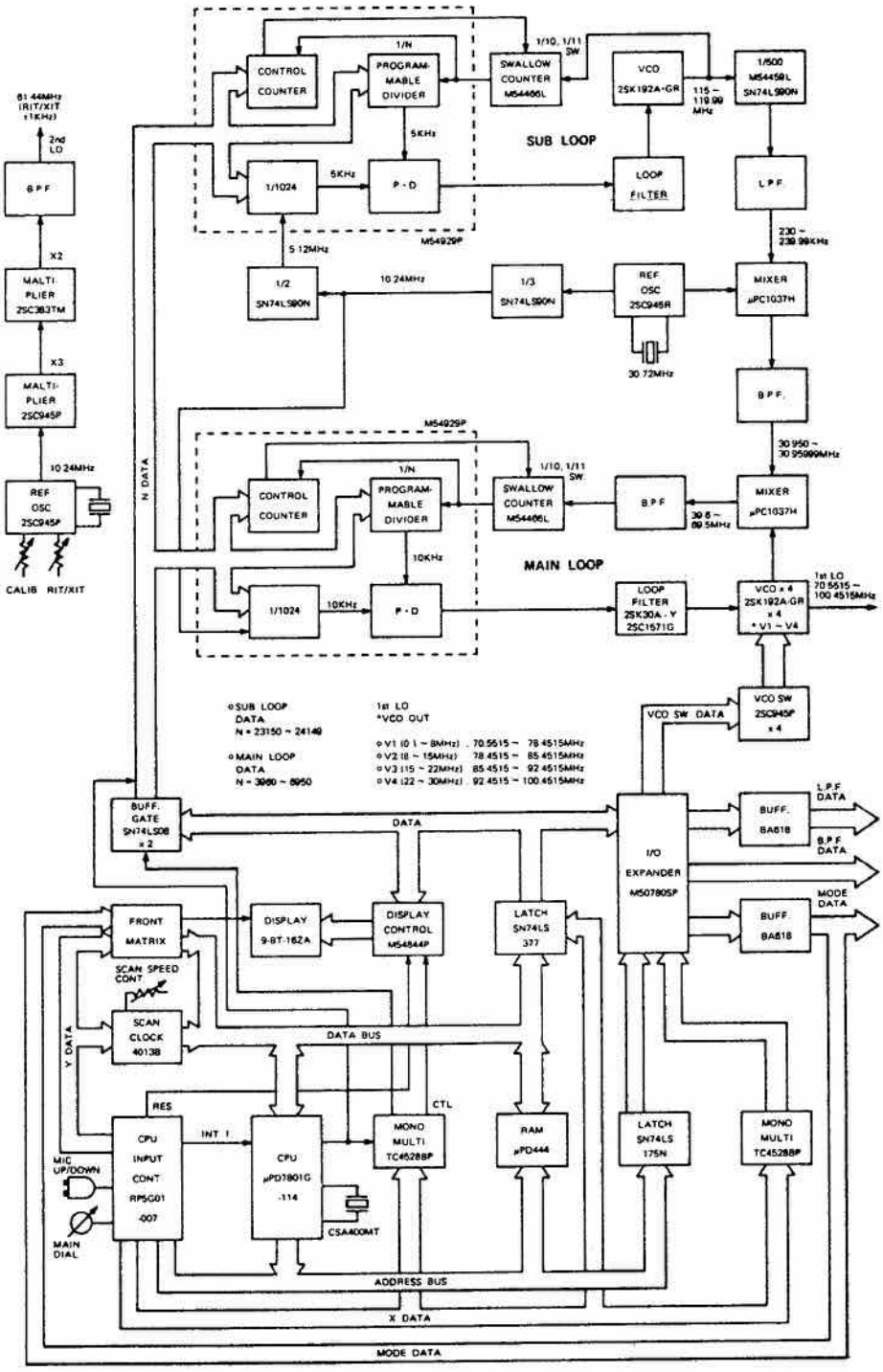
One other caution worth mentioning here is the C-MOS IC's (used in the logic and PLL units) susceptibility to damage from static discharges. Therefore any time you have the lid off to install options, refrain from touching those units or nearby circuitry.

