

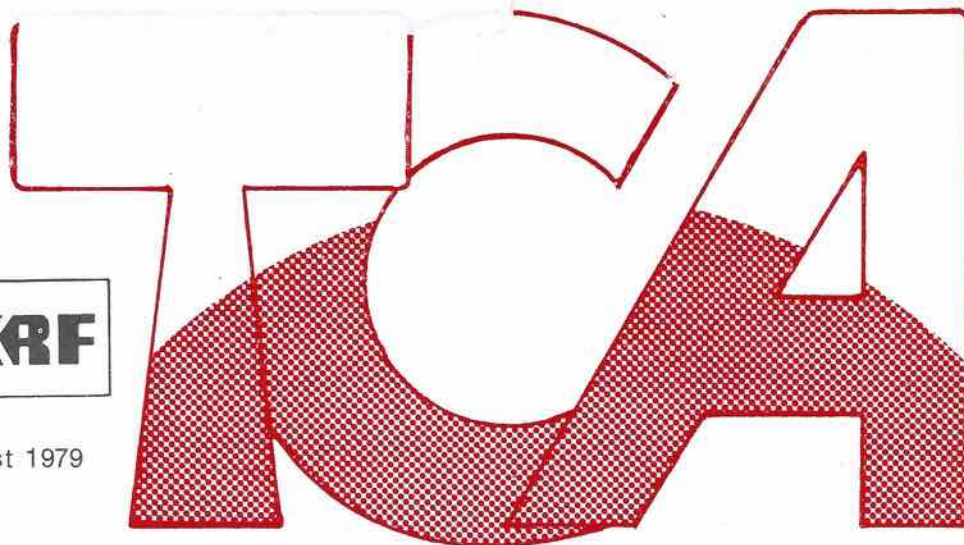
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July/August 1979



THE CANADIAN AMATEUR

# DAY MAYDAY MA

**Mayday call saves three**

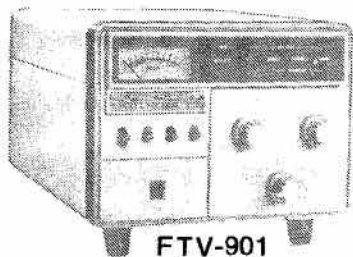
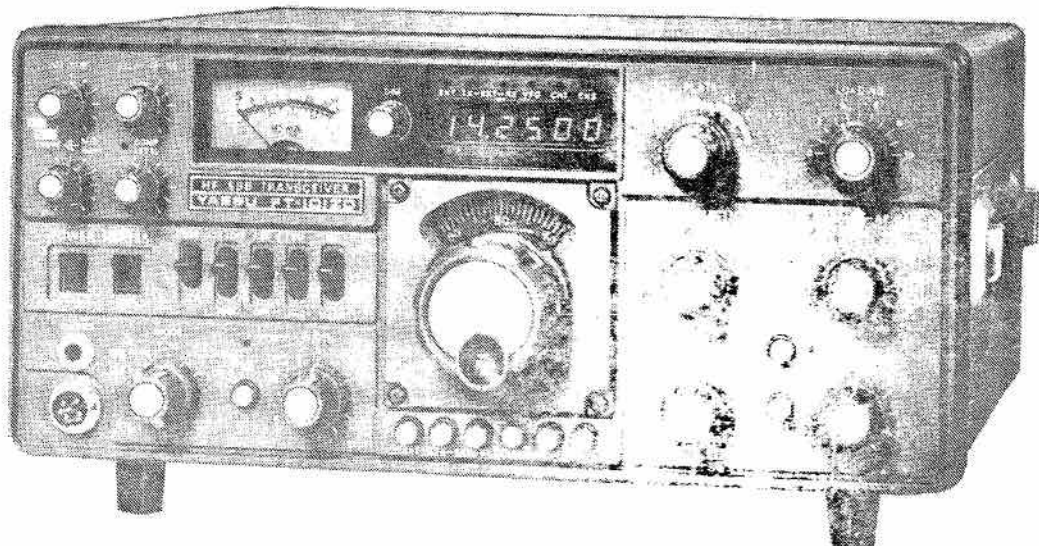
- PAGE 29 -

**DOC asks for Exam input**

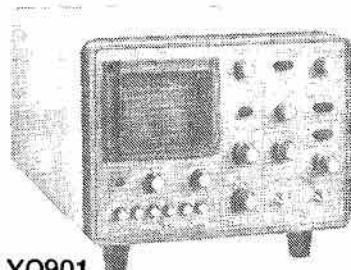
- PAGE 28 -

PLUS

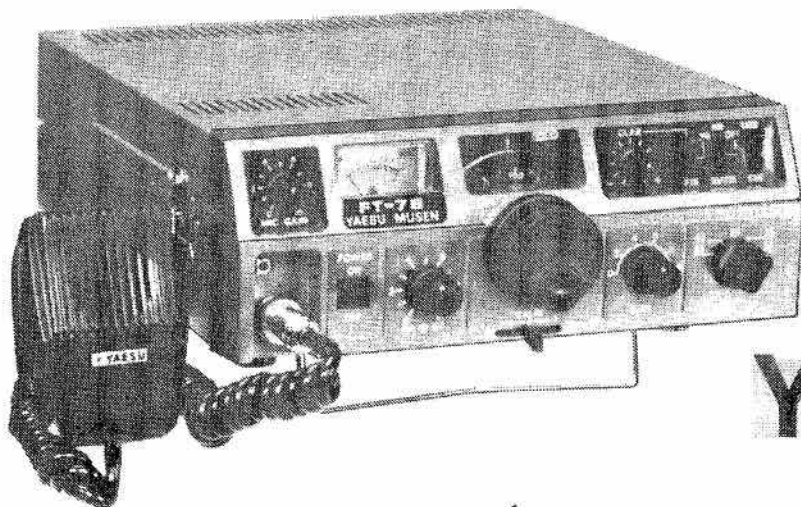
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# TS-180S with DFC\*

**Digital Frequency Control\***  
**...a Kenwood innovation for maximum HF operating enjoyment!**



**Kenwood's TS-180S with DFC is an all solid-state HF transceiver designed for the DXer, the contest operator, and all other Amateurs who enjoy the 160 through 10-meter bands. The following features prove, beyond doubt, that the TS-180S is the classiest rig available!**

- Digital Frequency Control (DFC), including four memories and manual scanning. Memories are usable in transmit and/or receive modes. Memory-shift paddle switches allow any of the memory frequencies to be tuned in 20-Hz steps up or down, slow or fast, with recall of the original stored frequency. It's almost like having four remote VFOs!
- All solid-state... including the final. No dipping or loading. Just dial up the frequency, peak the drive, and operate!
- High power... 200 W PEP/160 W DC input on 160-15 meters, and 160 W PEP/140 W DC on 10 meters (entire band provided). Also covers more than 50 kHz above and below each band (MARS, WARC, etc.), and receives WWV on 10 MHz.
- Improved dynamic range.
- Adaptable to all three proposed (WARC) bands.
- Single-conversion system with highly advanced PLL circuit, using only one crystal with improved stability and spurious characteristics.
- Built-in microprocessor-controlled large digital display. Shows actual VFO frequency and difference between VFO and "M1" memory frequency. Blinking decimal points indicate "out of band." Monoscale dial, too.
- IF shift... Kenwood's famous passband tuning that reduces QRM.
- Selectable wide and narrow CW bandwidth on receive (500-Hz CW filter is optional).
- Automatic selection of upper and lower sideband (SSB NORM/SSB REV switch).
- Tunable noise blanker (adjustable noise-sampling frequency).
- RF AGC ("RGC"), which activates automatically to prevent overload from strong, local signals.
- AGC (selectable fast/slow/off).
- Dual RIT (VFO and memory/fix).
- Three operating modes... SSB, CW, and FSK.
- Improved RF speech processor.
- Dual SSB filter (optional), with very steep shape factor to reduce out-of-passband noise on receive and to improve operation of RF speech processor on transmit.
- 13.8 VDC operation.
- Also available is the TS-180S without DFC, which still shows VFO frequency and difference between VFO and "hold" frequencies on the digital display.

For the complete Kenwood Line and Canada's largest selection of Ham Radio Equipment —

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DENTRON DTR 2000L — 2K LINEAR	\$1587.00
DRAKE TR7/DR7 TRANSCEIVER	\$1919.00
ATLAS RX110 — TX110H — PS110 LOW-LOW PRICES	
FT 901 DM TRANSCEIVER	\$1879.00

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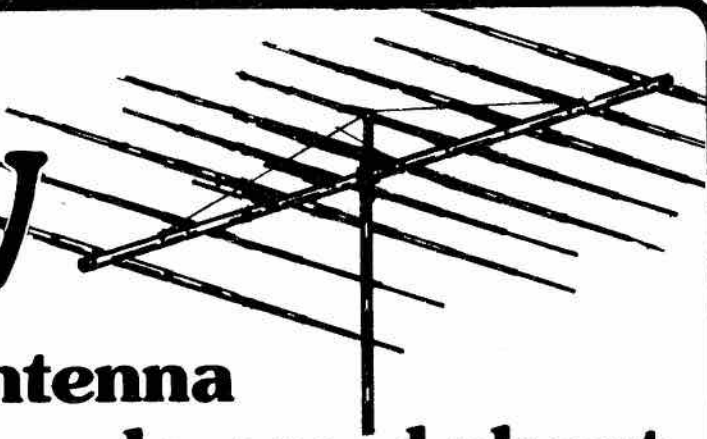
ALL OTHER MAJOR  
HAM LINES — RIGS  
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We don't need to tell you about the rising prices on Ham gear. But we would like to tell you how to save yourself dollars on that antenna system you've always wanted.

Whether it's a HF tribander, VHF array or mobile antenna system that your after, we can offer you the best value for your dollar. We carry only top quality antennas such as: Hy-Gain, KLM, Larsen, etc., W2AU Baluns (check our low price), Ham IV rotors etc. We can offer you the best prices around either individually or in a package.

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- TH6DXX • Ham IV rotor & cable
- 48 ft. Delbi Tower
- 100 ft. coax

**ONLY \$869**

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# Canadian Communications Company

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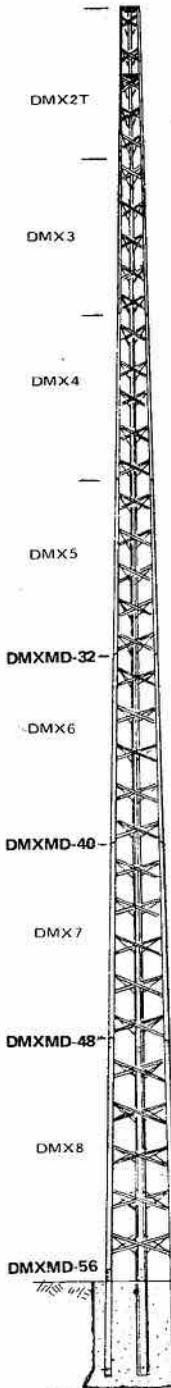
**FREE SHIPPING**  
Mention this ad and during July and August all antennas will be shipped prepaid



# DELHI SELF-SUPPORTING DMXHD, DMXMD CONCRETE-BASE TOWERS

## Medium Duty and Heavy Duty Ham Towers

Sections



DELHI DMXMD and DMXHD towers use the larger and stronger sections of the 68 foot, eight section, Model DMX-68 TV Tower. DMXMD towers have a DMX2T top section. DMXHD towers have a DMX3T top section. Both top sections have heavy duty rotator plates and 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 all 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.

### ANTENNA LOAD LIMITS

**DMXMD Medium Duty Towers** are designed to support an antenna load up to 6 square feet wind area. This is equivalent to two large TV/FM antennas or one large CB beam or one small amateur beam or one large VHF collinear.

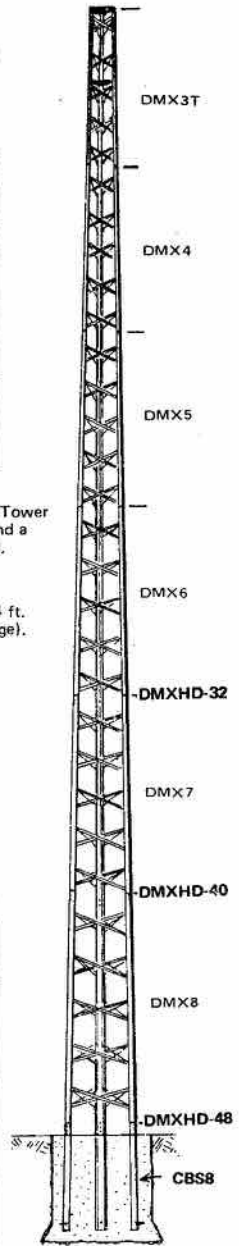
**DMXHD Heavy Duty Towers** are designed to support an antenna load up to 9 square feet wind area. This is equivalent to a very large CB beam or CB stacked array or a large amateur beam.

Guy wires must be used if larger loads are required or cross mounted antennas, or if greater height using straight sections is needed.



Top section of a Ham Tower with a rotator, mast and a Model BBMB installed.

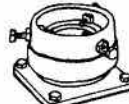
Sections



Unique beaded channel leg resists bending



244A Cast Alum. Mast Clamp



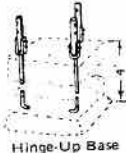
BBMB Ball Bearing Mast Bearing

NOTE: DMXMD and DMXHD towers are shipped complete with the following: 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).

