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# the canadian amateur

## 75 and 40 m in danger?

Preliminary sparring for post-1979 frequency allocations seems to indicate that assaults on the 75, 80 and 40 metre Amateur bands can be expected in the final rounds of the deliberations of the Canadian Interdepartmental Committee (CIC) working on the Canadian position for the International Telecommunications Union World Administrative Radio Conference in 1979 (ITU WARC '79).

At a users' conference convened by DOC on Sept. 14 in Ottawa, the discussion paper distributed by the DOC noted: '3500-4000 kHz ... review status of this allocation'. It is now shared with fixed

Continued on Page Eight

October 1976

Number 8

## *Mars comes to 20 m*

Roy Baker VE3AXC

Amateurs using slow scan TV around the world were treated to some exciting moments in August when 'live' pictures transmitted from Mars appeared on the screens in their shacks. The Jet Propulsion Laboratories of NASA in Pasadena, California, went on the air under the specially issued call N6V (NASA 6 Viking) which is the control and operation centre for the Viking I and II spacecraft which landed on Mars.

A number of Amateurs who work at the JPL Labs in Pasadena put N6V on the air on 20 m and were re-transmitting slow scan TV pictures that they were receiving from Mars.

Many of the remarkably clear and detailed pictures were unique in that they were 'hot off the line' and not yet even computer enhanced. When Viking II was in the landing process, the station was on the air giving a blow-by-blow description of its progress.

Continued on Page Five

Taken from Viking I orbiter, this photo shows a dead volcano on Mars. The volcano measured 100 km in diameter. Note the lava flow in the teardrop shape.





# the canadian amateur

ISSN 0318-0867

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Vol. 4 No. 8

The Canadian Amateur is published monthly on a National basis. It is available on a subscription basis at a cost of \$5.00.

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## DOC Circulars Available

Three new editions of DOC 'Telecommunications Regulations Circulars' are now available, replacing those issued 15 years ago. These are TRC-26, 'Principles Underlying Suppression of Inductive Interference at Standard Broadcast Frequencies'; TRC-28, 'Suppression of Appliances and Small Motors'; and TRC-29, 'Prevention Easier than Cure of Power Line Radio Interference'.

These can be obtained through your DOC Field Office.

october - page two

## From the Front Office

The past 12 months has seen a great deal of discussion about the need for more operators in our Amateur Experimental Service. Most, if not all, of the Amateurs of Canada agree with this requirement. A review of why members of the general public are not knocking down doors to become Amateurs indicates that there are several reasons.

The first is that Amateur radio activities do not receive the publicity given to the operations of other services, particularly the General Radio Service. Amateurs, as a group, engage in communications mainly for personal satisfaction. All too frequently, no effort is made to acquaint the public with our activities, such as emergency and public service communications, conventions and club meetings. There is little mention made of what is attractive about Amateur radio.

To acquaint the general public with Amateur radio, each club and Amateur organization should start doing some PR work - contact the local press, radio and TV stations, find out what they consider newsworthy or of public interest and how it should be presented, and keep plugging away - more than a once-a-year article on Field Day activities is required.

The second major reason is the lack of training courses in Amateur radio, and lack of publicity for those that do exist. Some provinces now have Amateur radio training as authorized courses through provincial programs. These authorized courses have advantages over courses run by clubs - publicity is given in the media about the school courses as part of the program; full facilities of the schools can be used; and the instructors, usually qualified Amateurs, are paid for their work. In areas where these courses are run, there has been a significant increase in the numbers of Amateurs that is double or triple the national rate of increase (about 6% annually).

If Amateur courses are not yet authorized as part of your provincial educational program, get in touch with the Director of your local school board and with your provincial Amateur radio organization and sell the need to the provincial Minister of Education. To assist such courses, your national Federation is developing an Instructional Package to

go with the Canadian Amateur Certificate Study Guide and the Regulations Handbook.

The third, and a comparatively minor reason, is the present qualifications necessary to gain a Canadian Amateur operating certificate. Some Amateurs consider 10 wpm knowledge of the Morse code at 100% accuracy unreasonably high to be gained through classroom instruction and that proficiency could be better obtained by on-the-air operating. However, the technical and operating knowledge requirements are considered by many to be the minimum qualifications necessary to properly licence and operate a Canadian Amateur station. Several Amateurs have remarked that, if the code requirement was lowered to say 6 wpm, this would enable more time to be spent on the technical and operating aspects of a course in a fixed period of time. This would be beneficial, as DOC records indicate that most courses stress the learning of the code at the expense of the other requirements, resulting in a high failure rate of candidates who have passed the code test.

In the writer's opinion, the introduction of lower standards into our service will not, by itself, bring forth any meaningful results. On the contrary, it would mean that courses would be designed to take candidates to a lower level and then leave them to a 'self-training' method of reaching higher levels. It is believed that this approach to bolstering our numbers would only lead to a further diminution of 'entry standards'.

VE3AHU

## New Contest

A recent newsletter stated that there were only five to six thousand active Amateurs in Canada. The editor, when questioned, stated that this was a DOC figure. Now let's have some fun and try to get a definition of an 'active Amateur'.

There is one known to your TCA editor who has seven junior ops designs and builds his own equipment, towers and beams and, in addition to his daytime job, teaches night school -- now there's an active Amateur.

For the best definition of an 'active Amateur' turned in to Box 356, Kingston, before Oct. 31, CARF will award a free copy of the Regulations Handbook and the Certificate Study Guide.

## SHORT-CIRCUITS



## Grant given to Kingston group

The Kingston Old Timers Amateur Radio Association has been given a New Horizons grant of \$10,000 to set up a fully equipped Amateur station, to write and publish The Canadian Amateur Communications Handbook and to create a headquarters office for CARF. KOTARA is jointly sponsored by CARF and the City of Kingston with the station functioning normally as the HQ station of CARF using call VE3VCA and, in emergencies, as the disaster communication control for the Kingston area. VE3VCA and CARF HQ Office will be located at 370 King St. W, Kingston, Ont., but the mailing address will remain P.O. Box 356.

## Tower Trouble

Two more cases of municipalities or other agencies attempting to apply local ordinances governing TV towers to Amateur stations have come to light. An Amateur radio station is governed by the radio regulations of the federal Department of Communications (and this includes the tower structure) not other jurisdictions. If you have a similar problem, write to CARF for further information.



Canadian Repeater Advisory  
Group

The VHF forum at the Atlantic Amateur Convention in Halifax (Aug. 20-23) brought the formation of a Maritime repeater council nearer. Sparked by the Nova Scotia VHF Association and a survey of repeater groups, plans are afoot for voluntary frequency co-ordination in that region.

If you have a copy of the ARRL Repeater directory, you may have noted that there are several errors in Canadian listings. CARF is credited with Amherst being shown in New Brunswick and Nova Scotia both, but your columnist, being a Maritimer himself, can assure readers "t'ain't so". Amherst was still in Nova Scotia when he passed through it after the convention! The proposed repeater there has been dropped for the present. We can sympathize with Bob Halperin at ARRL HQ because we know all too well that keeping a directory reasonably accurate is difficult. There is a small number of errors and out-of-dates in the Canadian list in the ARRL directory but to top it all off, it appears that the ARRL

editor was the victim of a hoax perpetrated by a loose nut in the Ottawa area and hence a number of non-existent repeaters, shown as being sponsored by well-known local Amateurs, appear in the capital city's listing. Ottawa repeaters are: VE3ORA 28/88; VE3ARS 7.90/7.30; VE3OCR 25/85; VE2KGP 7.96/7.36; VE2CSO 10/70 and VE2CRA 34/94 and 443.30/448.30.

(For an up-to-date (we hope!) Canadian repeater list, write: CARF, Box 356, Kingston, Ont. K7L 4W2. Repeater owners are asked to check the list in the CRAG column for May and send in any changes.)