Options/Accessories:

According to 'ICOM, The World Systems, Ham Catalog' there is a myriad to choose from and may only be the beginning of more and better

BLOCK DIAGRAM

PLL•LOGIC



Options/Accessories:

According to 'ICOM, The World Systems, Ham Catalog' there is a myriad to choose from and may only be the beginning of more and better

things to come that will work more than one model. Mine is a 'no frills added' unit and that includes filters because the one between my ears still seems to do an adequate job. Besides, it is nice to hear what is going on on either side of the selected frequency. Anyone visually handicapped would probably be interested in at least one option and that is the voice synthesizer which reads out the displayed frequency by voice. Without having that option for this report it is not known if mode, VO, HAM/GENE information is also spoken.

Standard included options are 2.1 kHz-9 MHz SSB passband tuning (PBT) filter, mic with up/down frequency control, 12 VDC cable, internal lithium memory backup, transverter (VHF/UHF) switching unit, channeling adaptor for linear amplifier and automatic antenna tuner, built-in send relay for keying a linear and ALC jack for input from the linear, FSK circuit built-in, and possibly more.

Extra cost options include narrow CW filters, 455 kHz SSB filter, 25 kHz and 100 kHz crystal marker, M unit, built-in AC power supply, external AC supply with three extra regulated outlets and plugs, electronic keyer for iambic paddle, external speaker, desk microphones, headphones, 500W linear, 100W or 500W automatic antenna tuner. Actually these last two do nothing for the antenna but only match the transceiver to various antenna impedances because obviously they do not mount jointly anywhere in the antenna.

Other features:

The noise blanker has normal and wide positions with a level control. During an electrical storm last night the noise dropped from 35 dB over S9 to S5 in NOR and below S3 in WIDE. It also does a good job with 'over the horizon noise' but that hasn't been heard here very often recently.

IF shift is controllable with the PBT switch out and passband tuning controlled with the same slider when the switch is engaged. You get accustomed to using it after a while just by sound of the interfering signal and can obtain continuously variable bandwidth up to 800 Hz from either the upper or lower side. Ease of operation comes with familiarization through frequent use, in other words trial and error.

Squelch is another innovation on today's HF sets and had it been available way back when it is doubtful very many MAYDAY or SOS calls would have registered at a lot of stations. Three come to mind in the early '50s that were considerably below the then-quite-high noise levels and had squelch been in use no doubt would have been missed.

Tuning rate is 10 Hz when the tuning knob is turned slowly and 50 Hz when rotated more quickly. Engaging the TS (tuning switch) permits 1 kHz and 10 kHz respectively. Besides the electronic dial lock there is an adjustable brake feature on the tuning knob which may not appeal to those heavy handed pros familiar with flywheel assisted tuning.

Band changing is easily mastered, again through use and in the HAM mode alternates between them only regardless of reaching the top or bottom band. In GENE mode the bands change in 1 MHz steps, up or down to whatever limit the VFO is set before changing bands. The transmitter is muted on General Coverage even if the frequency readout happens to be in the Amateur band.

AGC is adjustable from fast to slow recovery depending on your selection and is automatically removed in FM mode. Quite a useful feature during poor conditions with deep fading when you want to use the preamp to advantage.

The meter switch selects final amplifier collector current, ALC level, compression level (when used), RF power output and SWR. This latter is read after the meter needle is SET with the R power control.

Either VFO is selectable from the front panel and you can set both the same with the A=B switch. DUPLEX allows you to receive on A and transmit on B or vice versa, even cross mode but naturally in the same band.