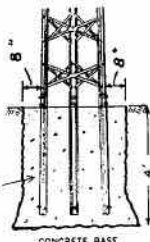
### Specifications:

Model No.	Height without mast	Tower Sections Supplied	Weight in lbs.
<b>DMXMD Medium Duty Towers</b>			
DMXMD-32	32 ft.	DMX2T, DMX3, DMX4, DMX5	152
DMXMD-40	40 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6	200
DMXMD-48	48 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6, DMX7	272
DMXMD-56	56 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6, DMX7, DMX8	351
<b>DMXHD Heavy Duty Towers</b>			
DMXHD-32	32 ft.	DMX3T, DMX4, DMX5, DMX6	170
DMXHD-40	40 ft.	DMX3T, DMX4, DMX5, DMX6, DMX7	241
DMXHD-48	48 ft.	DMX3T, DMX4, DMX5, DMX6, DMX7, DMX8	314
<b>Items which may be ordered separately.</b>			
CBS3	Three 4' Concrete Base Stubs for DMX3		13
CBS4	Three 4' Concrete Base Stubs for DMX4		13
CBS5	Three 4' Concrete Base Stubs for DMX5		13
CBS6	Three 4' Concrete Base Stubs for DMX6		13
CBS7	Three 4' Concrete Base Stubs for DMX7		20
CBS8	Three 4' Concrete Base Stubs for DMX8		21
HUB3-6	Hinge-Up Base for DMX3 to DMX6		20
HUB7-8	Hinge-Up Base for DMX7 or DMX8		24
DM Mast	1-1/2" O.D. x 16 Ga. x 8' galv. steel mast		6
HD Mast	2" O.D. x 12 Ga. x 8' galv. steel mast		18
TMCA	Two Mast Clamp Assemblies with sleeve bearing		2
244A	Cast Alum. Clamp for up to 2-1/2" O.D. mast		2
BBMB	Cast Alum. Ball Bearing Mast Bearing for up to 2" O.D. mast		2

Compact Tower Package



Hinge-Up Base  
HUB3-6  
HUB7-8



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 100 feet rotor cable 25.00  
 100 ft RG213, 50 ohm NCV 42.00

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 -10% 72.50  
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 HAM III Rotor 199.00  
 100 feet rotor cable 25.00  
 100 ft. RG213 42.00  
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 -10% 63.50  
 Package Price \$571.50

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Mosley MD-1 Mobile 10-80 mtr antenna Reg. \$169.00 Special \$129.00  
 Mosley MY-144-9 el 2 mtr beam Reg. 53.50 Special \$43.50  
 Mosley RV-4C and RV-8C 80-10 mtr vertical Reg. \$179.50 Special \$149.50  
 Bearcat #250 Programmable Scanners Reg. \$599.00 Special \$539.00  
 Bearcat #210 Programmable Scanner Reg. \$499.00 Special \$389.00  
 Kenwood TR-7500 2 mtr transceiver Reg. \$439.00 Special \$389.00

Prices subject to change

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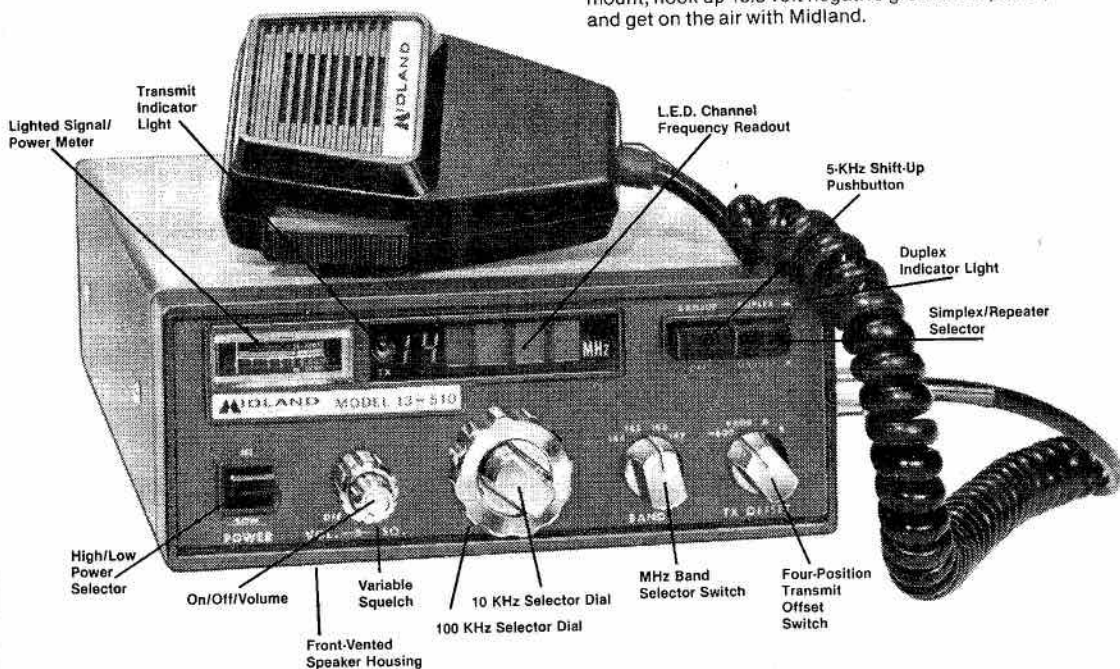
**Midland's Model 13-510 Gives Full 2-Meter Band Coverage  
with 800 Discrete Channels, L.E.D. Readout, 25-Watt Power**

Midland's 2-meter mobile has been designed around a precision P.L.L. tuner that delivers 400 frequencies in 10 KHz steps from 144.00 to 148.00 MHz, with a 5 KHz shift-up giving 400 more. In addition, for repeater operation, 4 crystal controlled offsets are available with  $\pm 600$  Hz supplied.

The dual conversion receiver has a multiple FET front end with helical resonator, monolithic and crystal filters in the IF stages. The transmitter, rated for 25-watt full power, is switchable to 1-watt.

Fully modular construction includes automatic SWR and polarity protection, internal DC filtering and electronic switching. And there are connectors for optional tone burst and discriminator meter, as well as external speaker.

It's rugged in its tough metal cabinet. It's reliable with extensive use of integrated circuits in its all solid state design. High performance mobile microphone, latch-on mobile bracket and desk stand are included. All you need to do is add an antenna like Midland's Model 18-940 trunk mount or Model 18-941 magnet mount, hook up 13.8-volt negative ground DC power, and get on the air with Midland.



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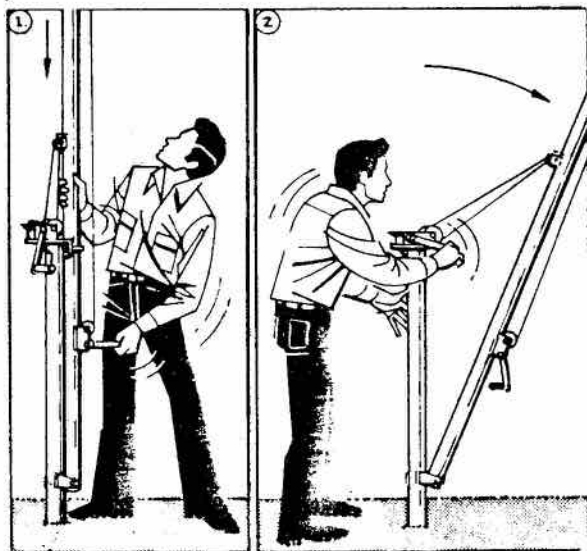
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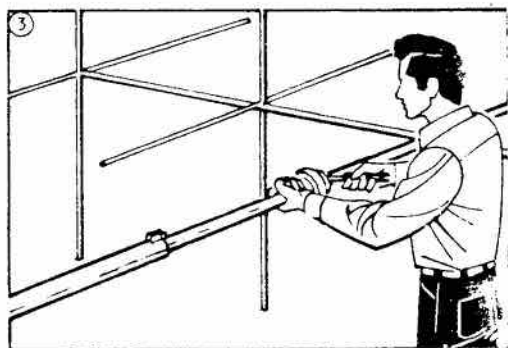
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# TELE-TOW'R



**TOTALLY FREE-STANDING.** No guy wires, no brackets. Our towers are designed to withstand 60 mile winds, with 50 pounds rotor and antenna with a vertical area of 6 square feet.



## 40' MODELS

Model 40 (extends from 21' to 40') 283.50

Breakover Model 40 482.50

(extends from 23' to 40' with breakover at ground level)

## 55' MODELS

Model 55 (extends from 21' to 55') 519.50

Breakover Model 55 725.00

(Extends from 23' to 55' with breakover at ground level)

**PUT IT RIGHT WHERE YOU WANT IT.** With one hand, raise the tower from 21' to as high as 55'. Find exactly the right receiving level from CB, Ham or TV. When you want to adjust your antenna, install a new one, or pull maintenance, crank it down again. No more climbing up in the sky to repair or replace antennas. With the exception of our breakover models, this is the most convenient tower you can buy.

**BREAKOVERS - THE ULTIMATE IN CONVENIENCE** - Our breakovers not only telescope, they lie down for you. One man can crank it down, then lay it down, so your feet never have to leave the ground, even on our tallest towers.

**TOWER CONSTRUCTION.** We make it out of the finest materials available. Our steel is thicker and heavier, our cables are thicker and stronger - our towers themselves are two or three times heavier than comparable towers on the market. Weight runs about 165 pounds for our 40' towers, 350 pounds for 55'. Several design innovations are used to make Tele-Tow'r the strongest, most reliable tower.

**ONE PIECE PRICE.** When you buy one of these towers, you get the whole tower ready to install. No accessory charges, no extra costs for guy wire, base plates and etc. And even our complete one-piece price is considerably lower than any comparable tower on the market.

Concrete sleeves available for Model 40s and Model 55s.

By using sleeve you can move tower to another location and all you leave is the sleeve in concrete.

**TELE-TOW'R MFG. CO., INC.**  
**COMPLETELY FREE-STANDING,**  
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# Digital Display Communications Receiver with CPU Digital Clock & Timer FRG-7000

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### ● 0.25 Thru 29.9MHz Coverage with 1kHz Readout \$829.00 +\$10 S&H

Computer technology and convenience features are brought together in the FRG-7000, a digital-display general coverage receiver for the discriminating SWL. The digital clock and timer, controlled by a CPU (Central Processing Unit) chip, will read out both local and GMT time, and will control

peripheral station equipment such as a tape recorder. Improved SSB selectivity, ease of operation, and rugged construction are yours with the new FRG-7000 from YAESU.

### Features

- \* Digital frequency display gives resolution to 1 kHz, using large, bright LED's for maximum readability.
- \* The built-in digital clock can be set to your local time plus GMT time. Just flick a switch for selection of the desired time!
- \* If you want to record a program, but have to be away from your station, the FRG-7000 will do it for you! The clock contains a timing feature that activates the receiver and internal relay contacts. Set the time you want to start and stop recording, hook up your tape recorder, and the FRG-7000 will do the rest!
- \* An FET front end provides excellent sensitivity, and the

"Wadley Loop" heterodyne oscillator yields rock-solid stability. Separate SSB and AM filters allow selection of the optimum selectivity for your application.

- \* The built-in AC power supply allows operation from 100/110/117/200/220/234 volts AC, 50/60 Hz. The front panel lamps and digital display may be turned off, too, for energy conservation. A 12 volt DC supply is an available option.
- \* Ease of operation is ensured by careful selection of positions for controls and switches. You'll never own a receiver that's easier to use!

### Specifications : FRG-7000

#### GENERAL

Frequency range: 0.25–29.9 MHz  
Modes of operation: AM, SSB, CW  
Sensitivity: SSB/CW—Better than 0.7  $\mu$ V for S/N 10 dB AM—Better than 2  $\mu$ V for S/N 10 dB (400 Hz 30% modulation).  
Selectivity: SSB/CW  $\pm$ 1.5 kHz (–6

dB),  $\pm$ 4 kHz (–50 dB), AM  $\pm$ 3 kHz (–6 dB),  $\pm$ 7 kHz (–50 dB)  
Stability: Less than  $\pm$ 500 Hz drift for any 30 minute period after warm-up.  
Antenna requirements: Random wire for 0.25–1.6 MHz, 50 ohm unbalanced feed for 1.6–29.9 MHz.

Speaker impedance: 4 ohms  
Audio output: 2 watts  
Power requirements: 100/110/117/200/220/234 V AC, 50/60 Hz\*\*  
Power consumption: 25 VA  
Size: 360(W) x 125(H) x 295(D) mm  
Weight: Approx. 7 kg  
\*\*117 volts AC for UL-approved model.

WSI RADIO

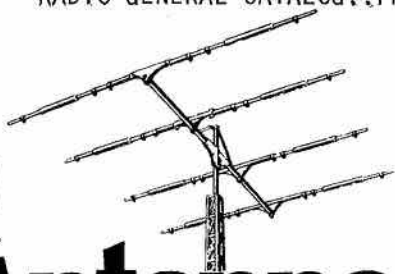
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# High-Q Beam Antennas

### Heavy duty 4-element Tribander

Four working elements on each band in 10, 15 and 20 meters. 24 foot boom permits optimum spacing for maximum forward gain and front-to-back ratio. All traps are precision tuned and weather-proofed. Rugged reliability assures ability to withstand winds up to 100 mph. TB-4HA.

### Heavy duty 3-element Tribander

Three working elements on each band in 10, 15 and 20 meters. 16 foot boom requires a lighter duty rotor and tower than the TB-4HA but still provides excellent performance characteristics. Precision tuned and weather-proofed traps are combined with rugged construction. TB-3HA.

### Economical 2-element Tribander

Two working elements on each band in 10, 15 and 20 meters. 6.5 foot aluminum boom can easily be raised on an inexpensive mast and operated with a standard TV rotator. Withstands winds up to 80 mph. TB-2A.

### Heavy duty 2-element 40-meter Beam

Two working elements on 15.75 foot steel boom. Maximum forward gain and front-to-back ratio in the CW or phone portion of the 40-meter band is easily achieved for optimum performance. Large high-Q loading coils are weather-proofed. Rugged design easily takes 100 mph winds. MB-40H.

All Swan Beam Antennas are Rated for 2000 Watts and designed to use 52 Ohm coaxial feedlines.

SWAN BEAM ANTENNA SPECIFICATIONS									
Antenna Model Number	Average Forward Gain	Front to Back Ratio	Boom Length & Diameter	Longest Element	Turning Radius	Maximum Wind Survival	Wind Load @ 80 mph	Wind Surface Area	Net Weight
TB-4HA	9 dB	24-26 dB	24' x 1.5"	28'-10"	18'-6"	100 mph	148 lbs.	6 sq. ft.	54 lbs.
TB-3HA	8 dB	20-22 dB	16' x 1.5"	28'-2"	16'	100 mph	110 lbs.	4 sq. ft.	44 lbs.
TB-2A	5 dB	16-18 dB	6.5' x 1.5"	27'-8"	14'-3"	80 mph	60 lbs.	1.8 sq. ft.	18 lbs.
MB-40H	4 dB	16-18 dB	15.75' x 1.5"	30'-4"	17'-6"	100 mph	80 lbs.	2.5 sq. ft.	40 lbs.



**SWAN**  
**ELECTRONICS**®

A subsidiary of Cubic Corporation  
305 Airport Road, Oceanside, Calif. 92054

TB2A 2 ELEMENT TRIBANDER 20/15/10M...2000 watts.....	\$209.00+	S&H
TB3HA 3 ELEMENT HEAVY DUTY TRIBANDER ..2000 watts	\$309.00	"
TB4HA 4 ELEMENT HEAVY DUTY TRIBANDER ..2000 watts...	\$389.00	"
MB40H 2 ELEMENT HEAVY DUTY 40M BEAM...2000 watts ....	\$315.00	"
.....		
SWAN 1040V..GOLDEN SWAN...10-40 METER VERTICAL.....	\$175.00	"
SWAN 75MK...75M add on kit for GOLDEN SWAN...A.....	\$ 59.00	"
SWAN 4010V..10-40M VERTICAL..ONE GROUND ROD REQUIRED	\$115.00	"
SWAN 75AK ..75M add on kit for above.....	\$ 59.00	"

WRITE TO...WSI RADIO..for the free SWAN ANTENNA CATALOG!! FREE!!

# Palomar Engineers

## SUMMER 1979 AMATEUR RADIO CATALOG

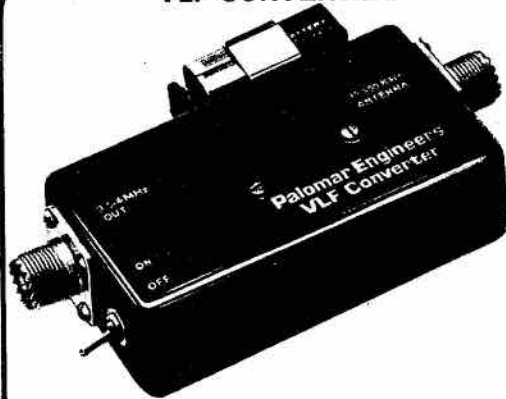
### R-X NOISE BRIDGE.