A DOC-sponsored meeting of users held in Ottawa on Sept. 14 reviewed all of the frequency changes proposed for consideration of the Canadian Interdepartmental Committee for WARC '79. A sinister note was struck by the DOC notation opposite 420-450 MHz. The note read: 'Allocation in 406-960 MHz subject to current DOC policy studies'. This could bode no good for retention of all of that 450 band. Your Federation, through the briefs on this matter invited by the DOC and through a committee of the Canadian Radio Technical Planning Board, will make a case for retention of that band for Amateur use.

Update: London area now has two more repeaters - VE3TTT and VE3RGM. (Tx VE3FWS)

## Bootlegging charge laid

From the Vancouver Sun, Sept. 8:

"The federal department of communications has charged a Vancouver man with operation of a 'ham' radio station without a licence.

"Dana Kenneth Jensen...is scheduled to appear in provincial court Thursday.

"In September, 1975, officials seized radio equipment valued at about \$750 and allegedly being used illegally by Jensen to broadcast.

"Conviction on the charge could result in forfeiture of the equipment, a \$2,500 fine and up to 12 months in jail."

Our Pacific Director, Peter Driessen VE7BBQ, reports that the case was set over until Sept. 23.

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# RAQI meeting okays Novice

The RAQI annual general meeting held at Shawenigan on Sept. 18 endorsed the idea of a novice certificate and rejected the DOC experimental proposal, but suggested that it could be bought with conditions: good only above 200 MHz, distinct call, Amateur certificate exam and if never permitted below 200 MHz.

About 60 members attended and heard plans for reducing the charge for licence plates by better administration. All requests will have to be in by a date in October to be announced by RAQI. Late-comers will be put on the list.

CARF Quebec director Gene Lajoie VE2RA and vice-president John Henry VE2DNM heard the formal announcement by RAQI president Pierre Joron VE2DV that RAQI is now affiliate with CARF. Gene is also vice-president of RAQI which makes for excellent liaison between our national organization and Amateurs in Quebec.

Plans for more efficient administration were outlined at the meeting and a nominating committee was selected to prepare a slate for 1977.

## Canadian Radio Flashback

Bob Bowman in the Ottawa Journal

On Aug. 27, 1909, a passenger liner off the coast of British Columbia sent what is believed to have been the first wireless SOS in history.

The ocean SOS was sent out by the liner Ohio which hit an uncharted rock on a voyage from Seattle to Alaska. There were 213 people aboard and all but five of them were lowered in lifeboats and eventually rescued.

One of the five crew members who remained on board was G.E. Eccles, the wireless operator, who came from Almonte, Ont. He stayed at his post and kept sending out distress signals which in those days were CDQ. His last message was "Passengers all off and adrift in small boats. Captain and crew going off in last boat and waiting for me now. Goodbye." Suddenly the Ohio slid off the

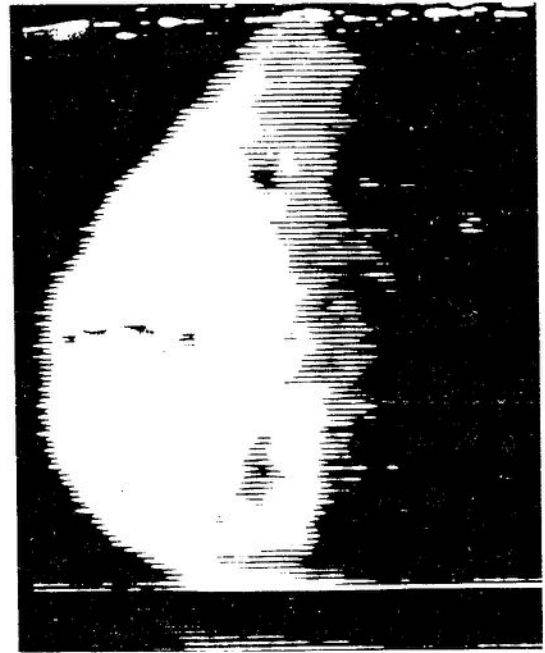
rock that had been holding her and sank. Eccles was drowned.

There is a memorial in Battery Park, New York, to wireless operators who have gone down with their ships, and Eccles name is the first on the list.

A year later on the same date, J.A.D. McCurdy, the first man to fly an aircraft in Canada and the British Commonwealth, made the first wireless transmission from air to ground.

McCurdy was one of the young engineers who helped Alexander Graham Bell design aircraft at Baddeck, N.S., and flew the Silver Dart on Feb. 23, 1909.

He established a number of records as one of the earliest flyers and was Lieutenant Governor of Nova Scotia when he died in 1961.



This photograph was taken from Viking I orbiter as it passed one of Mars' five moons. This moon is only 15 miles in diameter.

## Mars

Continued from Page One

The technique of slow scan television was invented by Amateurs, and NASA utilized a modified form of this Amateur invention to transmit pictures from Mars back to earth. This event marked another occasion when the hobby of Amateur radio has made a significant contribution to science.

# == Atlantic Convention Report ==

VE1FC Bret Fader

Convention weekend proved to be a most enjoyable and entertaining one for all who took part in the activities. The weatherman co-operated to the fullest and the staff at St. Mary's was most co-operative. There were 404 people at the banquet and Amateurs from VE2, VE3, VO1, W1, W2, W3, and Bermuda were in attendance. The highlight of the banquet Saturday evening was the address by Walter Hyndman VE1BZ of Charlottetown who told of his early days in radio, commercial and Amateur, and displayed some of the old type of radio tubes used in the early days.

The various commercial displays, while few in number, proved interesting, especially the Blomidon 2 metre repeater display, set up under glass. The swap shop drew lots of attention and there were many good buys available.

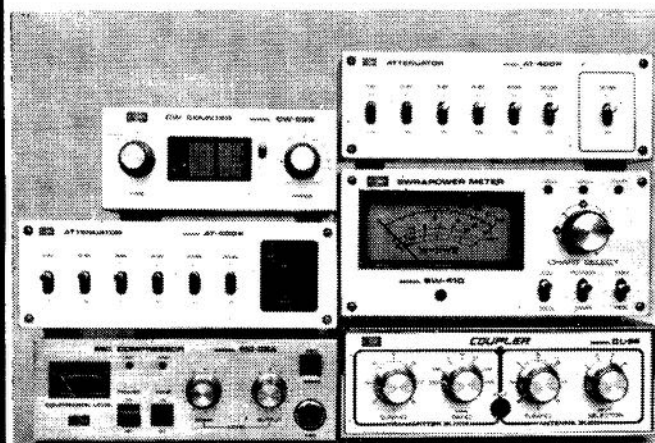
The CARF Forum, the Nova Scotia VHF Seminar, George Collins' talk on working DX from Fiji, and a talk by Mike Bryan VE3CGT, DOC in Ottawa, accomp-

anied by slides, film, and a question and answer period on Canada's Space Program were all interesting.

The women's program included a boat tour of the harbor, a bus tour to Peggy's Cove, an address by Reid Dexter of CBC Program Information Morning, and a walking tour of historic properties.

Winners of various draws and contests were: Hidden Transmitter Hunt, Bill Leithead VE1ABR of Dartmouth who won a TR2200 Transceiver with nicad batteries; Men's Door Prize, Ron Smith VE1ADT of Bathurst who won an Atlas 210 X Transceiver; Draw for FT 101 E, Rick Parnell VE1AEZ of Dartmouth (it has since been sold to Chuck Munro VE1-AJZ); Rod Trites VE1AYM was the winner of the CD44 Rotator.

(Many thanks to the committee for inviting CARF officials to hold a forum. Reports to your Editor are that the committee is pleased with the financial success of the event. Nice work, gentlemen, it was very enjoyable ... Ed.)



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## **G** *Amateur radio scores again*

After a dramatic game of hide-and-seek with Hurricane Candice, the schooner 'Norma and Gladys', with the aid of Amateur radio, manoeuvred through the worst of the storm on her way home from Ireland and arrived safely in St. John's on Saturday, Aug. 28.

