

TCA



The Canadian Amateur Radio Magazine

\$1⁰⁰

MARCH 1980

Repeater Directory

The Vertigo Antenna
The Canadian Traffic Handler
Contest Scene
Special Prefixes
New Tariff
Examinations

and more!



Canadian Amateur Radio Federation
Canadian Repeater Advisory Group

Compiled by H. Lines, VE3DWL

NFLD/LABRADOR
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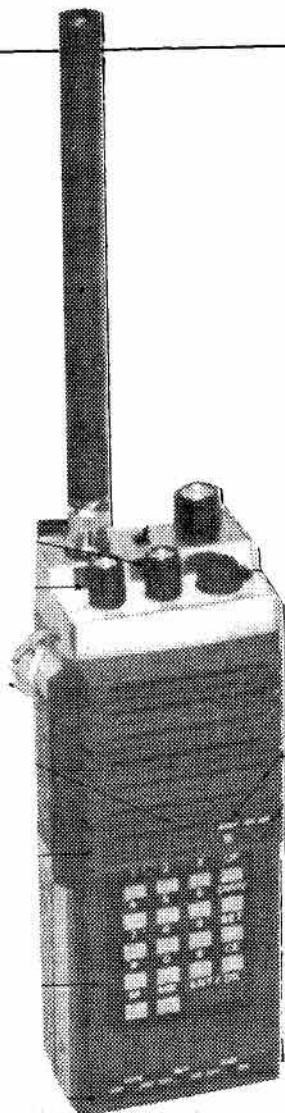
Corner Brook	VO1MO	146.340	146.940
Gander	VO1AV	146.340	147.940
St Johns	VO1GT	146.340	146.940
St Johns	VO1EN	146.460	147.060

NOVA SCOTIA
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Bear River	VE1ASQ	146.190	146.790
Big Harbour	VE1BVH	147.720	147.120
Blockhouse	VE1LCA	147.840	147.240
Bridgetown	VE1BO	146.460	147.060
Dartmouth	VE1PB	146.250	146.850
Gore	VE1LHR	146.040	146.640
Halifax	VE1CBC	146.340	146.940
Liverpool	VE1VO	147.900	147.300
Mt Blomidon	VE1AEH	147.780	147.180
Mulgrave	VE1RTI	146.220	146.820
New Glasgow	VE1HR	146.160	146.760
New Ross	VE1 ?	147.840	147.240
North Sydney	VE1AUY	147.840	147.240
Nutby Mtn	VE1LHD	147.810	147.210
	VE1HAM	146.280	146.880



Yaesu

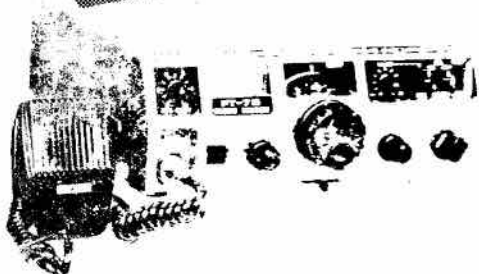


FT207R

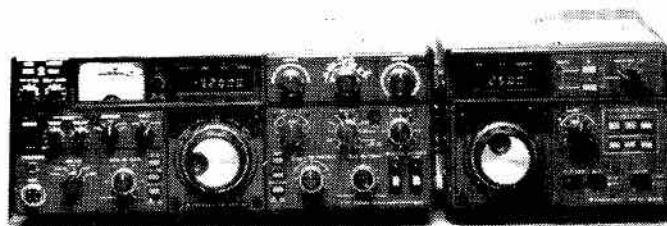


TS-180S

Kenwood



FT-7B



TS-830S

VFO-230

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

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

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TEN-TEC

The All-American DX Machines

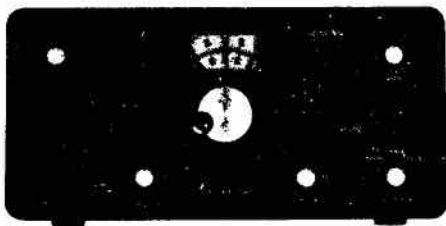


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The best of TEN-TEC. OMNI-C—with all 9 hf bands, new 3-mode offset tuning, new optimized bandwidth with 7 response curves, new built-in noise blanker, new "hang" AGC and all the features that have made this impressive series famous throughout the amateur world. And with all 9 hf bands, OMNI-C is ready to roam the entire amateur hf world from 160 through 10 meters including the three new bands, 10, 18, and 24.5 MHz (all crystals included excepting 18 and 24.5 MHz).