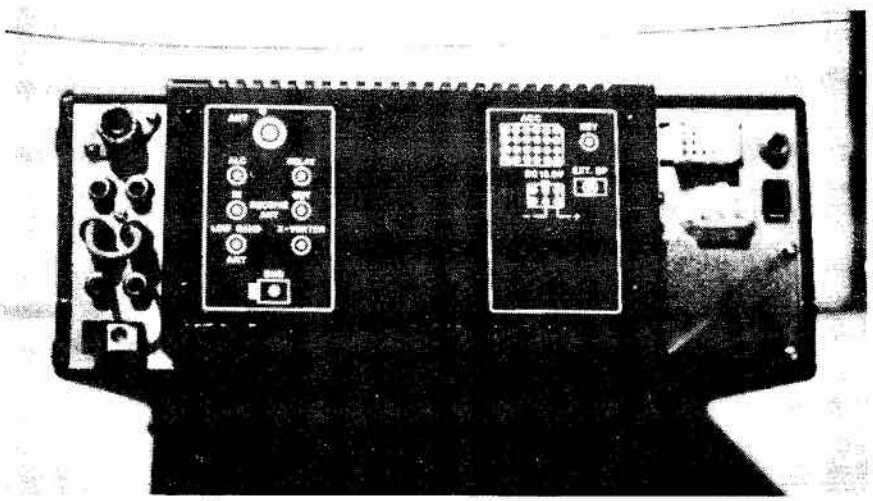
Scanning operation is another one of the new bells and whistles but helps while working around the radio room on another project. Memory channels 1 & 2 are reserved for band scanning, that is between two frequencies on the same band that you have written in. Squelch comes into play here and when carefully set will stop scanning on a signal of appropriate strength. Scanning resumes after about 10 seconds unless you depress the SCAN button again or move the tuning knob, VFO, MODE, etc., in which case scanning is disengaged. Scanning speed is adjustable under the top cover and you can scan the 16-memory bank at the same rate should you happen to forget what was written therein.

Not visible in the photos but located near the top leading edge above the front panel are five more controls: Anti Vox control, adjusted so your speaker output does not activate the transmitter on SSB during receive; Frequency Set control, (marked CALIBRATOR) for fine adjustment of the 30.72 MHz reference oscillator with WWV while in the CW mode; Marker Calibration control, to match the optional marker oscillator with a known standard frequency or, again, WWV; Marker switch, a miniature bat handle type to control the latter mentioned option. Finally on the left a Monitor switch, also a miniature bat handle type to allow monitoring your IF signals in the SSE transmit mode.

View from the rear:

Nothing is complete without this observation and the photo appears self explanatory with one exception. The jumper between the two middle terminals on the left is placed there unless separate transmit/receive antennas are used, in which case you keep it safely stored away.

On the opposite corner is a removable panel to store the power cord when you have the internal power supply installed. Above this panel is the DC power socket for 12 VDC cord or external supply cord, external speaker jack, key jack and accessory socket. This latter allows access to various internal functions as listed in Table 2. The bug goes across pins 8 & 9 for FSK and was tested today with VE6BOX (Jack). It being his first encounter, he was hard to convince it was readable code, but after a short explanation he settled in to solid copy. We also checked out the DUPLEX feature on 80m CW with good success. Δ



For Handie Talkies

DC Converter/Charger

By Murray Gordon VE1TE
136 Keswick Ridge Rd., N.B.

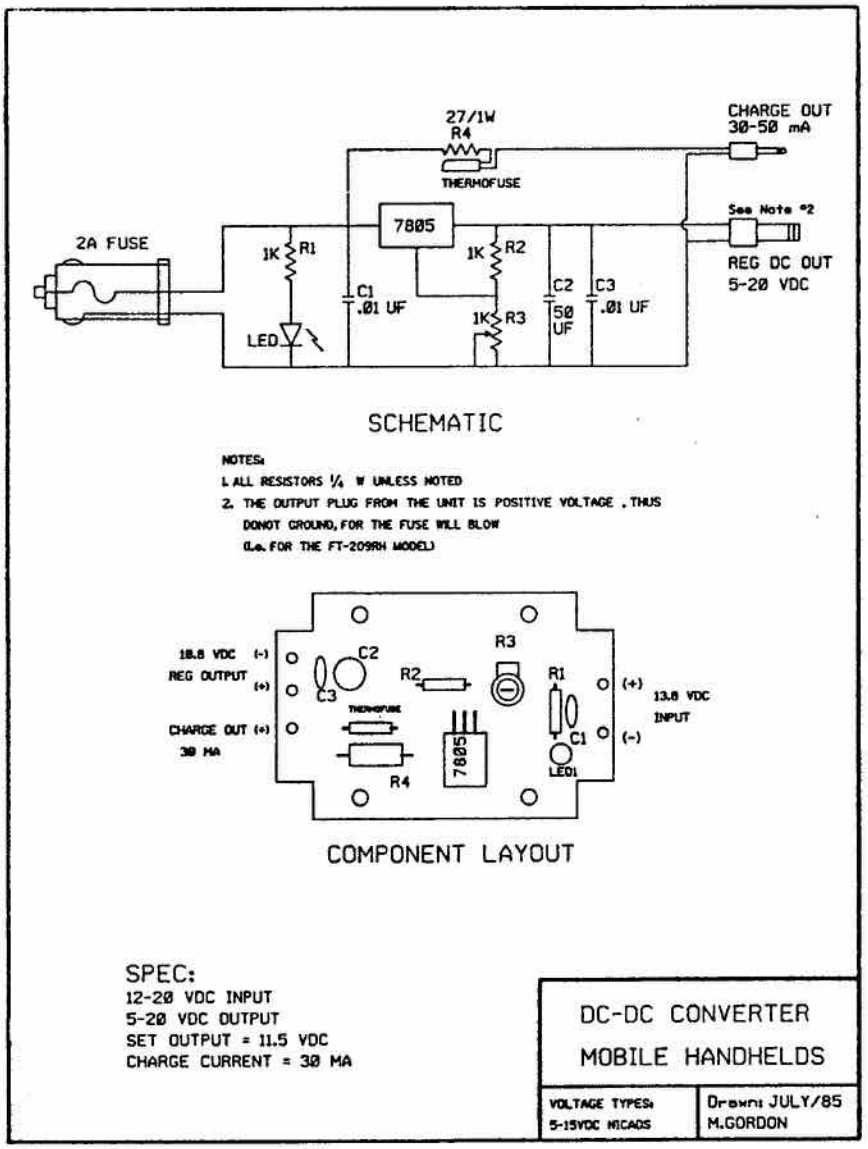
With the new line of handhelds being developed today, with more power and capabilities, there is a need to design a DC adaptor that will produce the necessary voltage and power requirements.