The vessel had a fairly easy eastward Atlantic crossing last winter and a subsequent cruise to Mediterranean and European ports, but ran into the dangerous weather on the return voyage to Canada.

During the worst hours of the blow, Amateur operator Alan Hooper used the ship's Amateur station VE0MEA to keep in contact with VE3GK in Ottawa to get



There were a few interesting moments during the cruise. Underneath the hat is Alan Hooper and perched on his knee is Lilly Wager, who met the ship at various ports of call and conducted sightseers on a tour of the boat and its exhibits. Photo: Jan Wylie.

### **Tube or Transistor**

Anyone taking the DOC Amateur examinations has the choice of drawing tube or solid state diagrams. A directive to this effect has been sent to the field by DOC HQ after your Federation drew to its attention that examiners were dogmatic about requiring one or the other. It is the candidate's choice, not the examiner's.

vital weather reports and information which enabled the skipper, Captain Tom Smith, to change course in order to keep his vessel out of the hurricane's full force.

By telephone connection to Canadian Forces Maritime Command and Search and Rescue in Halifax, the track of the hurricane shown by weather satellite was plotted and, with the ship's position accurately pinpointed by its skipper's excellent navigation and reported via Alan's rig, advice was relayed to Captain Smith over VE3GK's station to choose the best course.

Despite this assistance from shore, the outcome was a real cliff-hanger, at least from the viewpoint of those who monitored the episode. High winds, 15 to 20 foot waves and leaking seams made the last leg of the voyage hard going for the Grand Bank schooner that the federal and Newfoundland governments had sent on a ten-month propaganda tour to publicize the conservation of the cod fisheries and Canada's claim to jurisdiction to a 200-mile offshore limit.

The nearest help possible, if the battle against the wind and the waves appeared to be lost, was the eastbound Queen Mary 2 and a container ship.

During the crucial period, the commercial radio aboard was useless due to poor propagation conditions and the Amateur communications again proved their worth in an emergency.

Alan's rig was an FT-101 using a vertical wire dipole hauled up the masts. During the long stay overseas, home contacts were made almost daily with VE3AUM, VE3ERU, VO1NP, and others. Alan is now back in Winnipeg.

### **Gremlins at work**

Michel Lavallee VE2MJ writes:

"Glad to read about our Hamfest at Montmagny in your September issue.

However, the name of our Minister of Communications is Denis Hardy, not Denis Harvey as printed. Congratulations on a magazine which fills a very real need for information among Canadian Amateurs."

VE2MJ is a good supporter of Amateur radio and we thank him for pointing out our error.

and mobile services in ITU Region 2, North and South America, but it is exclusively Amateur in Canada.

The CIC chairman, Gary Brooks, stated that the Committee thought it should be allocated internationally to one service only, rather than be shared. With military, commercial and broadcasting interests looking for spectrum space in this area, it is anybody's guess just which service will end up with it exclusively.

The CBC, in the paper, suggested crowding the Amateur service out of 7100-7300 kHz (40 metres) to permit it to go to the broadcasters and graciously suggest substituting 6800-7000 kHz for the loss. This would change 'forty' to 6800-7100 kHz.

The Federation's Working Group on WARC '79 was represented at the meeting by the alternative chairman, Bud Punchard VE3UD, the Federation's new vice-president John Henry VE2DNM and Doug

Burrill VE3CDC, a CARF director and special assistant to the president.

The 30 or so representatives of radio and TV broadcasting, and of telecommunications interests, made little comment during the review of the 138 suggested changes. They were obviously playing their cards close to their chests.

VE3UD, as CARF spokesman, made a number of clarifying remarks to suggestions affecting the Amateur band because the paper did not include some of the draft CARF proposals or some of the recent amendments to the CARF brief received from CARF members and resulting from further research. Bud also noted that the CARF suggestions, although not incompatible with the ones listed in the DOC paper by the American Radio Relay League's Canadian Division, differed in some cases because the CARF proposals, after months of research, have been developed specifically to meet the operating environment in Canada, while the ARRL proposals were those of the International Amateur Radio Union (which does not recognize CARF). The chairman said that he thought resolving these differences would benefit the Amateur cause in the CIC deliberations.

One difference was the ARRL reference to allocations for an 'Amateur Satellite Service'. While the ITU makes a definition of this service, it does not exist in Canada, despite an odd oversight in DOC's domestic allocation of 24.0 - 24.05 GHz to that service. The chairman, presented with this anomaly, suggested that the matter required further thought and investigation.

Final briefs from radio spectrum users are to be in DOC hands by Oct. 15 and, after working on the resolution of conflicting proposals during this winter, DOC will present the results in April 1977 and a conference will be called to discuss them. Written comments will then be received up until June 1977. It is likely that a final conference will be held some time after that.

Mr. Brooks, in reply to a question, said that the allocations made at the WARC '79, which will meet from April to December 1979 in Geneva, would not be implemented until 1981 at the earliest.

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# A Man Called Intrepid

Only now, after the 30 years of silence imposed by Britain's Official Secrets Act, has the true extent of the role of radio communications in the Allied victory come to light. The recent fascinating books, *The Ultra Secret* and *A Man Called Intrepid*, show the almost unbelievable extent of the use of radio interception in divining the Nazi plans as well as the use of radio by the 'secret army' of clandestine resistance groups, espionage nets and partisans in Europe.

The operations of the spies and saboteurs and underground fighters were directed from England and the US by a highly irregular organization known as the British Security Co-ordination and other cloak-and-dagger outfits. There was a training camp for these courageous and unsung heroes on the shores of Lake Ontario near Bowmanville. The BSC was the brain-child of a distinguished Canadian, Sir William Stephenson, whose code name was Intrepid.

As a teen-ager just before the World War 1 days, Bill Stephenson was one of Canada's first radio Amateurs. From Winnipeg, he used to work the operators on the Great Lakes boats. After an adventurous career as a soldier and WW1 ace, his early interest in radio made him a fortune in the period between the wars. He worked in developing television and laser devices in the 20's and his early success in England in the manufacture of broadcast receivers was followed by inventions in facsimile transmission and other telecommunications devices, all of which were the foundation stones of his fortune.

Stephenson's training programs for agents being dropped in occupied Europe included Morse code (DOC, please note!) and the operation of specially designed portable HF transmitters.

HF communication, even in the relatively short distances involved between agents in occupied Europe and London, were not as satisfactory as they might have been at times and the life of 'piano players', as they were known in the trade, was often cut short in the Gestapo torture dungeons as a result of direction finding by the German counter-espionage units.

Toward the end of the struggle there was an improvement which foreshadowed

today's sophisticated spy techniques of utilizing VHF, UHF and satellites. A UHF set was developed, using rigs with directional antennas, that allowed agents in occupied Europe to hold direct phone conversations free from direction finding to specially equipped Allied aircraft circling high above a pinpoint rendezvous.

In this day and age, when the philosophy of permissiveness seems to permeate government and society alike, it is interesting to find that the symbol of achievement which, even after all of his hard-won education and scientific success, is for Bill Stephenson epitomized in the concluding words of *A Man Called Intrepid* ... "Mary (Stephenson's wife) and Bill whittled their lives down to a level of unostentatious comfort such as they had known in childhood. What retained importance in his study was the Morse key, worn and polished by his hand in periodic practice since he rigged it as a schoolboy".

(Code-free licence, anyone ?)

VE3CDC

## Whither 450?

Because of the increasing congestion of certain portions of the radio spectrum, DOC is currently examining radio spectrum use in the 406 to 960 Megahertz band with a view to developing a national policy for the use of this band.