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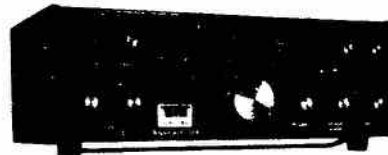
Ideal for the novice as a beginning rig, for the CW op on a budget, for everyone as a second rig, CENTURY-21 goes on making friends the world over! 70 watts input, 80 through 10 meters, all solid-state, full break-in, off-set tuning, broadbanded, overload-protected built-in power supply. See this CW bargain at HAM TRADERS. **Only \$499.**



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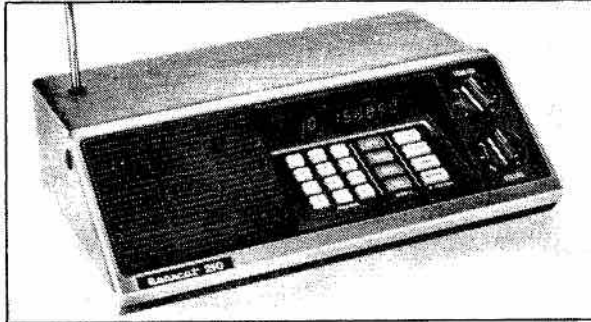
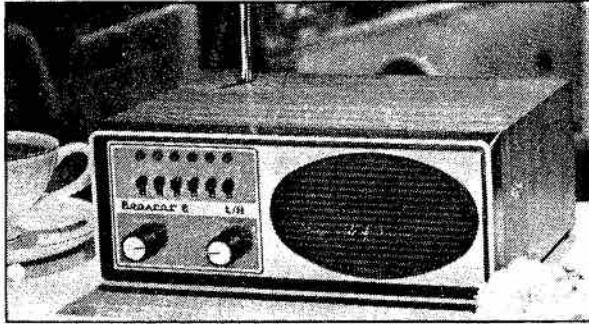
- Tuning in 10 Hz, 100 Hz, or 1 KHz steps.
- Passband tuning system for optimum selectivity.
- Speech processor built in. Full metering, ALC, voltage, current.
- VOX, separate CW/SSB delay controls, RT.
- Relative SWR meter built in.
- Data transfer from one VFO to the other.
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- Transmit on all 9 HF bands.
- Receive from .1 to 30 MHz.
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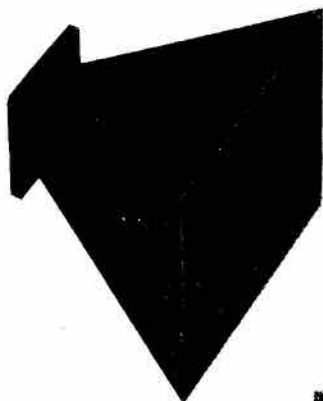
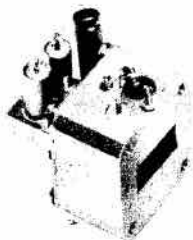
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MA-87127 Series

Varactor Tuned Gunnplexer™ Transceiver "Front End"

for Amateur Applications



Features

- LOW COST
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- INTEGRATED ASSEMBLY
(INCLUDES MIXER DIODE &
CIRCULATOR)
- ELECTRONICALLY TUNABLE
- HIGH RELIABILITY
- LOW OPERATING
VOLTAGE

Description

The MA-87127 series of frequency modulated transceiver "front ends" using GUNN oscillators and Schottky mixer diodes has been specially designed to operate in the amateur 10.0 to 10.5 GHz band.

The rear portion of the unit consists of a GUNN oscillator which directly converts dc to RF energy. The oscillator, unless otherwise specified, is delivered preset at 10.250 GHz (oscillators preset to other frequencies are available on request). When supplied in pairs, one unit is preset at 10.250 GHz and the other unit is preset at 10.280 GHz. Mechanical tuning is available to shift the center frequency ± 100 MHz. A tuning varactor is mounted close to the GUNN diode which will deviate the fundamental frequency typically 60 MHz when the proper tuning voltage is applied. FM, including both audio and video, can be applied to the tuning varactor input. In the front of the transceiver, a Schottky diode mixer is provided. The GUNN diode acts simultaneously as a transmitter and local oscillator with a portion of its energy (approximately 0.5 mW) being coupled to the mixer diode. The receiver noise figure is approximately 12 dB depending on auxiliary equipment used. A ferrite circulator has been integrated into the waveguide mount to isolate the transmitter and receiver functions.

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8 MEMORIES
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AND OFFSET