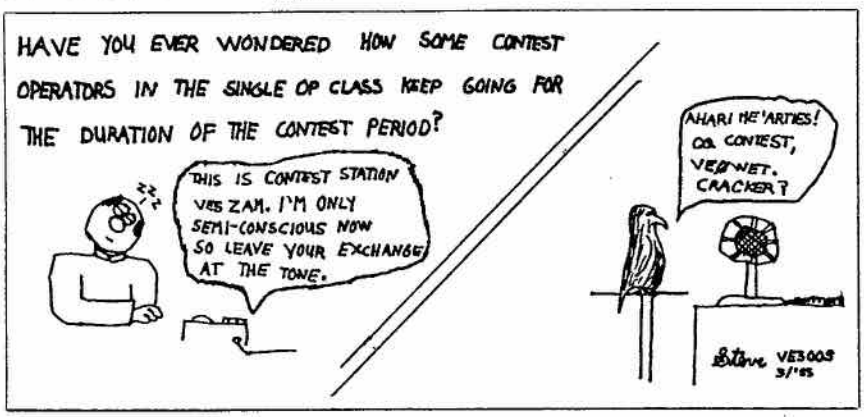
I recently purchased a Yaesu FT-209RH handheld for travel and mobile applications. To operate in the car it would be nice to operate at the full five watts, without draining the battery pack after two to three hours of operation. The DC adaptor available only allows about 3.5 to 4 watts output depending on the setting of the unit. Therefore I decided to design a unit that would meet these needs.

Within the original design in mind, a design was developed that would operate at about 11.5 VDC instead of 10.5 VDC and produce the 14 mA charge current or the battery pack. I could have connected the 13.5 VDC directly to the radio, but interference and overvoltage from some cars could be a problem. Thus the design shown in the figure was developed.

The design is based on the 7805 voltage regulator, and is configured to produce an output voltage from 5 VDC to 20 VDC at 1 A. By adjusting the pot R3, the voltage can be set at your handheld's operating voltage. i.e. 8.5 VDC, 10.5 VDC, etc. This way whether you have a TS-2600, FT-209 or a IC-02AT, you can tailor the DC Adaptor to your system. The cost of this unit will be about $10 to $15 depending on the components you have at home and how fancy you want to get. The DC Adaptor has worked very well in my application. It has run the handheld at about five watts and charged the battery with a charge current of about 12 to 14 mA. I trust that this will be helpful to those who want flexible and dependable DC units for handheld applications.