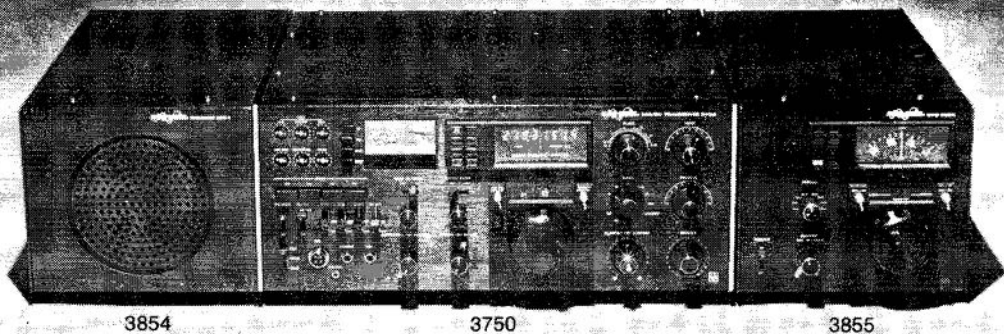
As part of its examination, the Department is inviting submissions from all interested parties or organizations concerning spectrum allocations in Canada in this frequency range. These submissions will be used to arrive at the final policy for the use of this band including, if necessary, consideration of any changes to the present Canadian allocations. This policy will form an important input to the Canadian preparations for the ITU frequency conference to be held in 1979. You Federation will be represented at a special meeting of the CRTPB (Canadian Radio Technical Planning Board) on Sept. 29. CRTPB will prepare recommendations to DOC.

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# Letters to the Editor

## Novice Licence

Editor,

At the Kingston Amateur Radio Club meeting held at Queen's University Sept. 7, 1976, ... it was moved and seconded that there should not be a novice licence issued in Canada, and that the Code speed for the Amateur class licence be reduced from 10 words per minute to 7 words per minute.

It was felt that this change eliminated the need for an experimenter's licence in Canada (no cw).

Yours truly,  
J.A. Wyatt  
Secretary, KARC.

## Correction

Dear Sir:

Your statement on page 13 of the Sept. issue of The Canadian Amateur that the United States technician licence is 'code-free' is completely erroneous and distorts the whole paragraph. As you well know, the Technician class exam has a 5 wpm test.

Ray Leivo VE3AQJ  
Thornhill Ont.

Thanks Ray. In order to prevent any repetition of this ghastly blow to international relations, the culprit (our glorious leader VE3AHU) has been sentenced to write out the US Amateur regs 1,000 times on clay tablets...Ed.

## Search for No. 1

Dear Sir:

I notice that there is a search on for the first Canadian Ham operator, in your June issue. After ruling out Reg Fessenden, of West Bolton, who matured and went to the States in time to build 'NAA' (the first broadcast station ... Ed.) I may be able to recall a few who were active between 1911 and the start of world war one.

In Farnham, there were Albert Lorimer, Stanley Hesse, Edward Elms, Gordon Booth and yours truly. Most of these were listeners, but before too long acquired transmitters so we could talk

(code) to one another. There were no government assigned call letters and the only one I recall just now is 3Z, the one I used.

Our gear was mostly home made, using bits and pieces scrounged from the railway linemen and bits of galena from 'The Electro Importing Co.' of New York. Our tuners were single slider jobs wound with #30 DSC wire on dry cell covers with Ford coils or bell buzzers for transmitters and whatever we could get for earpieces.

George Barnes at Stanbridge East, had quite an elaborate setup run from a farm lighting plant. George received the Titanic's distress call. One other I should mention is Arnold Gladden of Warden. He made fiddles and wound transformers. I think he was on the air before we were. He also gave Albert a half kw transformer and Albert became our high power station.

So far I have only mentioned the English boys; there were many French fellows in the outlying districts, as we found out when Albert went high power.

Eric W. Farmer  
Ste. Therese, P.Q.

## YB7AAA

Dear OMs:

I am enclosing a photocopy of a permit issued to me in the Philippines recently. It has taken some five years of trying, but the door has finally been opened. VE3FVY also received a permit at the same time. I sent a Telex to DOC in Ottawa advising them of the permit and expect that they will now issue permits to DU hams now in Canada now that a defacto reciprocity exists. They have done the same for the YB hams as they have a copy of my YB licence on file in Ottawa.

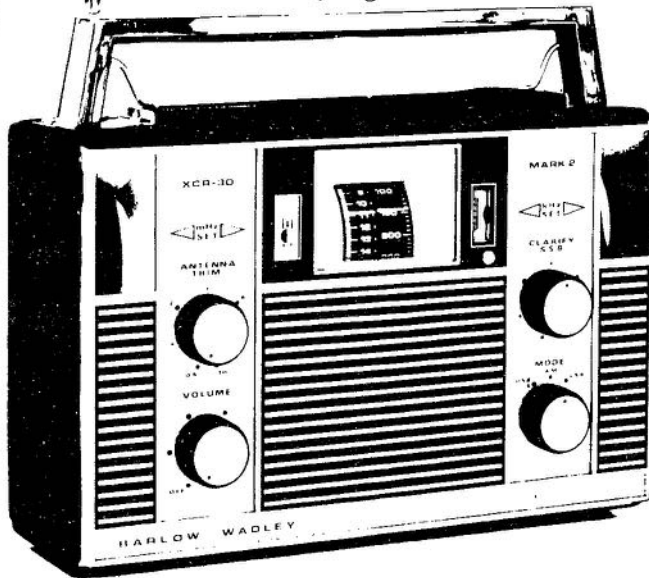
Please note my new mailing address. Although I am still in Indonesia, I have moved to Tarakan which is 50 miles south of Tawau, Sabah, and we receive our mail via Tawau.

John R. Van Lear YB7AAA/VE7IR  
Tawau, Sabah, East Malaysia.

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## Life in the Philippines

Dear OM,

Just a note to let you know that VE3-FVY moved from Toronto last April and is now residing in the Philippines. The town of Espiritu is located almost at the northern tip of Suzon island and there isn't another radio ham for at least 150 miles.

I applied to Communications people here for a licence and was informed that I would be allowed to operate using the call VE3FVY/DU4. Later, when my permanent resident's papers come through, I will be issued DU4WC. There are no DU4s active here, so when I get on I guess I'll be in demand.

I shipped my whole station here. The great Yaesu line - FT101E, FL2100B and all the station accessories and test gear. Also my Mosley TA33sr and TR44 rotator. Some of the Heath gear I have, along with stereo and TVs are for 120 volts, so I got a locally made step-down transformer good for 5KVA. Cost me \$50 US. Should be on the air by middle of August if I can get a locally made 60 ft. tower cheap enough and get an operating table built.

My house was just completed and there are quite a few things to be done to it yet before it reaches Canadian standards. In spare moments between painting and planting a flower garden, I've been putting together a W4AEO wire type 17 element log periodic antenna that I will aim at Canada. Hope to get up high with it - 50 feet or so. Bamboo here grows real tall and on some of the larger poles have a butt end diameter of 10 inches.

Will be looking for contacts with VE land. Will be on daily (well, almost daily) 2200 to 2330 hrs GMT and 0930 to 1100 GMT. Will be found on 20 metres - 14.185 to 14.220. Will really get a chance to do some DXing. The last 15 years I spent with CBC TV, I was on shift work and missed out on some great DX, contests and the like. I would really like to set up a couple of skeds with VE7, and of course would really love to work Canada regularly, conditions permitting. The log periodic antenna should be a great help.

Manila now has a 2 metre repeater.

The boys here have taken to it in a big way. Input frequency around 144 MHz, with 600 kHz spacing. The use of 144 MHz is popular in South Est Asia so any US rigs used here have to be retuned to the low end of the band. 40 metres is popular here and because of SW broadcasting on that band most of the phone activity is at the low end; 7.025 to 7.055 is usually used. 7.045 is monitored as an emergency frequency. This place is an earthquake zone. Not to mention typhoons, floods and volcanic eruptions. The DU boys do a fine job in emergencies and because of poor (or non-existent) civil and public long distance communications circuits, ham radio is usually the only way of providing vital communications. The nearest phone here is 35 miles away, and it only covers the town. Have to go to the Long Distance office to phone Manila. It's a VHF link via a relay in the town of Baguio (150 miles south) that is 5000 feet or so ASL. Most of the time the circuit is noisy. We are really isolated here. Maybe ham radio can help in that respect.