The Palomar Engineers R-X Noise bridge tells you if your antenna is resonant or not and, if it is not, whether it is too long or too short. All this in one measurement reading. And it works just as well with ham-band-only receivers as with general coverage equipment because it gives perfect null readings even when the antenna is not resonant. It gives resistance and reactance readings on dipoles, inverted Vees, quads, multiband trap dipoles and verticals.

\$75.00 + \$2 S&H

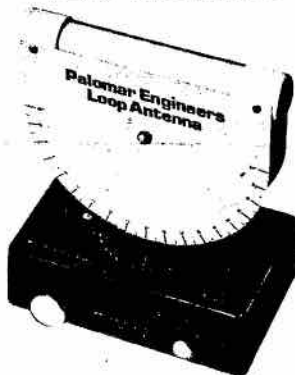
### VLF CONVERTER.



The Palomar Engineers VLF Converter converts the 10-500 KHz band to 3510-4000 KHz so it can be received on your 80 meter receiver. Covers the 1750 meter band where transmitters of one watt power can be used without FCC license. Also covers navigation radiobeacons, standard frequency broadcasts, ship-to-shore and the European low frequency broadcast band. Crystal controlled conversion oscillator. Multipole filter to cut broadcast and 80 meter feedthrough.

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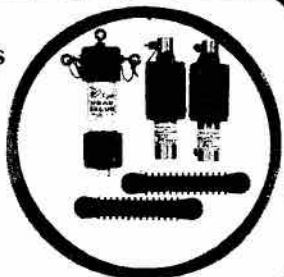
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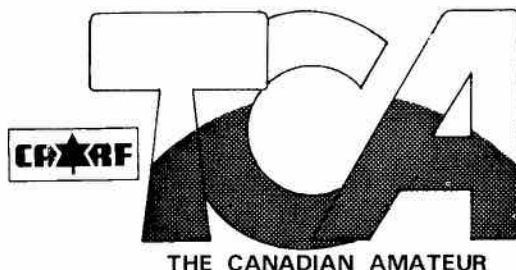
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Unsolicited articles, reviews, features, criticism and essays are welcomed. Manuscripts should be legible and include the contributor's name and address.

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# LETTERS:

## CB Conversions

Congratulations on the new covers! Well done indeed.

I felt I had to comment on the article by VE3ACY in the March issue of TCA regarding CB conversions to ten metres.

There have been many suggested 'bandplans' for converted CB radios, including the '73' plan of moving up two MHz. Almost as many plans as operators, I suspect. My personal viewpoint is that we begin somewhere below or at 28.400, in order to cover the Canadian ten-metre net and DX stations who like some relative peace and quiet on the band.

I have worked many VKs and other DX stations which were running less than 20 watts and were 5 x 9 here on the west coast, all below 28.500.

Secondly, regarding the 'clarifier' range on CB radios; very few of the units I have worked on had more than plus or minus 3 kHz on receive only. The easiest way to gain range is to clip out any fixed capacitors in parallel with the clarifier or to add a larger variable in place of the original.

By far the most articles on CB conversions have appeared in back issues of 73 and should be quite helpful to anyone trying a first conversion.

Finally, while many rigs are easily converted, let me warn against any attempt at a complete realignment of the PLL type rigs without the proper shop manual.

Robert Smits VE7EMD  
Hudson Hope, B.C.

## Compact Beam

TCA is looking very professional. Keep up the good work. How about a feature on a compact beam for small lots? Please change my address to the following, but if, as I suspect, address changes should go elsewhere than to  
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the editor, I suggest each issue should show that prominently.

Doug Leach,  
Ottawa, Ont.

(Tx for the kudos, Doug. It's good to know that an amateur mag can look professional ... probably because the Editor, who is an Amateur, is also a professional -- or whatever. Any takers on the beam article? We pay for them by the way. As for address changes and any other administrative correspondence, don't send them to me ... I've got enough troubles putting TCA together. Kidding aside, members should send such correspondence to CARF Inc., Box 356, Kingston, Ont. K7L 4W2 or there is a guaranteed delay of at least a week or more while I shuffle through my 'In' basket and try to find an envelope and stamp to send it to the admin office in Kingston.)

## Study Guides

Re: A letter to DOC, May/79.

Hear! Hear! I am in the process of studying for my Advanced Amateur exam, and am having great difficulty finding suitable study material for locating answers to exam questions listed in April TCA. The difference in phraseology in different books is also a problem. If there was a specific study program from which DOC were to draw their exam questions, this would be a great asset and would assist all aspiring Hams.

Also, when do you mail the magazine? I received my May issue today, June 8! Is this normal or just another reflection on our great postal system?!

Karen Paterson VE7DRH  
Houston, B.C.

(1. Try our new, updated Study Guides.  
2. TCA is mailed on or before the first of the month of issue. It then goes by third class mail, which may rate dog team, railroad, truck or pony express by the P.O. It sure is not handled by air mail!)



TCA welcomes Letters to the Editor. For speedy processing, send correspondence directly to Doug Burrill VE3CDC, Editor TCA, 151 Fanshaw Ave., Ottawa, Ont. K1H 6C8.

Thanks!! To all the folks that make the TCA publication possible!

TCA is interesting and very progressive. We hope that this Canadian publication continues to grow and give all the Amateurs and prospective Amateurs the help they need to do bigger and better things, to say nothing of the personal pride we enjoy in having a Canadian magazine like 'The Canadian Amateur'.

P.S. Regarding your editorial in the March issue of T.C.A., you mentioned upgraded versions of the Amateur and advanced Amateur Study Guides, as well as a new Amateur Handbook and Digital Study Guide; I would like to acquire one of each of these publications as soon as possible, when they become available. Please advise further.

Jack and Rick Tripell,  
VE7DZO & VE7?  
Port Alice, B.C.

(The first three books are scheduled for sale in August. In fact, at TCA press time, the Certificate Study Guide is being bound and, according to our production man, looks great! The Digital guide is now in the writing stages, so keep your eye on TCA for further announcements.)

## Silent Key

In recent weeks we have lost two of our radio pioneers, Eric S. 'Pop' Holden VO1BH and R.W. 'Bob' Munro VE3AZP, ex VOID.

'Pop' Holden was licensed in 1933 and held the call VO8H. This became VO1H in 1934 and after Confederation in 1949 he held the call VO1BH. Eric Holden was a member of the British Empire Radio Union in the very early days and continued, with great dedication, to help in the administrative side of Ham radio both as bulletin editor in the 1940's and as a president of the Newfoundland Amateur Radio Association in the late 30's.

He was active on the lower frequencies both 'portable' from his summer cottage and mobile. He felt two metres was a silly adaptation of the telephone! 'Pop' died on May 12, 1979 -- he would have been 81 on May 14th.

R.W. 'Bob' Munro was licensed in Newfoundland in the mid-1930's as VOID and was involved in broadcasting in the very early days. He moved to Ontario many years ago and held a VE3 call until his death at age 74, on May 28, 1979.

John C. Tessier VO1FX  
President SONRA  
St. John's, Nfld.

## On the Lakes

I enclose a cheque for a two-year membership. I have been an Amateur since 1948 working all bands, all modes but was away from it for about five years.

At the present time I am maritime mobile operating on the Great Lakes and St. Lawrence Seaway System on board the S.S. Tarantau, a 730-ft. bulk slef-unloader freighter, and enjoying working all the fellas on two metres, as well as HF SSB 7.050 and 14.160 MHz with the call VEOMDM. My home call has been VE3GOM since 1968. Will be, listening out for any and all who tune up on the frequency.

Al Lacell,  
Thunder Bay, Ont./  
S.S. Tarantau, Thorold, Ont.

## SSTV

Could you print an article on slow scan TV? This is a very interesting field in Amateur radio and most of us know very little about it.

Hans W. Schaedel,  
Madsen, Ont.

(Any volunteers? As an inducement to prospective authors, note that TCA pays for articles!)

## Amateur Exams

Keep up the good work with your magazine. It gets better with every issue. I tried breadboarding a few of the 555 projects in the mag and they really perk.

After reading so much about the exams in your magazine I simply have to put in my two cents worth. Here is my view on 'Multiple Choice' type of exam questions.

Right off the bat, I am for them. They are not a 'cinch' nor are they cliché. They are intelligent and comprehensive test vehicles. The USA uses them in the armed forces; Australia uses them in Amateur tests. Colleges and schools use them. To my mind, they test a person completely.

I gained much of my theory, etc. for exams from books and courses. When I went to write for my ticket I had no idea what kind of questions or subjects I was going to be tested on. I remember though that nothing on the exam was a 'cinch'. Although the questions were multiple choice, I still had to rack my brain to get the hoped-for correct answer choice.

To my knowledge, multiple choice type of exams are not cliché. I think they are quite adequate and would advocate or vote for their return.

Ed Meyer VE7CUE  
Vancouver B.C.

Re: the working paper on DOC Notice #DGTR-004-79. I agree on all your proposals.

Now, about the new exams, I find from here that the ones who complained did not know their theory and the ones that did thought that the exams were not too tough.

Having held this call for 40 years and still no advanced licence, I cannot comment on how tough the new exams are, but by what was printed in TCA I thought they were fair enough.

The only complaint I see is that they dropped the code sending portion of the exam. Day after day I listen to "the Nag here is Joe" Hi! I think they should reinstate the sending test, and if they can't send, fail them. Of course it will be difficult for the less co-ordinated people, but with practice we can all send good CW that anyone can copy.

I like the magazine and each month  
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it seems to improve a bit ... and it is Canadian. I expect that in a few years it will be a really good one as you add more departments and more articles.

Here's wishing you lots of luck for the coming years.

E.H. Humphrey VE3ASJ  
Smiths Falls, Ont.

I read with much interest your editorial of March 1979 regarding the extremely high failure rate on the DOC examinations.

Your conclusions summarized state:

1. Too many people were ill-prepared.
2. Too many did not properly read the questions.
3. Too many did not read the instructions.

This editorial also outlines your plans to update your Guides, etc.

In the April issue, the paper from Slemmon Park ARC has some useful comments relating to the wording of the examination questions, how to prepare for and write an examination, etc.

I do not disagree with the comments you have published, but the solutions outlined to solve the disastrous failure rate are not adequate because the basic problems have not been stated and ultimate solutions cannot be reached unless the true problems are recognized.

Considering the total scene: The candidates by and large are much the same; the texts are unchanged; the instructors by and large the same; the inspectors by and large the same. The only area of change is the examination procedure and the depth of detail of the syllabus.

There are two major and one minor problems.

The first problem relates to the passing standard of 70%. "But we have always had 70%" will be heard. This, I maintain, is not factual, but is fiction. I have talked with instructors, Amateurs, inspectors, and I am assured that before the new system was instituted and the informal system prevailed, if a candidate had a reasonable knowledge of the subject and could give a more or less correct answer, perhaps with a little help or guidance, the candidate would be passed and therefore get 70%. I am not suggesting this is wrong or right, but it couldn't be all that wrong because Canada does have a fairly high standard with respect to operating Amateurs.

More pertinent, however, is the fact that 70% is unreasonably high. The standard at high schools and universities is 50% except in special courses where a high admittance standard is required. This is a 'hobby' course; technical and fascinating but still a hobby. The candidates are housewives, engineers, factory workers, doctors or businessmen with varying degrees of education and background. They are not preparing themselves for surgical operations or piloting a DC10 where a very high standard is required.

The second major problem relates to the course syllabus. This was referred to in your letter to DOC, May 1979 issue.

Using DOC's TRC 24 Oct. 1/78, pages 6 and 7 as the present course syllabus, what would such a teaching outline present? Assume that 25 evenings of instruction are offered in the average night school course for the Amateur Certificate. Assume two evenings are eliminated due to Christmas or other holiday or the weather; assume another three are set aside for a mid-term exam, a review and a course-end exam; assume four evenings are devoted to the Radio Regulations; this leaves 16 evenings to cover the 12 sections on pages 6 and 7, or 1-1/3 evenings per section on the average. Assume for these rough estimates that 1/3 of a session is devoted to questions and answers. This leaves one session per section.

Imagine trying to teach Section 3 (or any other section) in one two-hour session. Section 3 is: Vacuum tubes and semiconductors; tube elements; diodes, triodes, tetrodes, pentodes; solid state devices; current flow; transistors; bias; common emitter, common base and common collector configuration; characteristics of tubes and transistors; uses as oscillators, amplifiers (Classes A, B and C; push-pull); detectors and mixers.

This is impossible -- imagine the drop-out rate at the classes if such were attempted.

There are two alternatives. The first is to operate two nights per week. The second is to spread the course over two years.

This program has eliminated code from the evening sessions and it would have to be learned entirely at home.

How many 'hopefuls' could or would

spend two nights a week plus many other hours studying to get an Amateur Certificate which is still relatively restricted? They would subsequently have to spend an equal amount of time to get the desired Advanced ticket.

Considering the second alternative, the two-year program. How much would be retained over the summer? How many individuals would spend two years to get the Amateur Certificate, and an additional two years to get the Advanced Certificate? Not very many.

The third and less significant problem relates to the need to pass both Section 1 (Regulations) and Section 2 (Theory) at the same time. Failure in either one requires both to be rewritten. There is no sense in this. At University if you fail Algebra but pass Spherical Trigonometry you do not need to write Spherical Trigonometry again.

As mentioned earlier, I do not disagree with your proposals. However, I think your solutions are not really related to the basic problems. Unless the problems are recognized and proper solutions obtained, I think that Canada will have the best-informed and qualified ham operators in the world ... but there will be very, very few of them.

I am a member (SWL) of the Skywide Radio Club and at the last meeting I addressed the Club with the title of my talk being, 'The End of Ham Radio in Canada'. I covered the points mentioned in this presentation and agreement was unanimous and enthusiastic. The hope was expressed that CARF could be effective in preventing my prophecy from coming true.

G.M. Wither  
Islington, Ont.

(We're trying, sir. One result is the DOC letter to clubs asking for suggested exam questions.)

---

Other letters commenting on the exams were received from W.M. Stone, Markham, Ont. and Stan Hughes of Fenselton Falls, Ont., who echoed some of the constructive remarks which have already appeared in these pages.

\* \* \* \* \*

Thanks to VE3JFO and VE3KBP for their letters.



## RAQI to co-host Symposium

The Quebec provincial society, Radio Amateur du Quebec, has been awarded the 1979 CARF National Amateur Radio Symposium bid and, under RAQI auspices, the Valleyfield Amateur Radio Club will host the event in Montreal this fall. Details and dates will be announced soon.

Clubs and individuals are reminded that their papers and briefs, for discussion at the Symposium were to have been in the hands of CARF, Box 356, Kingston, Ont. K7L 4W2 before June 30,

but this date has been extended to Aug. 31. Suggested topics are: legal problems involving antennas and towers, the always-present problems of interference to consumer electronic equipment, a review of digital and packet radio progress and the new problems raised by the current examination format (see TCA, May, pg. 20).

The 1980 Symposium will be hosted by the Hamilton Amateur Radio Club, under the auspices of the Radio Society of Ontario.

## Below the Border

Extracts from 'HR Report', a weekly U.S. Amateur radio newsletter. \*

Amateur Radio was attacked as "one of the main non-ionizing radiation hazards in the United States" at an April 9-10 meeting of the Subcommittee on Public Health Aspects of Energy, in New York. The group is an arm of the New York Academy of Medicine's Committee on Public Health, reports K6YB, who has an article on the effects of Amateur RF radiation on family and neighbors coming out in 'Ham Radio' magazine later this year.