Material list or the DC Adaptor is as follows;
1. 7805 voltage regulator
2. 1-1Kohm pot, 1/4 watt
3. 2-1Kohm resistors, 1/4 watt
4. 1-LED indication light
5. 1-DC cigarette plug with fuse
6. 1-27ohm, 1 watt resistor
7. 1-thermofuse; hairdryer type
8. 2-0.01uF ceramic capacitors, 50V
9. 1-50uF electrolytic capacitor, 50V
10. 1-cabinet, 1-1/2 x 3-1/4 x 2-1/8 inches





Les Cables Coaxiaux

Par Bernard Leblanc VE2LC

Un cable coaxial fourni les deux sentiers électriques nécessaires pour alimenter un circuit électrique qui utilise des fréquences radio. Il consiste d'un conducteur central placé à l'intérieur d'un autre conducteur qui l'entoure. Ces deux conducteurs sont concentriques et séparés par un isolant. Dans le domaine des communications, cet isolant peut être un plastique semi-solide, poreux genre mousse ou encore de l'air; dans ce dernier cas, les conducteurs sont maintenus séparés par des disques de support placés à intervales réguliers.

CONSTRUCTION. Le cable coaxial est composé:

1— d'un conducteur central mono-brin ou multi-brins, dans les cables de grand diamètre il pourra être un conducteur évidé ou tuyeau. Ce conducteur sera fait de cuivre, cuivre étamé, cuivre argenté ou encore en acier cuivré.

2— d'une gaine de blindage. Celle-ci est le plus souvent constitué par une tresse en fins fils de cuivre, de cuivre étamé ou de cuivre argenté. Dans les cas de cables de grand diamètre, le blindage peut être formé d'un feuillard de cuivre enroulé en hélice sur le diélectrique (isolant).

3— d'un diélectrique qui sépare les deux conducteurs. Il est le plus souvent composé de:

a- polyéthylène ou polythène,
b- polytétrafluoréthylène ou téflon,
c- fluoréthylène-propylène,
d- mousse de polythène ou polythène cellulaire,
e- fibre de verre époxy,
f- espace d'air.

4— L'enveloppe protectrice utilise des matières plastiques de la famille des chlorures de polyvinyle (PVC) ou encore le même genre de matériau que pour le diélectrique. Certains types de polyvinyles (PVC) peuvent laisser échapper des vapeurs chimiques lorsqu'ils sont chauffés ou soumis aux rayons ultra-violet; ce qui peut être le cas d'un cable coaxial dans une installation d'antenne. Les enveloppes peuvent être classées dans deux catégories selon leur fabrication: celles dites 'contaminantes' qui laissant échapper ces vapeurs et les autres du type 'non-contaminantes' qui ont été traités pour éviter cette affliction.

CARACTERISTIQUES ELECTRIQUES. Les caractéristiques électriques d'un cable coaxial sont déterminés:

1— par la nature des conducteurs, âme centrale et gaine ou blindage.
2— par le rapport des diamètres de la gaine et du conducteur central.
3— par la nature du diélectrique.

La nature et les dimensions des conducteurs déterminera leur résistance ou opposition au passage du courant. Il faut se souvenir également que lorsque nous parlons de signaux radio-fréquence, ceux-ci circulent en surface des conducteurs seulement et que plus la fréquence est élevée, plus cet effet pelliculaire est important, c'est à dire que la couche conductrice qui forme la surface des conducteurs doit être de qualité. Dans certains cables de première qualité utilisés en THF, UHF et au delà, les conducteurs seront plaqués à l'argent. De même que le conducteur central des cables à grand diamètre sera évidé ou un tuyeau; ceci est une mesure d'économie de matériel et vise également à réduire le poids du cable. Il n'y a pas de courant qui circule à l'intérieur de ce conducteur.

Le blindage ou gaine est soumis aux mêmes critères de qualité. La surface disponible pour la circulation des courants est de beaucoup supérieure à celle du conducteur central qu'il enveloppe. Dans les cables coaxiaux ordinaires, la gaine est formé d'une tresse de fils fins, selon la qualité du cable et la réputation du manufacturier, ce tressage pourra être plus ou moins serré. Il est primordial que le pourcentage de couverture de ce blindage soit le plus élevé possible, idéalement 100%. Toute valeur inférieure implique des possibilités de fuites. En pratique cependant, il est possible d'atteindre une couverture de seulement 9 ou 98%. Mais certains manufacturiers offrent du cable de qualité 'économique' ou le blindage atteint 75 ou 80% de couverture. Il faut les éviter à tout prix sauf peut-être pour la construction d'une antenne 'bazooka' et encore... Il n'y a pas de problèmes dans le cas des cables de type 'Heliax' parce que le blindage est formé par un feuillard enroulé en hélice ou encore par un tuyeau semi-rigide qui assure une couverture à 100%.