I hope that I'm not boring you. Just a few tidbits that you could possibly print in The Canadian Amateur. Incidentally, my subscription ran out just before I left Canada. So I'm enclosing a cheque for a two year subscription.

Regards to all at CARF  
W. Coombs, VE3FVY/DU4  
Espiritu, Ilocos Norte,  
Philippines

---

## QRP DX

CARF VP John Henry VE2DNM reports that by a freak oversight he worked four stations, one of them G3OBD over Oscar Mode B with less than 100 milliwatts output. Using a burrowed power meter in the output, he had used the wrong strapping option in the instrument. On discovering the error, a drop of solder in the right place raised the output to 11 watts at the TX converter. Measured power at the antenna is now 8 watts with an approximate gain of 10 dB on the 432 MHz antenna. With the 80 watt ERP, he next contacted an FY7 station.

The lesson seems to be, however, that if one watt can produce four QSOs, the day of the hand-held DX QSO via satellite can't be too far away.

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# « *Murphy goes to the Olympics* »

The Olympics are only a memory, but the stories of the behind-the-scene Amateur activities are still surfacing. Last month, Bert Hovey VE3EW described the part played by Amateur radio in conveying the Olympic flame to Kingston. This month, Lloyd Guenette VE2KQ describes the flame trip from Ottawa, where it was lit by satellite, to Montreal. Lloyd encountered Murphy's Law a number of times (What can go wrong, will) but seems to have had a ball in spite of it.

It all began on June 15 when Al Daemen VE2IJ, chairman of RASO (Radio Amateurs Serving the Olympiad) asked me if I would be willing to handle Amateur communications for the Olympic flame convoy ...

I was to be located in the convoy control vehicle, and my duties were to provide communications between the convoy personnel and the central offices of COJO (The Organizing Committee of the 1976 Olympic Games) located in downtown Montreal. A rehearsal scheduled for the June 19 weekend was to cover the Montebello to Montreal portion of the trip.

The convoy control vehicle was a bus provided by MacDonald's Hamburgers and was a real luxury liner. I could not see the bus until the day before and, with no information as to the type of route we were to follow, I had no choice but to install a 2 metre rig on the bus, using the first 2 m antenna I could put my hands on.

With the help of a bicycle caddy, I managed to mount a 10-foot mast, with a Cushcraft Ringo on top, on the right front bumper. The rig was installed half way back in the bus in a location which provided me with a 115 VAC outlet. This worked out well, and I had no problem working into VE2RM, a Montreal repeater which provided excellent coverage of the lower Ottawa Valley.

Now for a base station. The most logical place I could find was the Amateur radio station CZ2O being set up to serve the Olympics. This was the perfect location in that no antenna problems were to be encountered and a telephone was set up right beside the transmitter for phone patching from the convoy to COJO offices.

Instructions had been given to convoy

personnel that we were all to meet in downtown Montreal at 0200 hrs Saturday, June 19 for departure for Montebello. This early hour was necessary in order that we might arrive in Montebello in time to regroup the convoy and be ready to leave with the first runner scheduled to start for Montreal at 0600 hrs. My first job was to install the antenna and the rig and get ready for my first contact with CZ2O scheduled for about 0800 hrs.

CZ2O was in a high school located in the northern part of the Island of Mont-



Lloyd Guenette VE2KQ

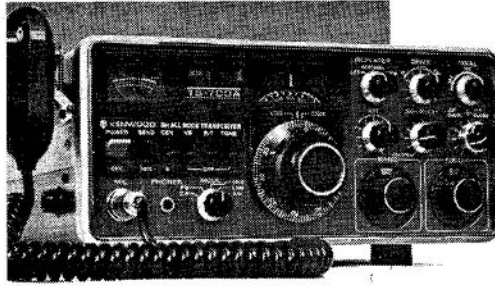
real. However, my first contact was not with CZ2O, but with Al Daemen VE2IJ, talking to me from the school with a walkie-talkie. Quebec Hydro had been working at the school the previous day and had cut off power to that part of the school where CZ2O was located! It was almost 1300 hrs. when power was restored, and by that time we were well on our way to Montreal. A number of messages were put through via local hams, in addition to direct calls by auto-patch via VE2RM and local assistance.

The antenna set-up worked well - - until we reached Hudson Heights. While our regular driver, Ken Knights, had done a wonderful job of watching for overhanging branches, etc. along the route, his relief overlooked this detail. Stretched across the roadway was a length of wire carrying a series of small banners. The driver didn't stop, and for that matter, neither did the antenna! So ended operations from that point in to Montreal.

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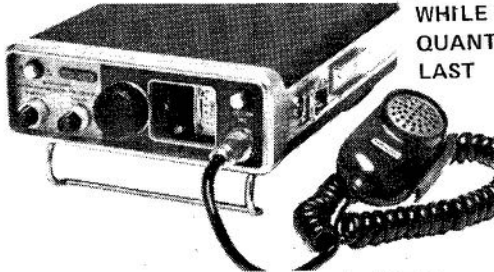
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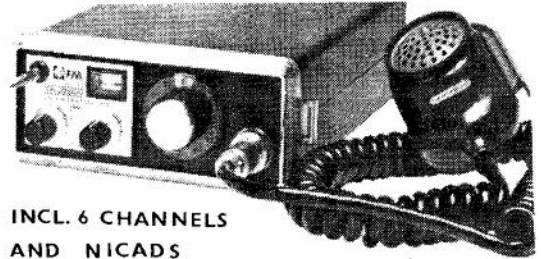
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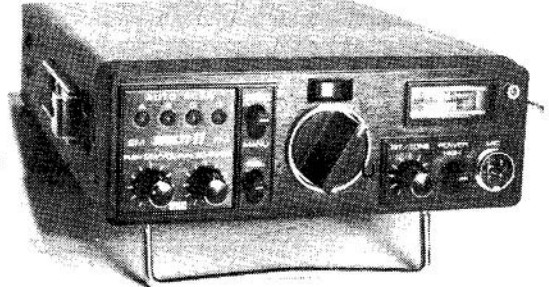
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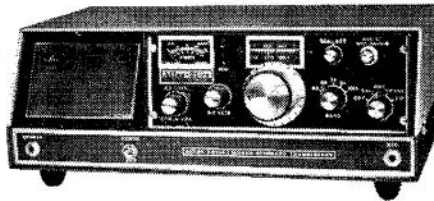
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"The two main things to be avoided in an antenna for this type of service were height and rigidity..."

A rigid antenna was now out of the question, so I mounted a spring loaded 5/8 wave antenna on an L bracket, with four rigid radials. Again, the results of tests proved gratifying, and I thought I had found the answer to my antenna problems.

The following week, a dry run from Ottawa to Montreal required that the station be located in a station wagon. This presented an opportunity to try out the new antenna and to prove to myself that I had found a solution to my problem. We left Ottawa at 0800 hrs to begin our run in to Montreal, following the route of the flame convoy. Ron Belleville VE3AUM was able to assist me via phone patch to Montreal through VE2CRA, the repeater owned by the Ottawa Amateur Radio Club. This worked out fine, and this method was used until we came into range of VE2RM. We reached Pincourt, a small town just off the west end of the island of Montreal, just after dark and in the pouring rain. Then disaster struck. A low overhanging branch caught the antenna just at the L bracket. Not only did the antenna come down, but the whole mounting on the bumper of the vehicle. Did you ever try to mount an antenna on a car bumper in total darkness and in pouring rain? And that without a raincoat. I had lost one of the radials, but there were still three left so I felt I was still in business. I was able to use the rig until someone told me my audio was all distorted. I had evidently lost another radial, and the SWR must have gone sky-high, so I just shut down for the night. I did prove, however, that communications via Amateur radio were definitely possible. I had two days to prepare another antenna before a dry run to Kingston.