CB and "SSB" Comments make up by far the majority of those filed with the FCC on RM-3299 and RM-3317, which advocate making an SSB-only "hobbyist" CB band or a no-code Amateur band just below 10 metres. A number of them are form letters and petitions, however, and some signers used only first names or "handles" in an apparent attempt to keep their identities secret from the FCC because of illegal activities!

\* 50 issues for 22.50 (U.S.) from 'HR Report' Greenville, H.H. 03048

The 220 MHz Marine Band proposed by the FCC for WARC consideration continues to draw heavy Amateur fire. When the proposed shift first surfaced there was some behind-the-scenes comment that it was only a bargaining ploy and not a serious suggestion for the band. The idea has not had particularly strong support from within the Commission, and since it was made public not one of the 150 plus other ITU nations has shown any interest at all in a marine allocation at 220 MHz. Therefore, it's very unlikely that the proposal will survive past its first airing in the opening days of the conference in September.

The real problem than becomes a domestic one. There are other services that would be very happy to share or take over that 5 MHz slice of prime spectrum, and -- as always -- the best possible argument against such a move is heavy and growing use by Amateurs.

900 MHz CB will be considered by the FCC the week of June 4, when the Commissioners will probably decide to release a Notice of Inquiry. A new UHF CB band has had a lot of support within the Commission.



Canadian  
Repeater  
Advisory Group

Hugh Lines VE3DWL

Your CRAG columnist, Hugh Lines VE3DWL, is taking a few weeks off and there will be no report until September. Repeater enthusiasts who found any errors or omissions in the directory published in the June issue should note them to Hugh c/o CARF Inc., Box 356, Kingston, Ont. K7L 4W2. They will be published if received before August 10.

Otto Meginbir VE6OH writes that there will be a new repeater in Medicine Hat which will be a low-power, in-city unit. Planned for operation in September, the channel is 146.26/146.85 MHz.

The B.C. FM Communication Association advises that it holds a net on VE7RPT (146.34/146.94) every Thursday at 1930 hours local (Vancouver) time. Associations and clubs are invited to

submit announcements of meetings and other activities which may be of interest to others in the coverage area. Send announcements to CARF Pacific Director Peter Driessen, Apt. 103, 3680 West 8th Ave., Vancouver, B.C. V6R 1Z1. Advice on technical problems is also available.

A list in the 'Cape Breton Amateur' shows five repeaters in that area are now in operation. Unfortunately, they are not included in the directory published in the June TCA, as CRAG had no notice of their appearance. They are: VE1SYD 146.34/146.94; VE1HAM 146.28/146.88; VE1CBI 146.01/146.61; VE1AUY 147.84/147.24 and VE1BVH 147.72/147.12. No locations were given, but we might guess that the first one is Sydney.

## 'No-no' list increased

'HR REPORT' quotes the ARRL letter which in turn quotes U.S. regulations and international regulations to the effect that Amateurs should not communicate with HP9 (Panama) stations as these, according to the Panamanian government, are allocated to the commercial maritime mobile service. This, coupled with the reminder that Amateur stations on U.S. registered vessels must have U.S. licenses may help to cut down on the world-wide phone-patching activities of U.S. yachtsmen which was a beef aired by VE7 participants at the CARF National Amateur Symposium in Calgary last year.

Canadian Amateurs should note that despite stories that the U.S. no longer has a 'banned countries' list, there is still one in effect as far as the Canadian authorities are concerned and it applies to Canadian operators. Even if there was no list it must be remembered that in some parts of the world possession of a transmitter or its use can lead to a nasty situation, if not his end, for the owner.

## Social Events

Date to be announced - CARF National Amateur Radio Symposium, to be held in Montreal under auspices of RAQI and hosted by the Valleyfield ARC.

August 17-19 - Quebec's provincial organization, Radio Amateur Quebec Inc. (RAQI), annual convention at 'Le Château Montebello', Montibello, P.Q. Flea market, exhibits, ladies' program, technical workshops. Trailer park and camping area. For info call Charles Savard VE2FKC at 819-770-1315 or write Apt. 901, 680 Blvd. St. Joseph, Hull, P.Q. J8Y 4A9. All Amateurs, coast to coast, are invited.

October 12-14 - Radio Society of Ontario convention, Skyline Hotel in Ottawa. Hosted by the Ottawa ARC. Info from Ottawa ARC Convention Committee, Box 8873, Ottawa, Ont. K1G 3J2. The club is sponsoring an award to publicize the event. The National Capital Award starts May 1 onward for contacts with VE3NCR. Highest number of contacts from May 1 to July 31, 1979 is eligible for prizes at RSO Convention. Details for SASE to the Committee.

# TransCanada Net

This is a Canadian national phone net which is on every Saturday and Sunday at 1800z on or close to 14.140 MHz. Net manager is John Polmark VE3FLG and assistant manager is Glen Gibson, VE3FHQ. Its purpose is to pass traffic and anything of interest to radio Amateurs.

Here are some ground rules for checking into the TransCanada net:

1) The TransCanada Net consists of three net control stations (NCS); one Eastern, one Central and one Western. The NCS in the respective areas may change from time to time, therefore, volunteering to act as controller is encouraged.

2) Depending on conditions, the Net will normally be called by areas -- this is left to the discretion of the NCS.

3) The NCS opens the net with a preamble and pauses for emergency traffic.

4) NCS then will call for stations with or without traffic. In order to spread out calls, stations should reply with complete call sign only. Leave out the phonetics unless conditions warrant it, or they are asked for. This will make it easier for NCS to catch 'doubling' call-ins.

5) Once your call sign has been acknowledged, call your addressee station, giving your location. If no reply try again at a later call-in as NCS does not list traffic.

6) If contact is made, arrange a frequency and move off net and advise NCS of frequency if possible before moving. (Stations should have some idea of what frequency you will move to before calling.)

&) All remarks or relay information should be addressed through the NCS. Idle chatter slows down the net.

8) The net closes with all NCS giving sign-off.

9) Please note -- The TransCanada net does not change with daylight saving time. It remains at 1800z both Saturdays and Sundays all year.

10) When there is no Net Control, use the frequency as a calling frequency, and when contact is made, move off the frequency so others may use.

NOTE: CARF News Service station VE3TCA will transmit its weekly bulletin commencing 15 minutes before net time -- i.e. 1745z.

**CARF**

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## news briefs

QSL collectors got a treat early in June when VE1AST and VE1AIH Eric Mills and Sauli Aronosankari, both of Halifax, came on the air from Sable Island for three or four days during a visit there connected with Eric's oceanography work at Dalhousie University.

\* \* \* \* \*

Both Bill Wilson VE3NR, CARF president and Fred Twoner VE2NM, vice-president, are scheduled to attend the Moose Jaw 'Particifest 1979' July 27-29. Fred will probably have a new call by then as he is re-locating in Calgary this month. Jim McKenna, Prairie director also plans to be there.

\* \* \* \* \*

No official notice has been received (as of June 15) of an Australian okay on third party traffic with Canada.

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Harry Beardsell VE7ZQ, is back home in Vancouver after a disappointing attempt to work from a Brazilian possession, Trinidad Island, in the South Atlantic, with the call PY0ZZQ. Harry originally had obtained the call PY0HB and flew to Buenos Aires in April to meet Willi de Roos VK9XR and the plan was to sail from there to the Brazilian Island, via Rio de Janeiro. Once in Rio things went somewhat astray, as Harry's first call was changed, then the Brazilian navy refused permission to land on Trinidad. When another island in the vicinity was proposed, the Brazilian government would not permit Willi to operate there as there is no reciprocal operating privilege between Brazil and Australia, where Willi is licensed. Harry flew home and Willi sailed for his home in Belgium.

# Canadian QSL Bureaus

Howard Martin VE7AFY,  
#45-9960 Wilson Road,  
Ruskin V0M 1R0,  
BRITISH COLUMBIA.

VE7AFY has a twofold interest in QSL's. As an avid DXer, Howard Martin loves to receive them ... and as the British Columbia provincial QSL Bureau manager, he enjoys sending out QSL's to make others happy.

'Marty' has one very efficient volunteer helper with him in the bureau -- yes, his XYL!

Most cards are received from the Central Bureau in Halifax, but ARRL, CARF, misdirected ones from other VE bureaus, and some direct from worldwide radio clubs and bureaus make up the 40,000 or so QSL's the Martins handle each year.

B.C. Amateurs can make Marty happy by sending him the proper sized envelopes and not OVERstamping them. You can be sure that VE7AFY does handle unclaimed cards and in the spirit of ham radio he tries to contact their owners by radio or sends out notice cards.

VE7AFY even finds time for some DXing in addition to his Bureau work. Looks as though Murphy's Law is at work in B.C., too -- those unusual calls on the QSL's are due to a photo printing error! (not some DOC or FCC special prefix allocation, hi.)

Here's Marty stuffing envelopes at the VE7 QSL Bureau. Marty says he wants everybody to keep those cards and envelopes coming, hi.



YOU CAN HELP the QSL Bureaus! If your organization or club publishes a call book for your area or province, you can assist your members in receiving QSL Cards by sending a copy of the listings to the CARF National QSL Bureau, Box 66, Islington, Ont. M9A 4X1 and to your call district QSL Bureau.

# news briefs

'CFARS', the Canadian Forces Amateur Radio Service, got off the ground on May 24th in a series of trial runs involving some 20 Amateurs. Operating seven days a week with Canadian military call signs and just out of the Amateur band, armed forces personnel in the Golan Heights, Nicosia and Ismailia have been phone patched to relatives in Canada on the new jamming-free frequencies.

\* \* \* \* \*

Ottawa Amateurs provided vital communications for the St. John's Ambulance Brigade in its annual task of administering first aid to weary walkers in the charity 'Metres for Millions' walkathon last May. The medical emergencies among the 8,000 walkers ran all the way from blistered feet to hospital cases.

## Ghana

Unofficial reports picked up on the Maritime Mobile net state that Amateur stations in Ghana are off the air due to the current political situation there.

\* \* \* \* \*

KALL KOLLECTORS KORNER: GB3 TCF will be on-the-air as part of Britain's leisure activities festival, organized by the Royal Agricultural Society. Schedule is August 24, 1700-2300Z, 25th and 26th 0800-2300Z and 27th, 0800-

1700Z. Frequencies will be 14.250 and 21.350 MHz. Special QSL cards will be sent via the QSL bureaus.

\* \* \* \* \*

Canada's roving DX operator, George Collins VE3FXT will be operating from the Isle of Man from July 1, using the call GT3WNE, according to the Halifax ARC bulletin. Being close to the famous Sable Island, the editor, Bret Fader VE1FQ also writes that more 'DX' ventures on the Island will follow this summer, with a Canadian Forces group operating from there from August 2nd to 9th.

\* \* \* \* \*

The weekend of August 4-5 will see two more social events which have just come to our attention. There will be an old-timers' gathering at Mount Allison University, Sackville, N.B. on that weekend. No details were available but there should be info available on the various Maritime nets.

The famous Montreal Hamfest, a bang-up one day affair, will be held on Sunday, August 5, at Canadian Forces Base, Longue Pointe ... 6560 Hochelega Street at L'angelier. Info from Box 742 Pointe Claire/Dorval, Que. H9R 4S8. Exhibits, flea market, demos, antenna erecting contest and many other dynamic events. \$3.00 at the gate.

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## CARTG RTTY Certificate

The Canadian Amateur Radio Teletype Group is putting out an 'ALL VE/VO ON RTTY' certificate. There is no charge for the document. QSL cards must be sent along with the request for the paper, or an official of a RTTY group or society may inspect the cards and sent in a signed list of them.

CARTG also has, since 1967, been awarding a plaque to the Amateur who has made an outstanding contribution to Amateur radio teletype communications. Suggestions for candidates for this award should be sent to CARTG.

The address for both the VE/VO  
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certificate and the merit award recommendations is: The Canadian Amateur Radio Teletype Group, 85 Fifeshire Road, Willowdale, Ont., M2L 2G9.

## WANTED

WANTED: Copies of 'XTAL', the publication of the defunct Canadian Amateur Radio Operator's Association (CAROA) and copies of a predecessor of 'TCA', which was published some years ago in B.C. using the name 'The Canadian Amateur'. Contact Doug Burrill, Editor, 151 Fanshaw Ave, Ottawa, Ont. K1H 6C8.



# Vertical J Antenna for 2 metres

By John S. Belrose

The vertical 'J' is an end-fed half-wave radiator that is matched and fed by a tapped quarter wave line, as described below.

The advantages of the J-antenna which are perhaps not appreciated are: (1) no ground plane is needed, which is a distinct advantage for portable antennas or for mobile antennas where the 'ground-plane' is not particularly ideal (unless the more or less flat surface of the vehicle, such as its roof, can be used); (2) the antenna at its bottom end can be 'grounded' to the supporting tower for base station application (a so-called flag-pole antenna), since the antenna is almost completely 'decoupled' from the transmission line and the supporting tower; (3) since the vertical pattern of the antenna does not depend upon 'looking for an image of itself in the ground plane', as for so-called 'ground plane antennas' (quarter wave and 5/8 wave antennas), it provides better at the horizon radiation (zero degrees elevation angle) than for any practical ground plane antenna. This is not to say that there is no advantage in using the 'J' as a rooftop antenna, since there certainly is. If the J antenna is mounted directly on a ground plane (the flat surface of the vehicle or a larger ground plane for base application), the bottom end of the half-wave radiator is then 1/4 wavelength above the ground plane, and therefore the radiator and its image are separated by one wavelength (centre-to-centre), which is the optimum separation for collinear 1/2 wavelength elements. The gain would be increased (theoretically) by 3.27 dB (slightly greater than the gain expected for a 5/8

wavelength monopole ground plane antenna).

The vertical J is sketched in Figure 1. A coaxial balun is employed, to provide unbalanced (50 ohms) to balanced (200 ohms) transformation, and so the balun is tapped onto the quarter wave line at a point where the impedance is 200 ohms. The balun does not need to be perpendicular to the antenna as illustrated, but can in fact be taped to the bottom of the stub (see the photographs, Figures 2 and 3). The centre-to-centre spacing of the quarter wavelength line is unimportant. Measurements have been made for spacings of 3/4 to 2 inches. For an antenna made of 5/8-inch tubing a spacing of 2 inches has been used.