On retrouve aussi sur le marché du cable à blindage double. Celui-ci est normalement utilisé dans des applications ou une très grande isolation ou immunité entre les signaux est requise comme dans les signaux numériques, répéteurs pour amateurs et commerciaux, opérations en 'full-duplex' sur les satellites amateurs. Mais dans les applications courantes, il serait trop onéreux et inutile d'encourir des déboursés additionnels. Un seul blindage avec un cable de bonne qualité est suffisant.

Le rapport des diamètres des conducteurs est le paramètre dominant qui déterminera l'impédance caractéristique du cable. On utilise pour les calculs le diamètre interieur du blindage et le diamètre extérieur du conducteur central (le RF circule en surface). Pour déterminer l'impédance on utilise la formule suivante.

$$Zo : 138 \log \frac{D}{d} \begin{matrix} \text{(blindage)} \\ \text{(centre)} \end{matrix}$$

Un rapport des diamètres de 3.6 correspond à une impédance de 77 ohms. Un cable de cette impédance fera subir le minimum d'atténuation (pertes) aux signaux qu'il transportera. On comprendra mieux maintenant pourquoi ce type de cable est utilisé sur tous les réseaux des compagnies de cable-distribution. Un rapport de diamètre de 1.649 correspond à une impédance caractéristique de 30 ohms. Cette valeur d'impédance est celle qui permet la transmission d'une puissance maximum dans le cable.

Le rapport de 2.25 correspond à une impédance de 51.3 ohms, ce qui est près de la valeur d'impédance standardisée de 52 ohms. Cette valeur est un compromis judicieux, en effet, elle est l'intermédiaire entre 30 ohms (puissance maximum) et 77 ohms (affaiblissement minimum). Ce type de cable est le plus employé dans les installations ou l'émission et la réception sont effectués en utilisant le même cable coaxial.

Le diélectrique est le matériau qui isole et sépare les deux conducteurs. Il a peu d'effet sur l'impédance du cable. Cependant il sera l'élément déterminant en ce qui a trait à la vélocité de cable. Dans le cas de polyéthylène et matériaux similaires, la vélocité sera de 0.659, c'est à dire que la distance parcourue par un signal dans le cable sera de 0.659 fois celle que le même signal aurait parcouru dans l'air dans une même période de temps. Si de la mousse est utilisée, la vélocité atteindra 0.80 plus ou moins selon la densité de celle-ci.

Certains cables de grand diamètre utilisent un diélectrique en ruban qui est enroulé en spirale autour du conducteur central et le supporte à l'intérieur de la gaine. Seulement une partie de l'espace séparant les

Continued on next page ▷

conducteurs possède un diélectrique solide ou en mousse, l'air tient ce rôle dans l'escape qui reste. La vélocité dans ces cas peut atteindre de 0.90 à 0.92.

ATTENUATION. Dans les cables coaxiaux comme dans les conducteurs ordinaires il y a des pertes. Plus les conducteurs sont petits, plus leur surface sera réduite et plus grande sera leur opposition au passage du courant. En radiocommunication on refère à ces pertes en termes de décibels par longeur déterminée à une fréquence spécifique. Pour les fréquences inférieures à 10 MHz, les pertes se limitent habituellement à celles des conducteurs proprement dit. Au delà de cette fréquence, il faut tenir compte de celles occasionnées par le diélectrique et, plus la fréquence sera élevée, plus elles seront importante. Au delà d'une fréquence de coupure, il ne passe tout simplement plus de signal. On devra utiliser alors un guide d'onde. On aura avantage à utiliser un cable de grand diamètre au dessus des fréquences de 144 MHz si la distance entre les éléments à raccorder est élevée.

COMMENT CHOISIR LE 'BON' TYPE DE CABLE COAXIAL?

En premier lieu, il faut analyser correctement l'utilisation proposée et ensuite choisir le cable qui pourra remplir le plus ces fonctions.