With the experience gained on the first two runs, I felt that the two main things to be avoided in an antenna for this type of service were (a) height and (b) rigidity. Hence was born antenna No. 3.

It was evident that the maximum usable height was 1/4 wavelength, therefore the practical solution lay in the use of the amphenol type piano wire antenna. This answered the vertical requirements. Four radials were made of the same material, and all elements, both vertical and horizontal, were mounted on

an L bracket on top of the 10 foot pole. This overcame the problems of height and rigidity. At the operating frequency, 146.40 MHz, SWR checked out at 1.05:1. Beautiful! Now bring on your Kingston run.

Next issue, Lloyd continues his tale of the problems encountered in supplying Amateur communications along the path of the Game Flame for the 1976 Olympics.

## Instructor's package planned

Several Amateurs and clubs have asked CARF to produce an Instructor's package to go with the recently published book, The Canadian Amateur Certificate Study Guide. Such a package is now being developed and will include lesson plans, a set of overhead transparencies, written and verbal information (using tape cassettes).

In some provinces, courses on Amateur radio are authorized courses as part of the provincial Continuing Education Program. As authorized courses, they receive wide media publicity, instructors are paid at the going rate for such courses, and audio/visual and other facilities of the College or Secondary School can be used. Normally the local club works with the local Director of the program and supplies the instructors necessary for the course and such items as code oscillators, etc. If your province has not yet included Amateur radio in their Continuing Education Program, contact the local Director or the provincial Minister of Education to get the wheels in motion. The provincial Amateur societies can play a major role in this regard.

## Study Guide

Unforeseen large sales of the Certificate Study Guide and the Regulations Handbook in July caused a rapid depletion of stocks held. Copies of the Guide have been received from the publisher and all back orders have now been filled. Copies of the Regulation Handbook are now available. (The Federation gives a 10% reduction in price for all orders of 25 or more.)

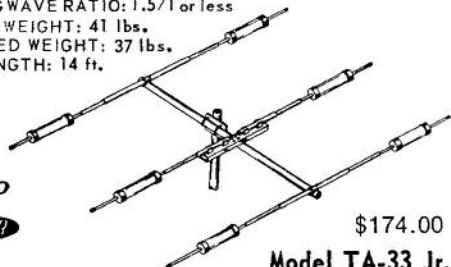
# MOSLEY ANTENNAS

## The Classic 33 10, 15, and 20 meters

### Model TA-33 for 10, 15, and 20 meters \$238

The Mosley TA-33 three element beam provides outstanding 10, 15, and 20 meter performance. Exceptionally broadband - gives excellent results over full Ham bandwidth. Exclusive Mosley trap design offers resonant frequency stability under all weather conditions. Element center sections are of double thickness aluminum to reduce sag. Boom requires no bracing. Heavy duty universal mounting plate fits masts up to 1 1/2 inch O.D. Antenna handles full KW AM/CW or 2 KW P.E.P. SSB input. Feed with one coax line, RG-8/U recommended. The TA-33 may also be used on 40 meters with TA-40 KR conversion. Complete with Hdw.

FORWARD GAIN: Up to 8 db. TURNING RADIUS: 15.5 ft.  
 FRONT-TO-BACK: 20 db, or better WIND LOAD: 114 pounds.  
 MAX. ELEMENT LENGTH: 28 ft. WIND SURFACE : 5.7 sq. ft.  
 STANDING WAVE RATIO: 1.5/1 or less  
 SHIPPING WEIGHT: 41 lbs.  
 ASSEMBLED WEIGHT: 37 lbs.  
 BOOM LENGTH: 14 ft.



\$174.00

### Model TA-33 Jr.

Mosley TA-33 Jr. has quality and performance found in the TA-33. Rated to 300 watts AM and CW, - 1000 watts P.E.P. on SSB. Complete with Hdw. The Junior may be converted to MP-33 with higher power rating with MPK-3 Kit. Shipping weight 28 lbs. Assembled weight 20 lbs.

Beam designed to provide the extra gain for working hard-to-reach DX. Incorporates exclusive Mosley "Weather-Proved" traps with resonant frequency stability. Features new boom to element clamping and balanced radiation. Hardware is stainless steel. Feed with 52 ohm RG-8/U coax. Fits up to two inch mast. Use with most heavy-duty rotors. 1 KW AM/CW or 2 KW P.E.P. SSB input.

FORWARD GAIN: Full 8 db. compared to reference dipole or 10.1 db. over isotropic source.

FRONT-TO-BACK: 20 db, or better on 15 and 20; 15 db. on 10 meters.

STANDING WAVE RATIO: 1.5/1 or better.

MAXIMUM ELEMENT LENGTH: 27 ft.

ASSEMBLED WEIGHT: 42 lbs.

BOOM LENGTH: 18 ft.

SHIPPING WEIGHT: 47 lbs.

TURNING RADIUS: 16 ft.

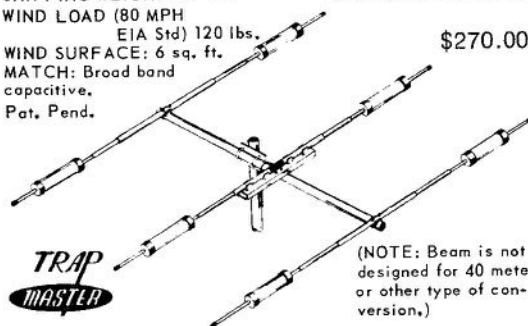
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EIA Std) 120 lbs.

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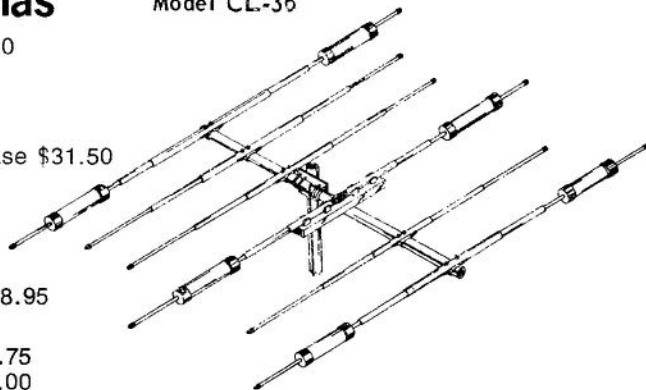
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VE3BPM

Periodically over the years the clarion cry is heard proclaiming that the days of experimentation are over. The fact is that the "Age of the Experiment" is just dawning. It is true that it is becoming increasingly difficult to find some types of parts, but this does not mean an end to experimentation. On the other hand, numerous "basement" and other supply companies have been formed and are prospering in the marketplace.

The hallmark of the experimenter is that he EXPERIMENTS. This would seem to be a trite statement, but herein is interesting wisdom. For one thing, an Amateur Radio operator experiments because of a love of what he is involved in. The time spent in experimentation is not just a waste of time, but rather an investment in knowledge and ability to perform. Many of the seeming little things involved in building become a joy through practice. At first it seems to be drudgery to do the chassis work involved in a new project. With practice, the 'chore' becomes pleasurable in its creativity. It takes time but the pleasure is there.

It should be clearly pointed out that experimentation is the life blood of Amateur Radio. The project does not need to be large or glorious, but it is SOMETHING. That is the important thing - to do something creative.