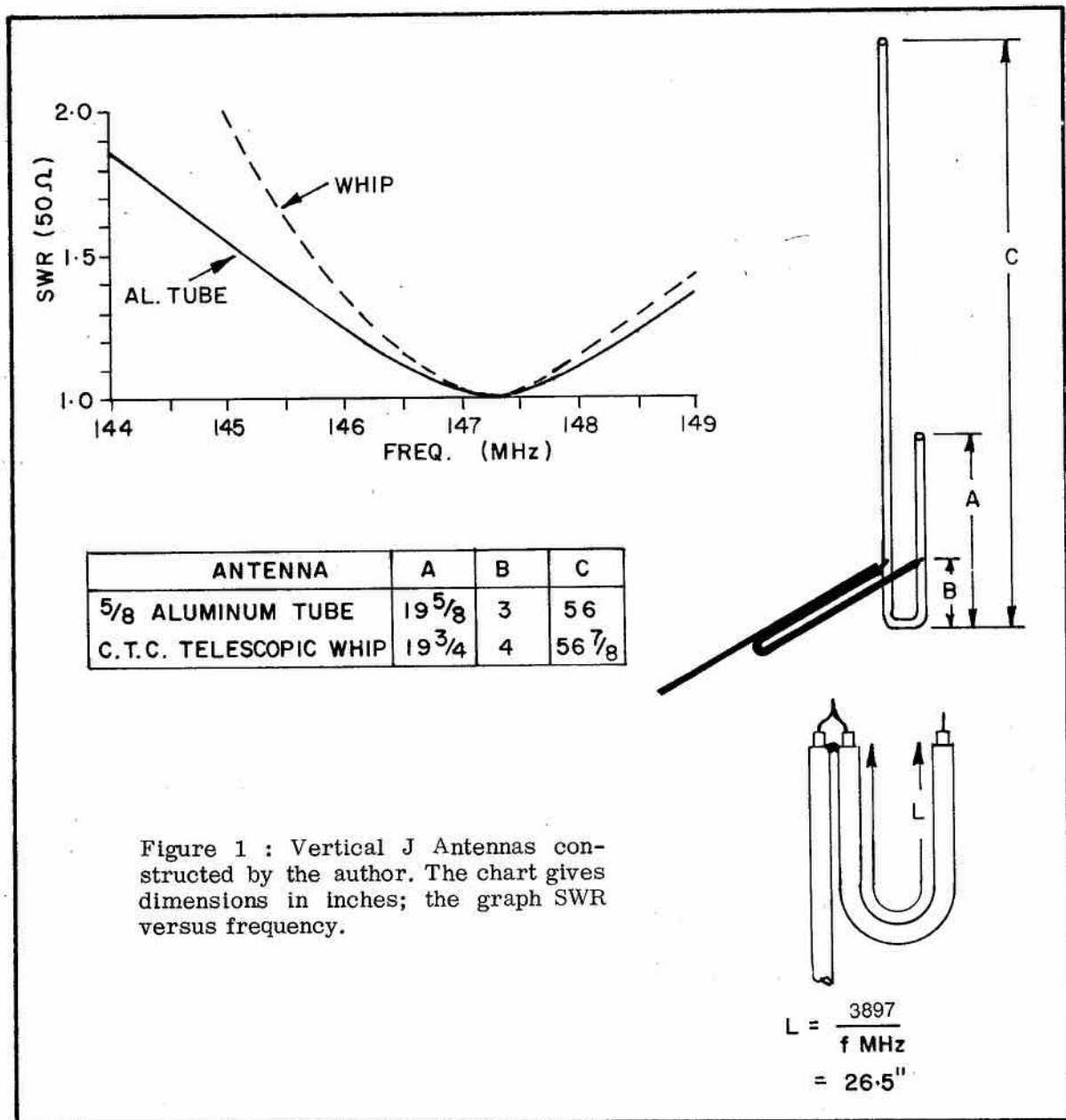
The design for the J antenna is simple, but not well documented. The quarter wave line is air-insulated, and therefore the velocity of propagation down it is 0.975 times the velocity of light. The dimension length of the line (dimension A in the figure) is:

$$\frac{2878}{f \text{ MHz}} \text{ inches} \quad \text{Equation A}$$

The halfwave radiator has a length equal to:

$$\frac{5904}{k \text{ fMHz}} \text{ inches} \quad \text{Equation B}$$

where k is a factor by which the physical length of the antenna is decreased, due to end effects and the velocity of propagation down it, over the electrical length. For a 5/8 inch diameter antenna, the electrical diameter is 2.8 degrees at 147 MHz, and therefore the 'thickness' of the antenna cannot be ignored. The factor  $k = 0.907$  (not the 5% short-

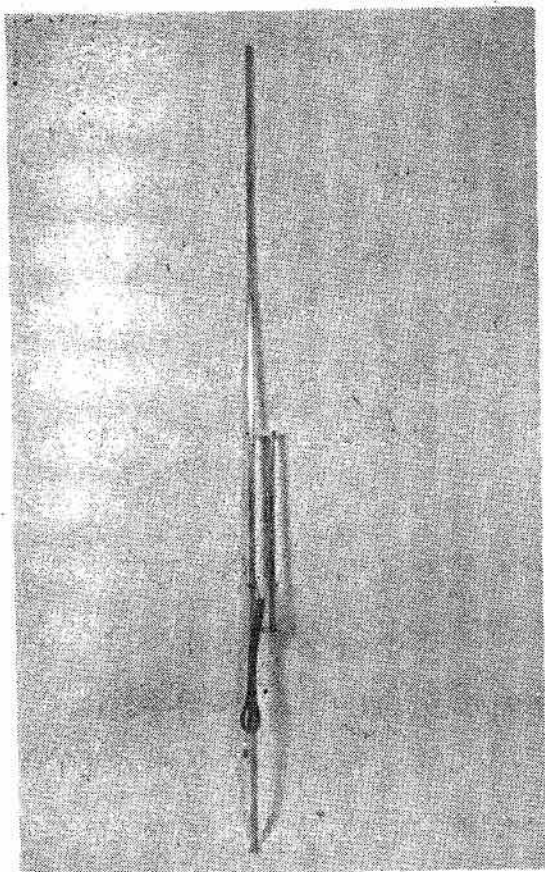


ening typical for wire antennas where  $k = 0.95$ ). The tap point is found by experiment.

The J antenna is sometimes said to be tricky to tune. This is because there are three coupled resonant circuit elements: the balun, the tapped quarter wave line, and the radiator. To resonate, proceed as follows: (1) the quarter wave line and the balun should be constructed according to dimensions calculated. Equation B above gives the length of the coaxial balun, if the correct velocity factor is employed:  $k = 0.66$  for RG58 or RG8U solid polyethylene coaxial  
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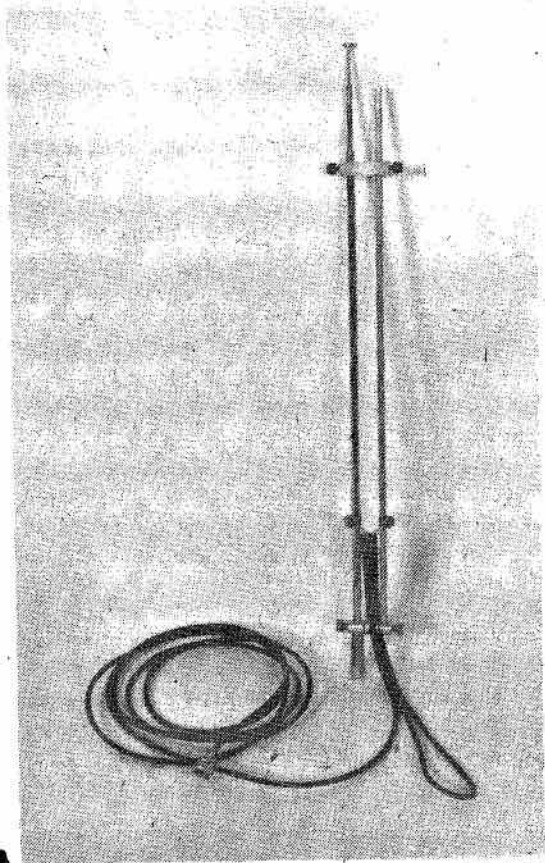
cable); (2) the balun is tapped onto the quarter wave line at a point where the standing wave ratio (SWR) is a minimum; (3) if the frequency at which this occurs is low, compared with the desired mid-band frequency, the radiator is too long, and it should be progressively shortened (it should have been long to begin with).

When the radiator is resonant, the minimum SWR will occur at the designed mid-band frequency, and the tap point can be adjusted so that there will be essentially no reflected power at that frequency. The SWR's versus frequency for the J antennas constructed by the



2

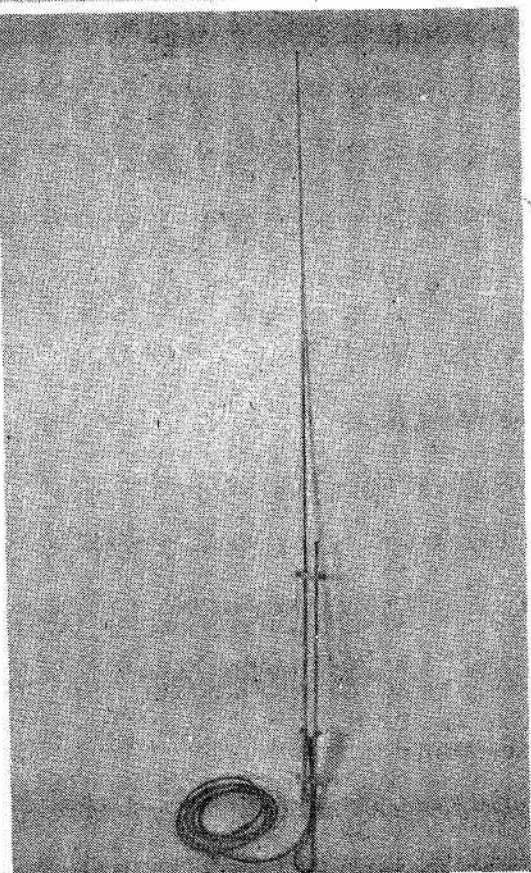
Figure 2: Base station type made from 5/8 diameter aluminum tubing.



3a

3b

Figure 3: Telescopic type (a) collapsed and (b) extended.



author are given in Figure 1. The dimensions for these antennas in the chart are given in inches.

Several J antennas have been constructed, a base station or fixed type and a collapsible telescoping type. The performance has been very carefully assessed. With the antenna at 40 feet, using distant (65 miles) and nearby (10 miles) repeaters, the signal received was compared with some commercial so-called 'gain antennas': a 5/8 wavelength ground plane, the Cushcraft Ringo-Ranger antenna and the Hygain Model 270. Note: the Ringo antenna (not the Ringo-Ranger) is the lumped circuit equivalent to the J since it is an L-section matched half wave radiator, but


it is not so well decoupled from the transmission line. On nearby repeaters these 'gain antennas' did in fact have 2-3 dB gain over the J antenna (a half wave radiator), but on distant repeaters, there was no measurable difference. This means that the maximum of the vertical pattern for these gain antennas was not directed toward the horizon, but maximum gain occurred at some angle above the horizon.

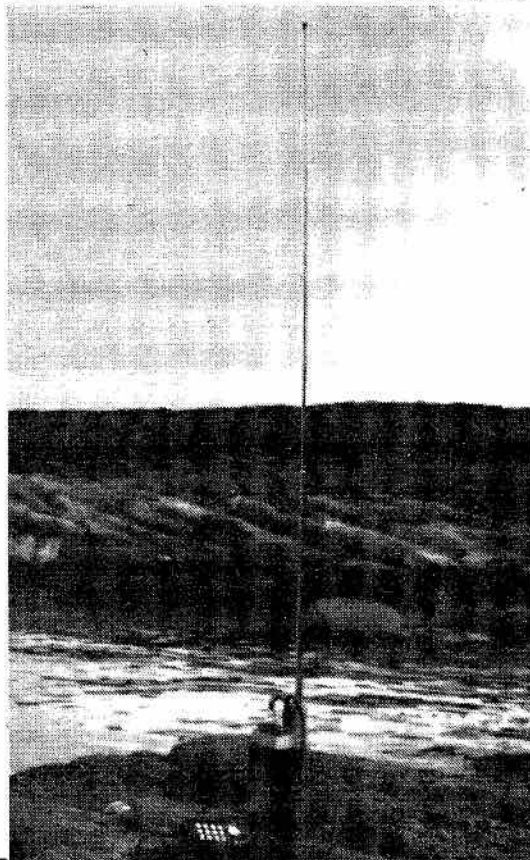
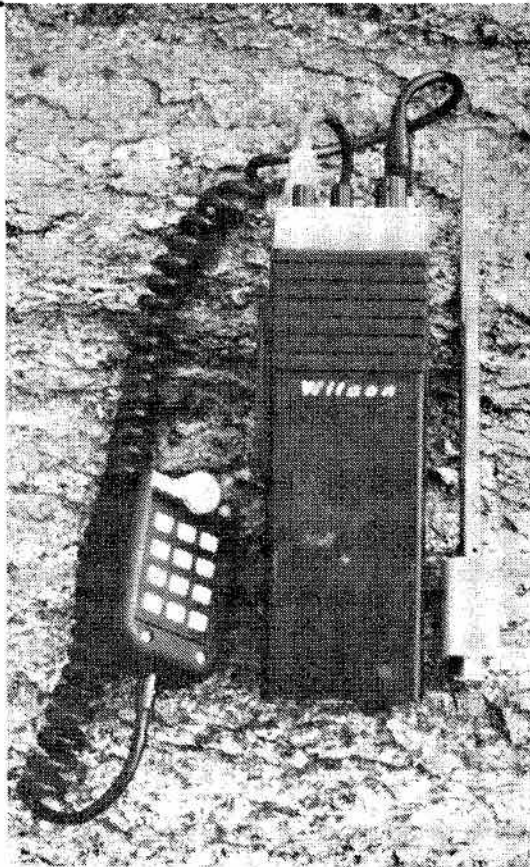
An L-section matched end fed half wave antenna can be readily constructed employing commercially available circuit elements: the Larsen half-wave base loading element (Model PHW-150) can be mated to a 40-1/4 inch telescopic whip (Johnson Messenger CB whip), which makes an ideal antenna for a hand-held, as can be seen in Figure 4.

This antenna is resonant at 148 MHz, but the band width is about 10 MHz (plus or minus 5 MHz) and so it well covers the 2-metre Amateur band.)



-John S. Belrose VE2CV  
3 Tadoussac Drive,  
Aylmer (Lucerne),  
Quebec

Figure 4: L-Section matched half-wave radiator suitable for use with hand-helds. 



# New DOC Minister

Re-elected for his fifth term in the House of Commons and this time coming up on the winning side, David MacDonald has been appointed Minister of Communications for the Clark government. At 43, he is one of the youngest Ministers in the new Cabinet and also one of those wearing two hats for the moment, the other one being that of the Secretary of State. Whether he will remain as Minister of Communications will be resolved as new Cabinet appointments and shuffles take place here in Disneyworld-on-the-Ottawa.

Although an ordained minister of the United Church, he has also been a radio and TV station announcer and operator in CFCY in Charlottetown and Halifax and has been a CBC broadcaster as well.

As a House of Commons veteran he has served on a number of Committees including the 'Broadcasting, Films and Assistance to the Arts' Committee which has been the body examining the abortive attempts to modernize Canadian telecommunications legislation by a new



David  
MacDonald

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New DOC  
Minister

Communications Act. (The one which hopefully would give the Feds the jurisdiction over towers.)

Mr. MacDonald is deeply involved in human rights and cultural affairs both at home and abroad as well as being associated with international parliamentary organizations.

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## OSCAR Status

OSCAR 7 Status: The telemetry appears good, but only when the spacecraft is in sunlight. There seems to have been severe degradation of the battery: the spacecraft seems to be functioning well in sunlight but poorly in darkness. There is still a lot of mode switching going on, and the command stations have been instructed to command it into Mode A whenever it appears to be in Mode D, the recharge mode.

AMSAT is looking For OSCAR 7 telemetry. Please send it to AMSAT, P.O. Box 27, Washington, D.C. 20044.