A— IMPEDANCE. Il faut choisir une valeur d'impédance qui est la même que celle de la source et de la charge, émetteur et antenne en émission ou l'inverse en réception. 52 ohms est la valeur la plus courante. Il est préférable d'adapter l'impédance de l'antenne à celle du cable si elle diffère de la valeur choisie.

B— PUISSANCE. En émission, on doit connaitre la puissance maximum qui sera transmisse à travers le cable à la fréquence la plus élevée qui sera utilisée.

C— ATTENUATION. Vérifiez le parcours que la cable devra suivre et mesurer la longueur totale nécessaire. On pourra alors déterminer les pertes qui seront encourues et calculer la puissance à l'antenne, et choisir un cable ayant moins de pertes si nécessaire. La même atténuation prévaudra en réception. Sélectionnez le cable qui aura le moins d'atténuation à la fréquence maximale d'utilisation.

D— ENVELOPPE. Si le cable est exposé à la chaleur et au soleil, il faudra éviter les enveloppes dites 'contaminantes,' celles-ci changeront les caractéristiques du cable (diélectrique et atténuation, puissance maximale). La durée de vie du cable sera raccourcie.

E— DIELECTRIQUE. Les diélectriques solides ou semisolides sont préférables. Ceux de mousse peuvent absorber les vapeurs chimiques de l'enveloppe et changeront de caractéristiques. Si le cable est exposé aux intempéries, l'humidité pourra s'infiltrer et réduira les performances du cable (possibilité d'arc à haute puissance.)

Les Cables 'Heliax' avec diélectrique en spirale sont utilisés dans les systèmes commerciaux et en industrie avec un système de pressurisation utilisant de l'air asséché ou un gaz qui empêchent l'humidité d'être absorbée ou que de la condensation se forme. Ces systèmes sont hors de portée de la plupart des amateurs.

F— CONDUCTEURS CENTRAL. Le cable coaxial à âme multibrins est plus flexible et sera utilisé avantageusement dans les installations d'antennes. Sa vie sera plus longue que celle du conducteur mono-brin s'il doit être plié et replié souvent. Même si le cable à âme multibrins possède une atténuation quelque peu supérieure à celui utilisant unconducteur plein, sa flexibilité et durabilité justifient son choix dans la plupart des installations amateurs.

G— BLINDAGE. Recherchez les cables dont le blindage possède une couverture de 95% ou plus. Une couverture inférieure peut causer de l'irradiation non désirée en émission ou de l'interférence en réception. Lorsque l'enveloppe est enlevée, il ne devrait pas être possible de distinguer le matériel diélectrique à travers le tressage du blindage.

Autres Considerations

Les cables de grand diamètre genre 'Heliax' de 1/2", 7/8" ou plus, ou encore ceux semi-rigides avec enveloppe en aluminium ne sont pas flexibles pour être raccordés directement à une antenne rotative ou

TYPE	IMPEDANCE	ENVELOPPE Diamètre (po.)	ENVELOPPE Matériel	BLINDAGE Matériel	BLINDAGE Couverture %	CONDUCTEUR CENTRAL Matériel	CONDUCTEUR CENTRAL N. brins diamètre	DIELECTRIQUE Diamètre	DIELECTRIQUE Matériel	DIELECTRIQUE pFd/pi.	Vélocité %	Capacité du diélectrique en volts	Voltage max. de travail RMS	ATTENUATION ET PUISSANCE MAXIMUM à la Fréquence. Mhz--dB/100 pi.--Watts 10	100	400	1000
8 U	52	.405	PVC C	C	96.2	C	7/.0285	.285	PE	29.5	65.9	10,000	5,000	.55 3,500	1.9 975	4.1 450	8.0 230
8 A/U	52	.405	PVC NC	C	96.2	C	7/.0285	.285	PE	29.5	65.9	10,000	5,000	.55 3,500	1.9 975	4.1 450	8.0 230
11 U	75	.405	PVC C	C	96.2	TC	7/.0159	.285	PE	20.5	65.9	10,000	5,000	.66 2,500	2.3 690	4.8 340	7.8 200
58 U	53	.195	PVC C	TC	94.9	C	M/.032	.116	PE	28.5	65.9	5,000	1,900	1.25 1,000	4.6 300	10.5 135	17.5 80
58 A/U	52	.195	PVC C	TC	94.9	TC	19/.0071	.116	PE	30.0	65.9	5,000	1,900	1.4 1,000	4.9 290	12.0 105	24.0 60
58 C/U	50	.195	PVC NC	TC	95	TC	19/.0071	.116	PE	30.8	65.9	5,000	1,900	1.4 1,000	4.9 290	12.0 105	24.0 60
59 U	73	.242	PVC C	C	97.8	CW	M/.0254	.146	PE	21.5	65.9	7,000	2,300	1.1 1,200	3.4 380	7.0 185	12.0 110
59 B/U	75	.242	PVC NC	TC	95.5	CW	M/.023	.146	PE	21.0	65.9	7,000	2,300	1.1 1,200	3.4 380	7.0 185	12.0 110
213/U	50	.405	PVC NC	C	96.2	C	7/.0296	.285	PE	29.5	65.9	10,000	5,000	.55 3,500	1.9 975	4.1 450	8.0 230