A cornerstone of all experimentation, both amateur and professional, is the note book. This can take any form and very commonly does. A convenient form is that of a bound or ring-held quantity of quadrille sheets. The quadrille sheet is convenient because of its crosshatching which can be an aid in keeping a sketch in some scale or keeping a schematic neat. The key to keeping a notebook is that whenever the experimenter does something a record is made. This record also helps in avoiding the exercise called "re-inventing the wheel". For instance, just about every Amateur station setup has some wiring that can be forgotten. This is where the notebook is of golden value to prevent the painful process of repeating the entire creative process that led up to the "lashup".

One of the quietest changes that has taken place in the technology of electronics has been the Light Emitting Diode

(LED). This amazing device has come on very quietly. In reality this is a semiconductor diode that emits light. Most LEDs are rather small and emit little more than a pinpoint of light. In a circuit the LED can be used as a visual circuit condition indication. This is particularly handy in digital circuitry. The most straightforward application of the LED is one of the most interesting - IN PERSPECTIVE. From the beginning of radio there has been a need for an equipment status indicator or pilot lamp. The first bulbs for this purpose were very small and had a candelabra or screw-in base. The obvious disadvantage of this base is that with time and vibration the bulb tends to walk out of the socket. The bayonet base was developed to meet the challenge. In the days of tubes, the #47 bulb was the most common and is rated at 6-8 volts at 150 ma. In the days of the vacuum tube this much power for a pilot lamp was not excessive. However, times have changed. With modern transistor equipment it is virtually unthinkable to budget 150 ma at 6-8 volts for an equipment status indicator. This is especially valid when the power source might well be a small 9-volt battery and considering that the equipment powered might draw only 10 or 50 ma.

Today LEDs are available in a vast variety of voltage/current/illumination combinations. In most general terms they represent a truly modern answer to the panel lamp problem in small electronic projects. Price-wise they are available in Canada for as low as 2/\$1 from J&J Electronics. Incidentally, EVERY experimenter should have a copy of the J&J catalogue. This is really the "Sears" catalogue of Canadian electronics experimenters. It is available from J&J Electronics, Box 1437, Winnipeg, Manitoba, R3C 2Z4.

Experience indicates that when using a LED indicator as an equipment status indicator it is easy to design the voltage dropping resistor to limit the current to the diode. A milliammeter should be instrumented in series with the diode and a variable resistor. A good form for the variable resistor is a resistance decade. Not having a decade or a spare potentiometer available, a group of fixed resis-

# HEAVY DUTY HAM TOWERS

DMXHD Heavy Duty Ham Towers can support a large amateur beam of up to 9 sq. ft. wind area. Guy wires must be used if larger loads are required or cross bar mounted antennas or if greater height using straight sections is needed.

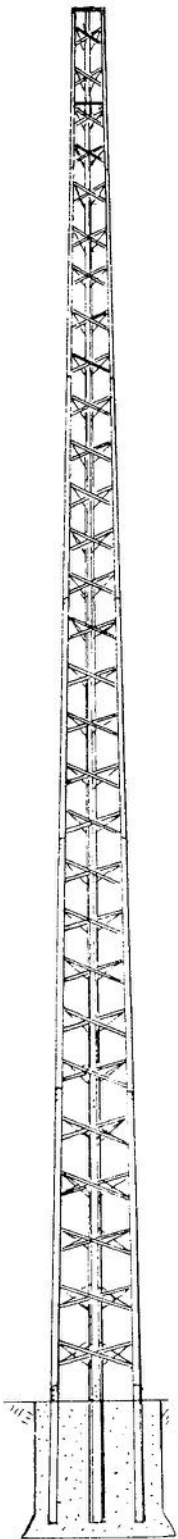
DELHI DMXMD and DMXHD towers use the larger and stronger sections of our standard eight section, 68 foot TV tower, Model DMX 68. DMXMD towers have a DMX2T top section, DMXHD towers have a DMX3T top section. Both top sections have a No. 244A cast aluminum mast clamp installed on the top plate.

Each section is 8 ft. long and has beaded channel legs riveted together with "X" braces. Legs and braces are high tensile steel, heavily galvanized before fabrication. Rivets are solid heat treated aluminum. Sections fit accurately together and are joined by heat treated nuts and bolts. The uniform tapered leg design together with evenly spaced "X" braces give the tower greater strength and reliability.

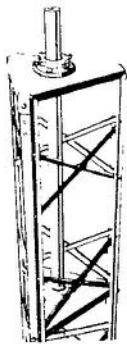
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8 ft. tower sections, top plate with cast aluminum mast clamp, rotor plate, three 4 ft. concrete base stubs, special nuts, bolts and washers. (No mast is included in package).

Model No.	Height of Tower	Tower Section Supplied	Wt. in lbs.
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DMXHD-40	40	DMX3T, DMX4, DMX5, DMX6, DMX7	241
DMXHD-48	48	DMX3T, DMX4, DMX5, DMX6, DMX7, DMX8	314

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HD Mast	2" O.D. x 12 Ga. x 8' Galv. mast	18
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BBMB	Cast alum. ball bearing mast bearing: 2" O.D. capacity	2
TA-6	Thrust bearing with tapered rollers, 1 1/2" O.D. capacity	2



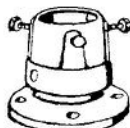
DMXHD-48



Top of tower with mast clamp plate installed.



Unique beaded channel legs resist bending



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VE3BPM

# Experimenter

Continued

tors can be used. Starting with a resistance of something like 1 kohm at 9 volts, the resistance can be changed while noting the relative brilliance of the diode and the current in the network. As with all things, it becomes a tradeoff between current and relative illumination for the particular application. It would seem that we have been conditioned to expect great brilliance from a pilot lamp. In most cases, this is not necessary and the LED operating at between 1 and 5 ma does an admirable job. The most important thing is to get a couple of LEDs and try them. They really do a fine job for that small project.

Through the ages, wise ones have repeatedly said that we learn relatively little from success. The important thing, as far as the Amateur experimenter is concerned, is to Experiment and Learn.

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## Operating in Fort Nelson, B.C.

The following report on Amateur operation in Fort Nelson B.C. was received from Marcel Gervais VE7DSR:

I thought I would let your office know what's doing on the Amateur radio band in Fort Nelson on the Alaska Highway. We are located at mile post 300 of the Alcan Highway at the airport of Fort Nelson. I feel that our location is one of the best in North America for Amateur radio. Our conditions on 20 metres is the best one could hope for. The band is always open for 24 hrs per day almost every day of the year. All you have to do is point the beam in the direction you want to work.

Most of my operation is done between 04:00 Z and 09:00 Z working over the NORTH pole in the middle east, South Africa, and all of Europe. On the average night, I can work and fill three and four pages of my log book with DX and maybe work an average of 50 to 60 countries any given night. There is always a pile-up on my frequency and my reports are always very good. I have been told on many nights that I am the only station coming from North America. With the amount of sta-

tions calling me, it's not hard to believe.

I have worked a total of 300 countries to date, the last one being VR8A, FW8CO is operating every night between 0500 and 0730 Z at about 14,140. The following we heard in one night at about 0900 Z: VS6, VS5, P29, YJ8, VR8, VQ9 and many VU2 all heard from the N.W. They were all working into Europe.

Keep up the good work at the QSL Bureau.