OSCAR 8 reminds people that, now on Tuesdays and Fridays (Greenwich days), the spacecraft will be in both Mode A and J simultaneously. Mondays and Thursdays it is on Mode A. Wednesdays are reserved for experiments and are not available for use, and on Saturdays and Sundays OSCAR 8 is in Mode J. The correction seems to be running about 7

minutes and 35 seconds earlier than in the W6PAJ orbit prediction book. Longitude numbers, however, seem to be nearly OK.

## news briefs

The Prince Edward Island ARA held its annual meeting combined with a buffet dinner on May 11 at a resort just outside of Charlottetown. A highlight was the presentation of \$500 to the Association for the printing of QSL cards. New president is Lloyd Cannon VE1BPX, vice Bob Johnson VE1BHP and secretary-treasurer is Bob Morrison VE1BPY.

\* \* \* \* \*

CARF asked for and received an extension for comments to DOC on the regulations changes proposed by the Department. The deadline is now July 28. The proposals were published in the June issue of 'TCA'.

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# DOC asks for Exam input

As a result of the number of letters and comments on the current examinations for Amateur certificates and input from your Federation, the DOC is asking the co-operation of clubs in submitting questions for future examinations. Each club is being asked to develop a series of ten questions. Inputs are requested before October 31, 1979. Here is the letter:

"A review of the Amateur examination procedures has indicated that candidates for certificates might benefit if the Amateur fraternities were involved in developing examination questions. Our objective is to obtain, from the clubs that choose to participate, a number of questions which members consider appropriate, to effectively assess the qualifications of Amateur and advanced Amateur certificate candidates.

"In an effort to generate as much interest as possible and to encourage widespread participation, the Department is writing all Amateur Clubs across Canada inviting them to submit questions. It is hoped that this will provide an excellent cross-section of questions for the Department to use in future examinations.

"Questions are required for the Amateur and Advanced Amateur examinations. We would suggest that a club develops, as a minimum, ten questions for each of the two examinations. Naturally, if a club chooses to submit additional questions we would be pleased to receive them. To assist in developing questions, subjects are provided in the attached guideline.

If your club wishes to contribute examination questions, the Department would appreciate receiving them before October 31, 1979."

For the Amateur Certificate, questions should relate to the following:

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1. Elementary electricity, Magnetism and Ohm's law.

2. Elementary alternating current theory.

3. Semiconductors, vacuum tubes and integrated circuits.

4. Power Supplies.

5. Modulation: FM, SSB & AM, including high and low level modulation.

6. Radio Receiver for AM, FM and SSB.

7. Basic Transmitter.

8. Radio Propagation.

9. Antennas & Transmission Lines.

10. Interference Suppression including harmonics and spurious.

11. Test instruments.

Those for the Advanced Amateur Certificate are based upon a higher level of knowledge than for the Amateur Radio Operator's Certificate, with the addition of slow scan television, including modulation and synchronization. The area of questioning is basically the same as for the Amateur examination.

Submissions should be sent to:

J.J. Rousseau, Manager, Spectrum Management Operations Division, Telecommunications Regulatory Service, Dept. of Communications, 300 Slater St., Ottawa, Ont., K1A 0C8.



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## Next Exams Oct. 17

DOC has announced that the next set of examinations will be held on October 17th. Applications to write must be in DOC offices by September 19th. The Department printed 1200 English and 200 French exam books for the July 11th set.

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# Mayday call saves three

A 'MAYDAY' call from a sinking forty-foot private yacht in the Atlantic saved ON7AP Alphonse Dessauty, his wife Paulette and 2 1/2 year old daughter from a watery grave.

When his craft began taking in water in the early hours of May 27, Alphonse called in to the Caribbean net on 14.175 MHz and while his distress call was acknowledged, difficulty arose because his language is French.

Ron Belleville VE3AUM in Ottawa, happened to be tuning twenty metres and answered a call from net members for someone to translate. Ron was able to read both Alphonse and those in the area who were attempting rescue efforts, and being fluent in both French and English he assisted in co-ordinating the operation.

As propagation conditions became more favorable for stations closer to the sinking vessel other French-speaking operators joined in, among them FT7XT and FC7AR. U.S. stations rung in the U.S. Coast Guard rescue units and Alphonse and family were lifted off the vessel by a U.S. helicopter from Puerto Rico about 6 p.m. EDST.

They had left the island of St. Martin, headed east across the Atlantic to the Azores but after an uneventful 150 miles his boat was hit by something in the dark when his wife was on watch.

Unable to determine the cause of the resulting leak, he decided to return to St. Martin and when he found that his pumps were not keeping up with the leak he called in to the Caribbean net which among other things keeps tabs on its marine mobile members.

Beset by seasickness and overcast skies, Alphonse could not at first give

rescuers a position but encouraged by Ron, he finally, as skies cleared, managed to get two sun shots and worked out his position to guide the U.S. Coast Guard aircraft. A Bermuda station also got a DF on the stricken two-masted sailboat.

A U.S. Neptune tracker and helicopter eventually located the vessel after a number of hours of searching during which they utilized the Caribbean net frequency. Ron told CARF News Service that it was a heart-warming experience to hear Alphonse come up on the frequency and shout, "There's the aircraft, they've seen us!"

The helicopter pilot requested Alphonse to secure all his loose sails and rigging and then hovered and lowered a rescue basket, taking off first his daughter, then Paulette and last, Alphonse with a few of his belongings. Just before he left, one thrifty soul on the net called out "Try and save the rig, it saved your life" but it was too well secured in the cabin and Alphonse, who by then had to keep his feet out of the rising water because every time he transmitted he got an RF jolt, was in no mood to tarry.

Many Amateurs assisted in the operation, among them VP2MH, 9Y4NP, KV4 AB, VP9CP and ON6FN, Alphonse's 'anchor' man in Belgium.

As a postscript to the event, Amateur radio in Canada received a real public relations boost when Ron's part got a couple of columns in both local and national press and good TV and radio coverage.

(Tx to VE3AUM and VE3AML for details. ED.)



# MANITOBA FLOOD

A letter by Terry Keim VE4TL brings out some more detail of the work done by Amateurs in the recent Manitoba flood. Terry, who is a Radio Inspector with DOC in the Winnipeg office writes:

On April 23 plans were being undertaken to provide assistance to the thousands of people who would have to be evacuated, and on April 28 Amateur stations were set up at Emerson, St. Jean, Letellier and Morris. The people were evacuated after each of these towns were diked. The Amateurs (flown in by helicopter from Winnipeg) set up emergency stations, which communicated with the control station VE4BB in Winnipeg. All communications were done on 2 metres with 75 metres being a back-up if required. The main repeater, VE4WPG in Winnipeg, has autopatch and emergency power. A second repeater VE4MAN, 8 miles southwest of Winnipeg is situated at the 850 foot level of a Canadian Broadcasting Corp. tower, and it also has emergency back-up power.

A third repeater, VE4HS located at Miami, covers all south central Manitoba, and was used as a secondary back-up. Fortunately it was not required. Amateurs thus had complete coverage of the flooded area which covered an area 60 miles long by 20 miles wide.

On April 29th it was decided the Federal Government required a back-up link to Ottawa other than landline and since our station VE4DOC at the emergency authority control centre had only an Atlas 180 and a dipole it was decided to utilize my home station and phone patch or 2 metre link with VE4DOC. My station equipment is Drake T4XB/R4B - Henry 3KA and 5 element (43 ft boom) 20 Metre beam and my Icom IC211 was used at Emergency Planning Control. VE3DRC in Ottawa used a T4XB/R4B - Henry 4K  
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and a very large log periodic antenna. By the way, at this time Bell Canada telephone employees were contemplating going on strike.

On May 11 the government let some people return to their homes in Emerson and Letellier and the two Amateur stations at these sites were taken out by helicopter.

May I say the Amateurs did a "helluva" good job. Each town was staffed 24 hours a day with two operators doing six hours-off shifts in three day schedules throughout the emergency. More Amateur handled the planning and scheduling etc., at their control station VE4BB.

To add to the words of VE4TF, here, in part, is what ARLM president Noel Funge VE4CF wrote in his "President's Message" in 'The Manitoba Amateur' for May/June in describing "the real and immediate response of VE4s to the need for a complete and timely communications network to be set up in support of the Emergency Measures Organization (EMO)": "With the marvellous coverage afforded to the stricken area by the two Winnipeg repeaters, Amateur communications quickly took their place as the only viable system able to handle a task of this enormity....It is clear that the need for an efficient communications network for emergency situations is vital. It is clear that EMO did not possess that means by itself. In my humble opinion CB (GRS) did not have the operator experience, the training or the equipment to handle a requirement of this kind. The military networks appeared to be fully committed to assisting their own personnel, their helicopter movements and logistics support....A great deal of initiative was asserted by the Amateur community to get this show on the road. Well done, Manitoba Amateurs."



# May Exam results disappointing

Results of the May 11 examinations obtained from DOC again showed a disappointing success rate and a number of 'no-show' applicants. Although DOC prepared 2,700 exam books, based on applications and estimated requirements not all were used as only 1,834 candidates sat for the exams.

The overall national pass figure for the Amateur class was 18.2% out of 1,347 people who wrote that exam. For the Advanced Amateur class, out of 452 only 32.5% passed and for the Digital Operator ticket, of the 35 who wrote 54.5% passed.

The code test, which is now receive only, can be taken separately so only 823 people tried the 10 words per minute Amateur class test and only 325 or 39.5% passed. The 302 candidates who tried the Advanced Amateur class 15 words per minute bettered the Amateur class by only about one per cent ... out of the 302 only 122 or 40.3% succeeded. There is no code required for the Digital Operator ticket.

Here is a breakdown of the results:

	AMATEUR		ADVANCED AMATEUR	
Number writing	1,347	-	452	-
Passed Theory	293	21.7%	164	36.3%
Passed Regs	680	50.5%	266	58.8%
Passed Both	246	18.3%	147	32.5%
Took Code	823	-	302	-
Passed Code	325	39.5%	122	40.3%

## Success rate by provinces:

	AMATEUR		ADVANCED		DIGITAL	
	Wrote	Pass Rate	Wrote	Pass Rate	Wrote	Pass Rate
Newfoundland	17	0%	10	40%	2	0%
Prince Edward Island	11	54%	4	50%	0	N/A
Nova Scotia	61	11%	15	26.6%	2	0%
New Brunswick	30	23%	16	43%	2	50%
Quebec	243	16%	73	28.7%	13	46%
Ontario	591	13%	172	31%	4	100%
Manitoba	64	31%	14	42%	0	N/A
Saskatchewan	42	19%	15	33%	2	0%
Alberta	110	29%	47	38%	4	75%
British Columbia	172	28%	70	34%	3	100%
N.W.T.	1	0%	8	0%	3	66%
Yukon Territory	5	40%	8	50%	0	N/A
<b>Total</b>	<b>1347</b>		<b>452</b>		<b>35</b>	
<b>National Pass Rate</b>		<b>18.2%</b>		<b>32.5%</b>		<b>54.5%</b>

# How to pass your Amateur Exam

Having recently upgraded myself from the status of Amateur to Advanced, and, having to humiliate myself by doing the Advanced exam for a second time, I feel somewhat qualified to offer what I think is sound advice to aspiring Amateurs on how to get that coveted DOC certificate.

If you're thinking about enrolling in a class, or forming a group and approaching an instructor- I would suggest you check with him on his lesson plans or course. Some of the main criticisms levied at instructors is the fact many of them don't know what to teach ... or that's what they say is the reason so many fail DOC examinations.

Having failed once, I was distressed and disturbed. I even went so far as to write 'Doctor John' (deMercado. DOC. Ed.) and get a reply. And when the failure rates I demanded to know finally were released, I was further incensed. What in blazes was I doing wrong? Sure I had a B. Ed. degree but after one year I knew that hysteresis was not a disease and felt certain that even though it was just a hobby, it wasn't going to beat me! (I must admit there were times when it just about did and had it not been for moral encouragement from other hams, I might have flung in the towel.)

At any rate, 'Dr. John' gave me assurance that TRC24 was the basic syllabus. You see, there really is something to zero in on and towards which to direct your studies.

Check with your instructor, asking about his program. Does he intend, by a rather strict timetable, to keep on course and in fact zero in on each topic listed in TRC24? Are there audio-visual aids, practical training aids, handouts to supplement oral lessons, and are guest speakers and review tests planned? If you think you can go to class once a week and pass the exam, forget it! Extra sessions for most fellows are a necessity.

One chap, who is rather close to the situation locally, has offered the opinion instructors should be asking more why

and how questions of students. The suggestion to assimilate problems such as 'Why did you get zapped when you stuck your hand in the power supply, even though it was turned off?' or 'How do you actually go about neutralizing your finals?' and 'For what reason?' These were questions he felt instructors could formulate. Sounds sensible!

Recently, in the Victoria area, fourteen Amateurs gathered once a week for about three months to be tutored on basic theory. Code practice was, as they say in this little bit of 'Olde England', their 'cup o' tea'. However, when exam time came along, only four felt ready or comfortable or, indeed, could arrange time off work to write the May 9th tests. Why did so many, after spending long winter evenings, pass up the exam? Were they unprepared? Had lack of instructor preparation on their own inadequacies been significant in the decision of each to pass over the May setting? In my opinion, some knew a great deal more than I regarding electronic theory but didn't bother to write.

Perhaps the January failure rate scared some off and that's a shame. Certainly the May figures (unofficial) that only five out of thirteen made the Advanced and three out of nineteen passed the Amateur, isn't consoling information from the Victoria district.

In the opinion of most Amateurs I spoke to that tried to upgrade, they felt the exam was pretty fair. Certainly, the examiner tried to make candidates feel at ease. (He even cracked a joke that proved he was human!) There was a genuine concern that we understand directions and then "got to it"! However, even then some found the code test recording tape belching from the \$1.99 Radio Shack cassette too taxing. Knowing they could go down on a one-to-one basis or in smaller groups at a later date left many saying "to hell" with those kind of imposed conditions. And, I think I'd agree with them. One's nerves are

tight enough without having to strain your ears in a large room or be distracted by the shuffle of feet, the drop of a pen, or the exasperated curses of a candidate who 'blew it'. In one lower mainland center, it is rumored the sounds of dah-di-dah are still reverberating off the walls where close to 50 candidates were left stunned. Many of them are still rattling keys in disgust. Have I made a point?

It's nice to hear many regional offices have presented viable alternatives.

Okay, but what about passing the written exam?

After checking on the instructors' methods of handling the course, decide if you want to proceed in his group or do it alone. It can be done by yourself and there are many Amateurs on the air in the last year or so that can attest to the self-study method.

Get yourself the new CARF Study Handbooks: bone up on all your diagrams again, certainly, dig out from the shelf the trusty copy of the Radio Amateur Handbook. I would also highly recommend the Radio Handbook by Orr. Keep TRC24 beside your shack table, plus lots of foolscap, and go to it yourself.

Always remember, there are others in town, across town, or in another province that are in the same boat. It's amazing what a 10 metre net can dig up.

Six of us got together almost religiously, with at least one as a listener -- VE7DXV Ginny -- who we knew about, and at least half a dozen others we found out about, later. We had a good question and answer study session period every night for over 2 months before the big day. What did we do? Well, as far as we were concerned, it was far more productive than the usual idle chatter on 10 metres; -- and we were putting the band to good use.

Bob VE7DYD and myself are both in the education field and I guess naturally the teacher came out in us. We soon found Earl VE7DYZ, Peck VE7DIG and Bob VE7BQF, and together we started throwing questions out to each other.