PVC: Chlorure de polyvinyle , C: Contaminant, NC: Non contaminant
C: Cuivre, TC: cuivre étamé, CW: acier cuivré (copperweld)
M: Mono-brin; PE : Polyéthylène solide.

qui ballottera au vent. Il faut utiliser une section de cable flexible pour joindre l'extrémité du cable rigide et l'antenne.

Le rayon de courbure d'un cable ne devrait pas être inférieur à 6 fois son diamêtre.

La durée de vie des cables avec enveloppe 'contaminante' peut être allongée de beaucoup si ils sont acheminés à l'intérieur d'un tuyau de protection qui empêchera les rayons du soleil d'atteindre l'enveloppe. Dans le cas des tours triangulaires, le cable devrait être acheminé dans le coin sud de la tour pour réduire ou éliminer l'exposition directe au soleil.

La température ambiante réduit la puissance maximale qui peut être transmise dans le cable. Son enveloppe noire peut facilement faire surchauffer le cable lorsque exposée au soleil. Les données du tableau sont valables pour une température ambiante de 40 C. Une augmentation de température de 20 C réduit la puissance maximum permis à 50% de celle spécifiée; une réduction de la température de 20 C augmentera la puissance tolérée de 50%. Mais prenez garde, ce n'est pas la température de M. Météo, c'est la température ambiante du cable qu'il faut considérer. Des périodes d'émission prolongées avec le maximum de puissance légale peut contribuer à échauffer le cable également.

Dans le tableau qui suit, vous trouverez les caractéristiques des cables coaxaux les plus courants. Lisez très attentivement, quelques lettres ou suffixes peuvent signifier beaucoup de différence dans la qualité du cable. Une aubaine en dollars est presque toujours une 'réduction'... en qualité. Choisissez de préférence une marque reconnue, tel que Belden, Amphenol, I.T.T. Cable, Andrew, Delco ou autres multinationales; leur contrôle de qualité est excellent.

En résumé, souvenez vous que dans tout système, que ce soit de communication ou autre, celui-ci n'est aussi fort que son point le plus faible. Alors, prenez le temps de bien choisir votre cable coaxial.

—de UMS △

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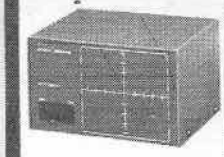

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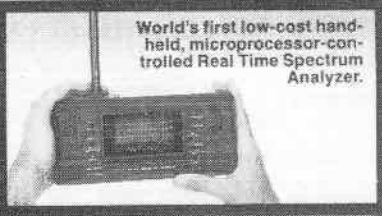

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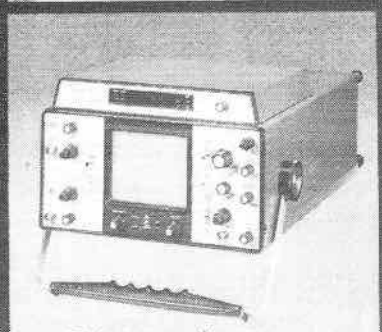

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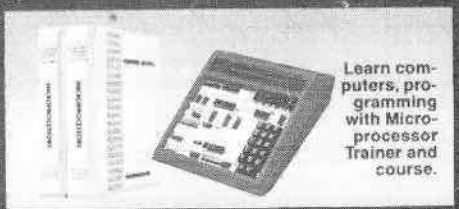

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