## Meet your Mid-West Director



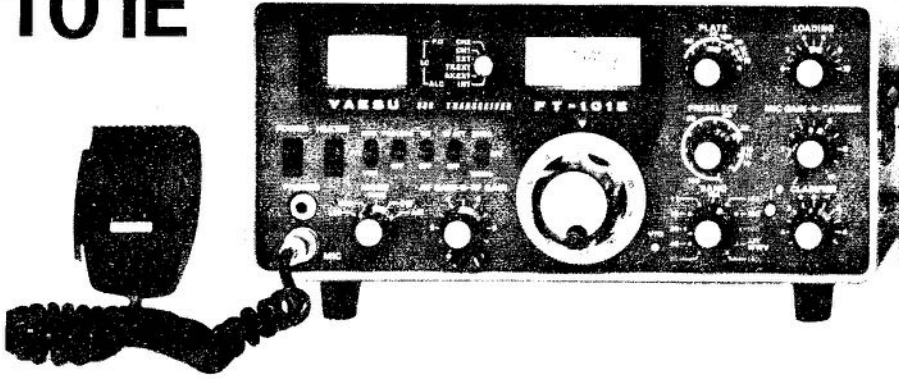
Martha  
Prankratz  
VF5YY

Martha obtained her Amateur certificate in 1961, her Advanced ticket in 1962 and has been Secretary of the Saskatoon Amateur Radio Club for most of that time. She has served two terms as a CARF director, served several terms as Vice-President of the Saskatchewan Amateur Radio League and was Director for VE District for YLRL for one term. Martha played a major part in the publication of the Saskatoon Club's Centennial project, "From Spark to Space"--a history of Amateur radio in Canada. She is a native of Saskatchewan, and lives in Saskatoon. To add to all of her Amateur activities, Martha also is interested in handicrafts, sewing, painting, and in her "spare" time during the winter months teaches several classes in ballroom dancing.

## DOC NEWS

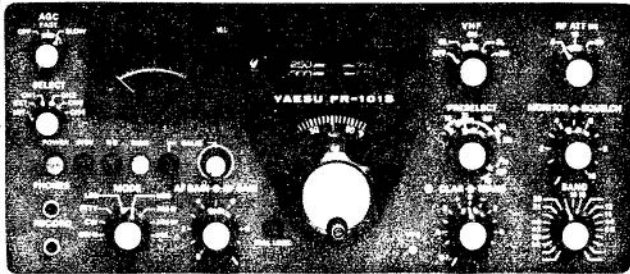
Residents of Chesterfield Inlet, NWT, will be able to make telephone calls using satellite services by the end of 1976. An earth station of the Anik satellite service is to be established at the community. Chesterfield Inlet is 325 miles north of Churchill, Man., on the west shore of Hudson Bay.

# FT-101E

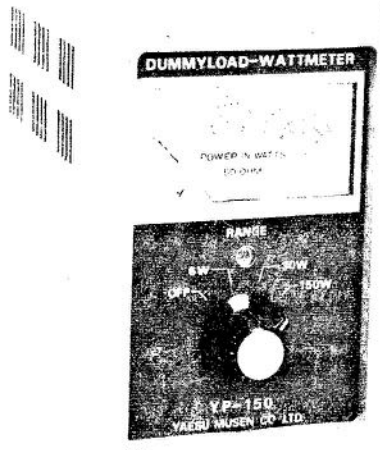


## From YAESU

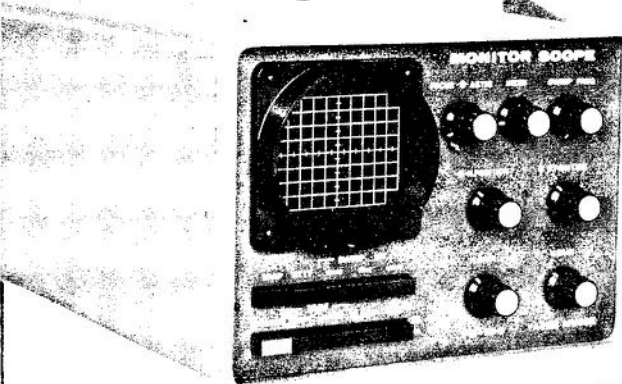
# FT-221



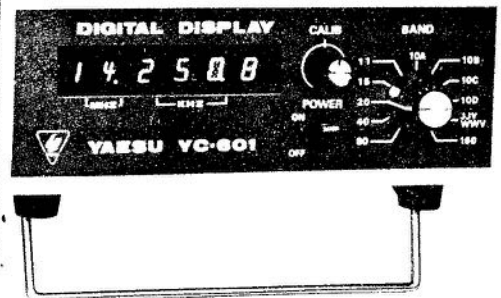
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## RSO Convention

The ninth annual RSO Convention will be held at the Don Valley Holiday Inn in Toronto on Oct. 22, 23 and 24. Technical talks and a ladies' program featuring local galleries, museums and shopping tours will be part of the festivities. For registration details and accommodation reservations, write RSO, Box 334, Station U, Toronto, Ont. M8Z 5P7.

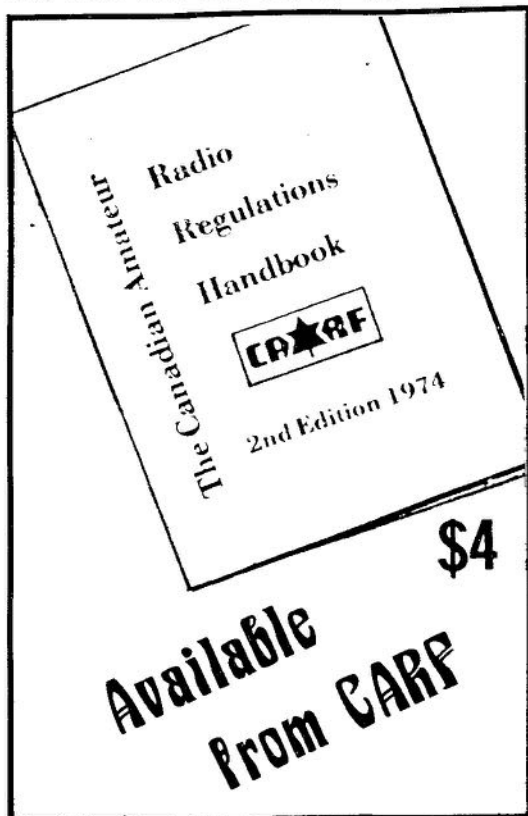
## Free QSL Service

An outgoing QSL service is provided to CARF members FREE through the CARF QSL Bureau, Box 66, Islington, Ont. Sort your cards by country and call alphabetically and put your membership number on the envelope in the lower left-hand corner.

An incoming service is available free to ALL Amateurs who send in a self-addressed, stamped envelope.

## Alta Directory

The Northern Alberta ARC has sponsored a new version of the Alberta Amateur Radio Directory. Copies can be obtained from NARC, PO Box 163, Edmonton, Alta. at a cost of \$2.50 per copy.



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## QSLs for CZ2RV

The call CZ2RV was assigned to commemorate the 25th anniversary of the city of Sept-Iles, Que. QSL cards for this station may be exchanged either through the CARF National QSL Bureau, Box 66, Islington, Ont. or to VE2RV, R. Harvey, 143 Papineau St., Sept-Iles, Que. G4R 4H6.

## Address Labels

The top line of your address label contains membership information. Take 'G - 034 - DEC 76' as an example. 'G - 034' is the membership number and should be the same as on your membership certificate. DEC 76 tells our office staff that a renewal notice should be sent a month in advance of the expiry date, December 1976, because your membership and subscription runs out with the next issue, i.e. Jan. 77.

Note that The Canadian Amateur is not published during July and August, so if your membership expires with the Sept. issue, you will receive the renewal notice in June, not in August.

### BANNED COUNTRIES LIST

Iraq, Khmer Republic\*\*, Libya, Pakistan, Somalia, Turkey, Viet-Nam\*, Peoples Democratic Republic of Yemen.

\*-Stations XV5AA, XV5AB and XV5AC were authorized to exchange communications with Amateurs of other countries by the former Saigon regime.

\*\*-Station XU1AA has been authorized to exchange communications with Amateurs of other countries.

THIRD PARTY TRAFFIC AGREEMENTS  
Bolivia, Chile, Costa Rica, Dominican Republic, Guyana, Honduras, El Salvador, Israel, Nicaragua, Peru, Trinidad, Tobago, U.S.A. (Territories and Possessions) and Venezuela, Guatemala and Uruguay.

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Note: All Commonwealth countries are eligible for reciprocal operating privileges to Canadian Amateurs.



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