Bob VE7BQF has taken an Amateur class for the Victoria Short Wave Club and all his pupils passed on the first go. When he suddenly checked in, along with Charlie VE7WW (our group instructor), we had lots of help.

The practice of thinking up atypical

exam questions and answering them led to some fascinating QSOs. Two hours passed rapidly and 'QRT' time came before we knew it.

We ask one another to quickly sketch in 2 minutes "off the top of our heads" block diagrams; to describe the act of suppressing harmonics; to reiterate critical frequency and M.U.F. VE7DYD Bob just knew methods of keying a transmitter would be on the test as it was in TRC24 and I figured by the process of elimination we'd be asked to explain detection and draw a detector circuit. Earl VE7DXZ got hung up on swinging chokes (no pun intended) and Peck VE7DIG argues about peak to peak power. And, there was BQF Bob to tell us about 100% modulation while DYD still argued the handbook was right.

While Charlie gave the gang a professional touch on amplifiers and basic maths, we still goofed on the method of how to hook up two pentodes as amplifiers.

Oh well, all was not lost.

In retrospect, we actually had, by self-preparation and the process of critical analysis, discussed and reviewed 95% of the May exam. Fluke you say? Not so, we feel. In fact, we prepared about 150 questions along with our own interpretations (bolstered, of course, by all handbooks).

So get your act in gear. Form a 28 MHz net if you have your phone endorsement or plan bull-sessions with everyone participating and sharing knowledge. This way, you pick one another's brains. Set a fellow up with a 'tricky' one and keep asking why and how. Try preparing a test or quiz with a variety of questions including true and false, formulas, multiple choice, define, write a paragraph, or fill in the blanks.

In conclusion, at the rate we are losing Amateurs as 'silent keys', if we don't upgrade more Amateurs, soon we won't have to worry about Canadian portions of the band because there may not be enough Amateurs to form a lobby to articulate our frequency allocation wishes, if that failure rate continues.

At any rate, there are eight 'new hams' counting their blessings in Victoria, B.C. and all thankful for one another's help.



Hal Banks VE7DVY  
3322 Fulton Road, Victoria B.C. V9C2T9  
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# Amateur Radio & the Computer

By Kim Lantz VE1AKL  
(in The Cape Breton Amateur)

What's happening on the computer scene? LOTS!!! We are nearing the era of the completely automated station. Well, I can just hear you say "That will take the fun out of it" or something similiar. This, however, is just not the case. If anything, it increases enjoyment of the station, and also its flexibility and efficiency.

There is no mode that better fits into the computer operation better than RTTY. It is a natural, there is just no getting away from it. Here is what is happening on Cape Breton Island. First, there is 'AUTOSTART' where the equipment is powered-up but standing by in an 'OFF' state. If a teletype signal comes on, so does the printer. It types up the message, and then turns off again. This is dandy if you leave your printer on, but what if you have a video display unit, and you just cannot print up a copy and have it waiting for your when you get home? Also, there are many operators who just don't leave their rigs on, but doing this means missing any traffic destined for them. What is the solution?? THE COMPUTER comes to the rescue!

My computer is generally on 24 hours a day. It is constantly monitoring our 01/61 repeater, with brief periods on 20 metres. It is constantly copying all RTTY activity looking for key words or commands that will bring it to life. It has several functions that may be called up by anyone on the frequency. I don't have to be home at all, let alone in the station. So VE1??? wants to know if there was any traffic for him in the last few days. EASY. Just send 'AKLZL' and listen!! If there are any messages in memory, they will be listed something like this.

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MSG #	ORIGINATOR	DESTINATION	DATE ENTERED
0	VE1AKL	VE1IG	03/22/79
1	VE1AKL	VE1???	03/23/79

VIA VE1AKL/PET 2001

then the CW identification required by DOC...

Low and behold VE1??? sees that there is a message there for him. Then he enters 'AKLZP!' (i.e. play message #1) and then goes back to receive. Here is what will happen....

The computer will then turn on my transmitter, and send the message to VE1???

"Attention Joe, we are going to have a meeting Thursday evening and would like you to be there. Please leave your answer on the system. Pete VE1XXX."

Then "dah dit dit dit" etc., (CW identification from the computer).

So, now Joe, VE1??? knows about the meeting. Since he doesn't want to waste computer memory he will now 'kill' that message since he has already received it. He will type AKLZK1, which will kill message #1. All messages after #1 will now move up to take up the space.

Joe's friend said to leave his answer on the system, so now Joe has to leave a message. VERY EASY!!!

'AKLZC' will put the computer into copy mode. Then Joe will enter VE1???-VE1XXX-06/26/79- and then his reply. When Joe is finished he will send a BELL code and this will tell the computer to stop 'recording' the message into memory and go back to normal receive. If Joe now types 'AKLZL' (for list) he will find that his message will then appear in the listing so Pete can get it the next time he is on-the-air.

The boys are having a great time experimenting with it. Just as much fun

as I had writing the program, and indeed it is FUN... This is just the start of the whole thing really and it will become much more powerful when I add some more goodies to the system.

There are other codes for other things. I have some ideas for contests on RTTY that should yield a whopper of a score. All I will have to do is to tune in the VFO, the computer will do the rest. Logging, xmit receive switching, and sending info to the other station that is necessary for scoring and logging by the other station. HMMMM... got to start thinking about that one....



Kim Lantz VE1AKL  
19 Clifford St., North Sydney, N.S.  
B2A 1X2

(Kim uses a PET computer but a number of Amateurs use the TRS-80 and Keith Ryan, 1073 Meadowbrook Rd. Ottawa K1B 4W6, would like to hear from them with the aim of getting stories on how they use them with their rigs, for publication...Ed.)

## Free spectrum chart

DOC has, free on request, a four-foot long colored wall chart of the complete radio spectrum. If you want a copy send your request to the Distribution Clerk, Information Service, Dept. of Communications, 300 Slater St., Ottawa, Ont. K1A 0C8.

Interestingly enough, the chart shows all of the present allocations plus the new 902-928 MHz and the deletion of 420-430 MHz. It also shows 220-225 MHz as the 'Amateur Packet Radio' band. Despite the fact that the WARC 1979 will no doubt show numerous changes, the chart will remain good for the two years or so it always takes to implement the changes negotiated at Geneva. The WARC on frequency allocations starts late in September and runs for about ten weeks.

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## Amateur returned to Parliament

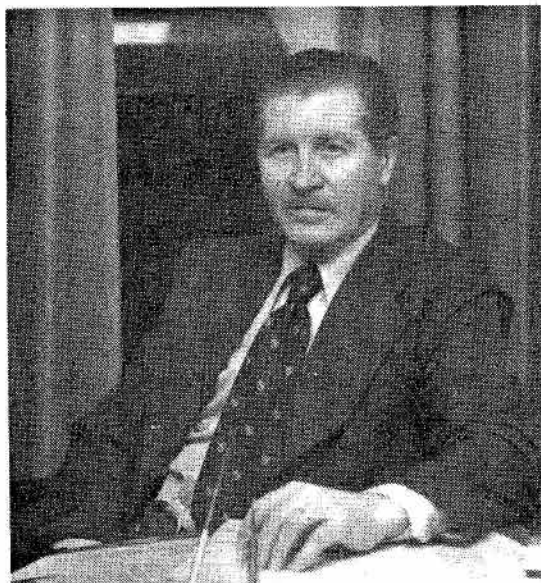
In the recent federal election, Doug Neil VE5QN was returned to the House of Commons for another term, with an overwhelming majority.

The Progressive Conservative member for Moose Jaw is an active Amateur as well as an MP and operates on 75, 20, 15 and 10 metres with his FT101E. Doug, whose interest in radio stems from his wartime stint as an RCAF navigator, has had his licence since 1965 and has represented his constituency well in the House of Commons for a number of years.

A native of Lipton, Saskatchewan, Doug attended school there and obtained a law degree from the University of British Columbia. He is active in Royal Canadian Legion and Kinsman club activities and served on the Moose Jaw city council in 1963 and 1964 before entering federal politics.

Amateurs not only still have a voice in the House of Commons, but now it's on the government side. Looking at that 40-foot flag pole on top of the Parlia-

ment Building and the beautiful ground plane of its huge expanse of copper roofing, one wonders how Doug can pass up loading it for a vertical and working the world!



# President's

Bill Wilson VE3NR gave the following report on the past year's activities to the Annual General Meeting on May 26:

This has been a very good year for your Federation. We have accomplished a great deal on behalf of Canadian Amateurs but we have not reached a position where we can afford to be complacent.

Our major concern a year ago was the DOC proposal for an Experimenter Class Amateur Operator Certificate. CARF circulated a working paper to Amateurs across Canada and based on well over 200 replies and briefs received, formulated a brief to DOC which was largely adopted in the form called the Amateur Digital Operators Class Certificate and Licence. The only significant difference between the CARF brief and the DOC's final decision was the sub-allocation of a much larger portion of the 220-225 MHz band to Packet Radio than that recommended by CARF.

We are not out of the woods yet regarding the 220-225 MHz band because (in the U.S.) the ARRL has proposed that this band be given over to a Novice Class and the FCC has proposed that the band be reallocated to the Maritime Mobile Service with the Amateur Service on a secondary basis. Your executive has made representations to DOC on both these matters, in particular the latter. We do not feel that the Maritime Mobile Service, which in this case is for small pleasure craft, will grow in a way in which sharing with the Amateur Service will work out and so we have suggested some better alternatives.

New examination procedures and new types of exam papers introduced by DOC last fall have created a great deal of frustration among would-be Amateurs and their teachers and a great deal of concern among existing Amateurs who

see the rate of growth in the Amateur Service being severely curtailed. Your Federation has made several proposals to DOC officials, who certainly "have their ears on". Vice-president Fred Towner VE2NM has been looking after this matter and reports that DOC will be calling a meeting to discuss proposed changes to their procedures and exam papers.

To help improve this situation, we are re-writing the Amateur and the Advanced Amateur Study Guides. This has been the project of Bob Rouleau VE2PY and Ian Hodgson VE2BEN. A new Regulations Handbook has been written by Art Stark VE3ZS. All these books should be available by the end of July. A companion to the above three is an Instructor's Guide being written by Ron Walsh VE3IDW. It will be available in the fall. Bob Rouleau will also soon finish the first Digital Operator's Study Guide. A new Operator's Handbook is also in the process of preparation with many contributors helping. The first three of the six publications just mentioned will be marketed through Radio Shack stores across Canada under an arrangement worked out with them by Bob on behalf of the Federation.

WARC '79 and its probable impact on Amateur Radio continues to be a great concern to your Executive. Fortunately, Bud Punchard VE3UD has been invited to be a full member of the Canadian Delegation, to represent Canadian Amateurs. Amateurs around the world, if their magazines report them correctly, are of the view that we will not suffer badly at the hands of the WARC '79 conferees. However, the views of many countries have yet to be made known so it is hardly the time to be complacent. For example, there are several proposals to allocate the band 13.7-14.0 MHz to broadcasting. The possibility

# Report

of broadcasting spreading into the 20 metre band are alarming. DOC's final proposal to take 100 kHz of the 80 metre phone band for Fixed and Broadcasting Services causes much concern and, while DOC remind us that they are proposing replacement spectrum at 10 and 24 MHz, the propagation characteristics of these two bands do not make them suitable replacements for the portion of the spectrum being lost to Amateurs on 80 metres. A letter is being written to DOC on this matter.

A not-unexpected decision by DOC was that which took the lower 10 MHz of the 420-450 MHz Amateur band for other radio services. This and proposals regarding the 220-225 MHz band are indicative of the pressures Amateurs will have to face in the years to come regarding the VHF/UHF spectrum. As an alternative, the DOC are proposing the 902-928 MHz band for the Amateur Service on a secondary basis to the Fixed Service. They are also considering the same band for the General Radio Service. The United States would prefer a band a little higher up, near 948 MHz for CB. We are advised that it will be the end of the year before this problem is resolved.

As a result of discussions with representatives of the ARRL Canadian Division last November instructions received from the Directors and things said in recent letters from the ARRL Canadian Division, relations between it and the Canadian Amateur Radio Federation may be considered serene. The ARRL Canadian Division is going its own way. Your Federation is doing likewise.

The Calgary Symposium was quite successful and DOC have followed up just recently with a number of proposed regulations changes based on the Symposium's recommendations. A Working

Paper has been prepared and circulated to affiliated clubs across Canada preparatory to preparing the CARF brief.

You have all noticed the improvements in 'TCA - The Canadian Amateur'. These are due to the work of Steve Campbell, our production manager, Doug Burrill VE3CDC, our Editor, Ed Hartlin VE3FXZ, Technical Editor, and Don Slater VE3BID, our advertising representative. This has to be one of the real achievements of the Federation this year and our membership has certainly appreciated it.

The Transcan net has started operation and is working quite well, thanks to the efforts of the men at VE3OCU and VE7DKY and a host of others. An operating manual will be published once the net has been operational for a while and the 'bugs' are pretty well worked out.

The monthly CARF News Service Newsletters which have been a regular feature greatly used by affiliated clubs have been supplemented by the weekly CARF News Service Radio Bulletins. These are also prepared by Doug Burrill VE3CDC. We hope that they will be broadcast by key stations in each province soon. Just now, however, they are proving very popular and are well received in the few areas where they are broadcast.

The finances of your Federation have been of great concern to your Executive. Due to the increasing cost of operations we have had to draw on our reserves. We are looking to the sale of the publications mentioned earlier, more advertising in TCA and to an increase in membership dues, which you will be asked to approve, to redress this situation. Your Executive has also introduced a new financial reporting system and a better method of budgeting to give us better control of our finances.

On behalf of the Federation, I made a presentation to the Tariff Board on the exemption of Amateur transmitters, receivers, transceivers and antennas from import duties, at the Board's Ottawa hearing last November. I was able to respond effectively to all of the Board's questions and I am hopeful of a favourable decision. The recent change of government will probably delay a decision beyond the original target date of next year.

Joan Powell VE3FVO has retired as Secretary after quite a few years in that position. Bernie Burdsall VE3NB, our Treasurer, will retire from that position on December 31, 1979, at the end of a number of years in that very

demanding position. We all appreciate their efforts; each has set a fine example of service to other Amateurs and the organizations that they, the Amateurs, need to make the hobby exciting, interesting and viable.

I am sure that you have noted by now that your Federation is no longer a fledgling. The Federation has proven itself a mature, viable, capable and independent association with a very significant and growing membership of Canadian Amateurs all working together in one way for the good of Canadian Amateurs. This year's success has been due to the efforts of too many to be named here. We thank them all.



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## THE CANADIAN *Contest Scene*

By Sid Kemp VE7BGK  
4743 Belmont Ave.,  
Vancouver, B.C. V6T 1A8

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### CONTEST CALENDAR

July 14-15 IARU Radiosport  
Aug 4-5 VHF Contest  
Sept. 15 Can-Am Phone  
Sept. 29 Can-Am CW

Since its inception only two years ago, the Can-Am contest has dramatically increased in popularity. And it's no wonder; it's a fast moving 'CQ'-style contest that has the added advantage of requiring only half a weekend per mode.

This year, however, there are a few changes in the rules worth noting. The contest will not be in August as it has been previously, but rather in September on two separate weekends. The phone segment will be on Sept. 15 from 0001 Z-2400 Z. CW will be on Sept. 29 from 0001Z-2400Z.

Briefly, the rules are as follows:

Category of Competition. (1) Single operator (2) Multi-Op (3) Club competition.

Bands. All bands 1.8-30 MHz

Exchange: Signal report 'RS' on phone and 'RST' on CW. Plus a sequential QSO number starting at 001, plus a multiplier abbreviation, e.g. 59 001 B.C.

Multipliers: Fifty U.S. states plus the two U.S. possessions (Caribbean, Pacific) plus the 10 Canadian provinces and two territories (NWT, YT) and Sable

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Island, for a total of 65 multipliers per band.

Points (1) U.S. to U.S. and Canadian to Canadian count for two points. (2) U.S. to Canada and vice-versa count for 3 points.

Scoring: The final score is the product of the total number of QSO points from all bands and the number of multipliers from all bands.

Deadline: All entries must be postmarked by not later than 30 days after the contest. They should be mailed to VE3BMV, P.O. Box 292, Don Mills, Ont. Canada M3C 2S2.

For a more complete description of the rules and log sheets and check sheets, mail a large SASE to the same address.

\* \* \* \* \*

A second CARF news station VE5GG sends CARF radio bulletins on 14.077 MHz each Thursday at 18.30Z. Glen Gorham, the licensee, says that Bill Munday VE5WM also puts out the bulletins on VHF and SSB HF every day (Glen forgot to tell us the time). He goes on to say "I have received many comments on the bulletins from the U.S. saying that they appreciated and certainly do help the guys down south keep track of Canadian activities" but to date he has no comment from Canada. Both stations are in Regina.



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FOR SALE: EICO 753 xcvr 20-40-80 m, 200 w PEP, with 110 AC pwr sup and HP-13 12v mobile pwr sup; asking \$200. UHF Accent 450 MHz base and mobile stns, each \$50. VE3CDC Doug Burrill, 151 Fanshaw Ave., Ottawa, Ont. K1H 6C8. Ph: (613) 73 -7108 evgs.

FOR SALE: Thiro element (director) for Gem Quad with Boom, never used. L.E. Benner VE3 KYM, 1165 Fennell St. E., Hamilton, Ont. L8T 1S3. 416-388-0967.

FOR SALE: (1) National NC100, matching speaker, manual, good condition, possible collector's item, \$150.00 (2) Dumont 304A scope, manual, operational, \$50.00 (3) Stark Model TA-1 'Vohmaster' VTVM, volt, ohm, capacity, inductance, milliammeter, instructions, probes, \$35.00 (4) Antenna Specialist mobile mount with heavy duty chrome spring, never used. \$20.00 (5) Drake TV-1000-LP Low pass filter, 1000 watts below 30 mcs, \$10.00 (6) Garrard Model Type A automatic 4 speed stereo turntable \$40.00. Rene Levasseur VE3FQ, 415 Coombs Ave., London, Ont. N6G 1J3. WANTED: MANUAL for RCA AR-88 receiver to buy or copy. Also ham in Edmonton to align SWL's AR-88 for fee. Brian Pimblett, 9 Grandin Place, St. Albert, Alberta T8N 1B5. 403-459-4854.

FOR SALE: Heathkit-SB 220 Linear - nearly new, perfect condition - write VE3GWC, P.O. Box 656, Crystal Beach, Ontario L0S 1B0.

FOR SALE: Collins Desktop 30LI Linear Amplifier, Round Emblem, mint condition, \$850.00. Dr. D.J. Campbell VE7AQC, 4910 Blenheim St., Vancouver B.C. V6N 1N3. 604-261-1674.

WANTED: A Racal receiver. VE3KZG, 15 Anglesey Blvd. #316, Islington, Ont. M9A 3B2. 416-237-0688.

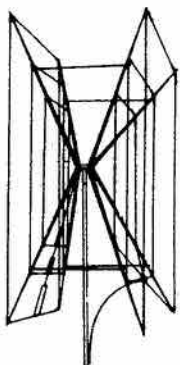
FOR SALE: Motorola HT220 Handy Talkie 14784/24 Rptr, Rubber Duckie antenna, 2 battery packs, plug in charger, post paid. Excellent condition, \$800.00. Jim Young VE7AZO, 2429 14th Ave., Port Alberni, B.C. V9Y 2Y1.

FOR SALE: TS-820 Transceiver Digital readout, \$1350.00. VE4NC, 20 Main St., Flin Flon, Manitoba R8A 1S4. Ph. 204-687-5185.

FOR SALE: Mint SB 104A Transceiver by Heath, CW Filter, matching pwr supply and speaker, mobile mic, \$1250.00; Mint Yaesu FT-7 Transceiver with mobile bracket, mic, power supply, 6 months old, \$700.00. J. Williams VE1BWG, 13 Gourok Ave., Dartmouth, N.S. B2X 2B1. Ph. 902-434-4086.

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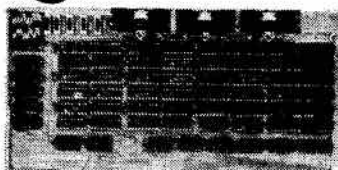
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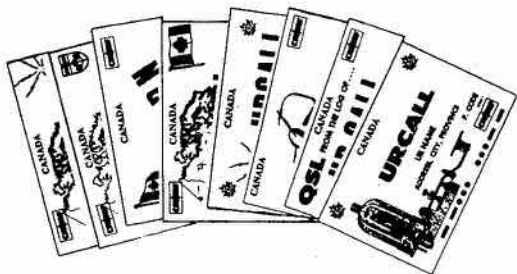
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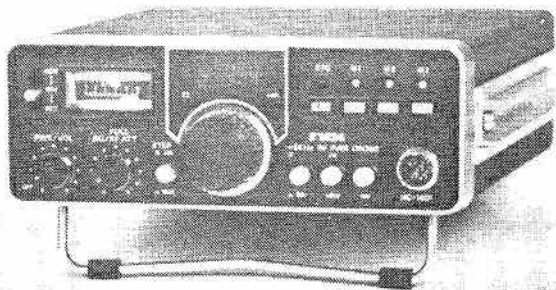
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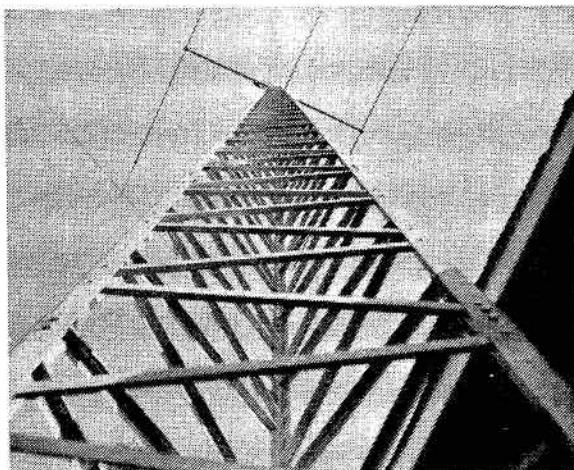
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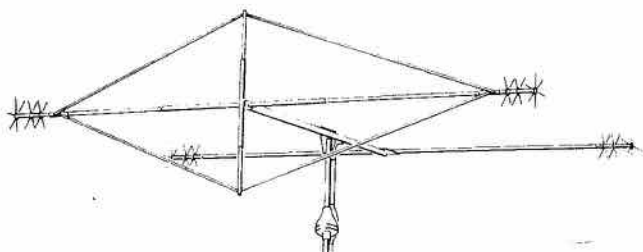
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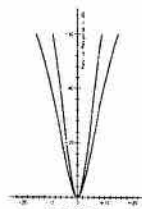


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1. To act as a coordinating body for Amateur radio organizations in Canada;
2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;
3. To act as a liaison and advisory agency between its members and the Department of Communications;
4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.

#### OFFICERS

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#### BOARD OF DIRECTORS

(If you want to contact the Federation, write or call a Director in your region or write to CARF, Box 356, Kingston, Ont. K7L 4W2.)

VE7BBQ Peter Driessen, 1946 York Ave., Apt. 203, Vancouver, B.C. V6J 1E3. 604-732-3298.

VE6HO Jim McKenna, Box 703, Ft. McLeod, Alta. T0L 0Z0.

VE3FON Marv Nash, 43 Bruce Farm Rd., Willowdale, Ont. M2H 1G4.

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## Notice:

If you are changing your address or renewing your membership, please send the change, cheque or money order to CARF Inc., Box 356, Kingston, Ontario K7L 4W2, where CARF and 'TCA' records are kept in the administrative office of the Federation. Please do NOT send them to the Editor, who happens to live in Ottawa. Re-mailing not only means a delay in your change or renewal but greatly upsets the Editor's digestion as he is already fully occupied with producing 'TCA' for your information and amusement. Tnx VE3CDC.

## WANTED:

For TCA: News Items, Pictures, Original Stories Technical Articles!

Make pocket money by writing for The Canadian Amateur!

Technical articles are especially welcome. We can use simple construction projects, antennas, hints and kinks, explanations of the theory and practice of modern Amateur operations and equipment.

Photos should be glossy black & white prints, although we can use colour prints. Written material should be typed, double spaced. Legible handwriting is acceptable. Finished artwork and drawings will add to the value, but sketches and rough drawings are acceptable.

Technical material only: Technical Editor, CARF Inc., Box 356, Kingston, Ont. K7L 4W2.

All other material: Editor TCA, 151 Fanshaw Ave., Ottawa, Ont. K1H 6C8.

(Please send address changes or renewals to the Federation at its Kingston office, NOT to the Editor in Ottawa.)

## Free QSL Service for members

1. Sort QSLs by prefix and stack face up in a single stack.
2. Keep weight of one parcel under one pound. Parcel carefully and seal securely.
3. Put your name, call, etc. in upper left corner.
4. Put your CARF membership no. in lower left corner.
5. Send to CARF QSL Services, P.O. Box 66, Islington, Ont. M9A 4X1.
6. Do NOT register parcel. This causes delay.
7. Check with Post Office for requirements if sending by Third Class Mail.
8. If receipt required, enclose SASE with cards.



# Infosection

## CARF Bulletin Station sked

After a few months of operation, it has been found advisable to make some changes to the schedule of CARF News Service broadcasts over VE3TCA. Here is the schedule which will become effective as of June 30, 1979:

CARF Newsletters and News Bulletins will be heard over VE3TCA, the first official CARF News Service Station, utilizing the facilities of VE3OCU, Carleton University Amateur Radio Club in Ottawa on the following schedule:

### SUNDAYS

1745Z	SSB	14.140 MHz
1930Z	CW	14.077 MHz

2030Z*	RTTY	14.077 MHz
2200Z	SSB	3.755 MHz

### TUESDAYS

0001Z	CW	3.590 MHz
0030Z	TTY	3.610 MHz

\*approx. time; follows CARFNET at 2000Z.

TTY xmissions are 170 Hz shift, 5 level, 60 wpm, followed by ASCII 110 baud.

Carleton ARC repeaters using call VE3OCU will transmit the bulletins simultaneously Wednesdays at 0001Z on 146.86, 224.94 and 53.15 MHz.

NOTE: For the duration of Daylight Time, the 3.775 MHz SSB xmission on Sundays and the 3.590 MHz xmission on Tuesdays are one hour earlier Zulu (Z) time. Also note that the Z time for Tuesday is Monday evening or afternoon in Canada and Z time for Wednesday is Tuesday evening or afternoon in Canada.

## New Publications!

CARF will be publishing new editions of the Certificate Study Guide, Advanced Study Guide and Radio Regulations Handbook in mid-summer 1979. These publications have been completely revised and up-dated to make them even more valuable to students and instructors in Amateur Radio courses as well as first rate reference manuals.

Due to increased content and cost, these publications will be priced at \$8.00 each. RADIO SHACK will be selling these CARF publications through their several hundred outlets across Canada and attractive discounts will be made for bulk orders. Publications will also be available, as in the past, through the CARF office.

A comprehensive Instructor's Guide (\$5.00) will also be published this summer for the guidance and assistance of organizers and teachers of Amateur Radio courses.

### BANNED COUNTRIES LIST

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

\*\* Station XU1AA has been authorized to exchange communications with Amateurs of other countries. Note: The calls 70A to 70Z are assigned to the Peoples Republic of Yemen.

### THIRD PARTY TRAFFIC AGREEMENTS

Bolivia, Chile, Columbia, Costa Rica, Dominican Republic, Guyana, Honduras, El Salvador, Israel, Mexico, Nicaragua, Peru, Trinidad/Tobago, USA (Territories and Possessions), Guatemala, Uruguay, Venezuela.

### RECIPROCAL OPERATING AGREEMENTS

Austria, Barbados, Belgium, Bermuda, Brazil, Colombia, Costa Rica, Denmark, Dominica, Dominican Republic, France, Ecuador, Federal Republic of Germany, Finland, Guatemala, Honduras, Iceland, India, Indonesia, Israel, Luxembourg, Netherlands, New Zealand, Norway, Nicaragua, Panama, Phillipines, Poland, Portugal, Peru, Senegal, Sweden, Switzerland, United Kingdom, U.S.A., Uruguay and Venezuela.

Note: As a general rule, DOC will consider licensed Amateurs of Commonwealth countries for reciprocal privileges in Canada if the other country does the same.



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CANADIAN AMATEUR RADIO REGULATIONS HANDBOOK  \$7.99 \_\_\_\_\_

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INSTRUCTOR'S PACKAGE  \$5· \_\_\_\_\_

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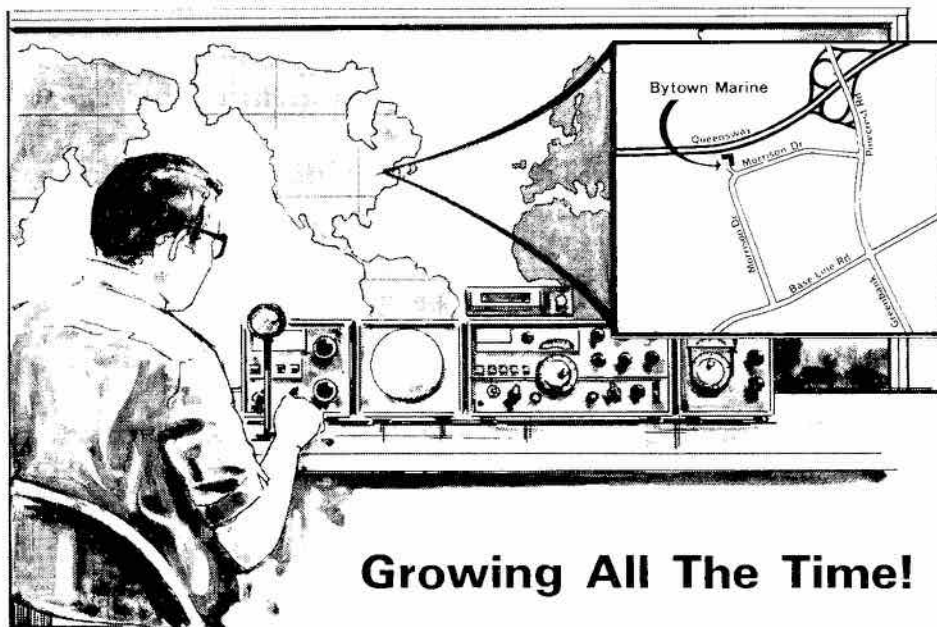
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