SUPERIOR COMMERCIAL GRADE 2-METER FM TRANSCEIVER
INTRODUCTORY OFFER
\$469

IN STOCK NOW !! **FREE TOUCH-TONE® PAD KIT INCLUDED.**

COMPARE THESE FEATURES WITH ANY UNIT AT ANY PRICE

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- **SIZE:** Unbelievable! Only 6 1/2" by 2 1/4" by 9 1/4" **COMPARE!**
- **MICROCOMPUTER CONTROL:** All frequency control is carried out by a microcomputer.
- **MUSICAL TONE ACCOMPANIES KEYBOARD ENTRIES:** When a key is pressed, a brief musical tone indicates positive entry into the microcomputer **COMPARE!**
- **PUSHBUTTON FREQUENCY CONTROL FROM MICROPHONE OR PANEL:** Frequency is selected by buttons on the front panel or microphone.
- **3 CHANNEL MEMORY:** Each memory channel is reprogrammable and stores the frequency and offset. Memory is backed up by a **NICAD battery** when power is removed.
- **INSTANT MEMORY 1 RECALL:** By pressing a button on the microphone or front panel, memory channel 1 may be accessed immediately.
- **MEMORY SCAN:** Memory channels may be continuously scanned for quick location of a busy or vacant frequency.
- **PROGRAMMABLE BAND SCAN:** Any section of the band may be scanned in steps of 5 or 10 kHz. Scan limits are easily programmed.
- **DEFINITION SCAN CONTROL (AZDEN EXCLUSIVE PATENT):** The **TOUCH-TONE** pad is used to scan the band, so the unit always lands on the correct frequency **COMPARE!** This with other units that claim to scan in 5-KHz steps!
- **THREE SCAN MODES WITH AUTO RESUME:** "Sampling" mode pauses at busy channels, then resumes. "Busy" mode stops at a busy channel, then resumes shortly after frequency clears. "Vacant" mode stops at a vacant channel and resumes when signal appears. If desired, auto resume may be prevented by pressing one button **COMPARE!**
- **RESPONSIBLE HEAD:** The control head may be located as much as 15 feet away from the main unit using the optional connecting cable **COMPARE!**
- **PL TONE OSCILLATOR BUILT IN:** Frequency is adjustable to access PL repeaters.
- **MICROPHONE VOLUME/FREQ. CONTROL:** Both functions may be adjusted from either the microphone or front panel.
- **NON-STANDARD OFFSETS:** Three accessory offsets can be obtained for CAP/MARS or unusual repeater splits. CAP and Air Force MARS splits are **BUILT IN!** **COMPARE!**
- **25 WATTS OUTPUT:** Also 5 watts low power to conserve batteries in portable use.
- **GREEN FREQUENCY DISPLAY:** Frequency numerals are green LEDs for superior visibility.
- **RECEIVER OFFSET:** A channel lock switch allows monitoring of the repeater input frequency **COMPARE!**
- **SUPERIOR RECEIVER:** Sensitivity is better than 0.28 uV for 20-dB queuing and 0.19 uV for 12-dB SINAD. The squelch sensitivity is superb, requiring less than 0.1 uV to open. The receiver audio circuits are designed for maximum intelligibility and fidelity **COMPARE!**
- **ILLUMINATED KEYBOARD:** Keyboard backlighting allows it to be seen at night.
- **TRUE FM, NOT PHASE MODULATION:** Transmitted audio quality is optimized by the same high standard of design and construction as is found in the receiver. The microphone amplifier and compression circuits offer intelligibility second to none.
- **OTHER FEATURES:** Dynamic microphone, built-in speaker, mobile mounting bracket, external remote speaker jack (head and radio) and much, much more. All cords plus fuses, microphone hanger etc. included! **Weight: 11 lbs.**
- **ACCESSORIES:** CS-ECK 15-foot remote cable... \$50. CS-TTK **TOUCH-TONE** microphone kit (wired and tested)... \$65. EXTRA DC Cord \$7.

FREE T.T. PAD KIT MUST BE ASSEMBLED. THE CS-TTK PAD IS FULLY ASSEMBLED AND INSTALLED IN A MICROPHONE BACK TO REPLACE THE STANDARD MIKE BACK. YOU MAY TRADE THE KIT AND \$39 FOR THE CS-TTK PAD.
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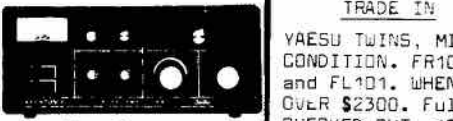
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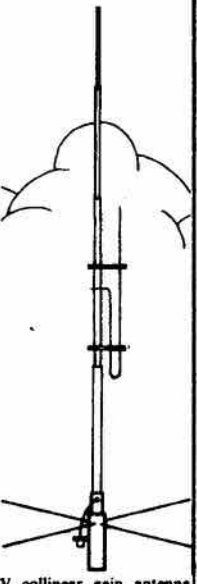
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- STR KIT: \$29
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IC255A \$499
ADD \$29 FOR HMB TT MIKE.
ICOM IC2AT \$369

FOR THE FM ENTHUSIAST. THERE'S THE IC-255A. Superb audio coupled with switchable 25W and 1W outputs make the IC-255A the premiere FM rig available today. You can't miss with dual VFO's, 5 memories with scan and even RTT. It's easy to operate and enjoy too because of the easy layout of all controls and the large digital display. FM gets more exciting every day, especially with the IC-255A.

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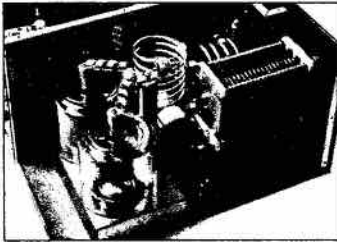
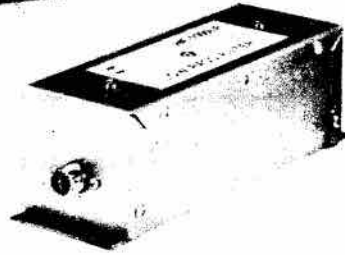
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HL-2000A LINEAR AMPLIFIER

Hammond POWER BAR

HF-1000LP LOW PASS FILTER

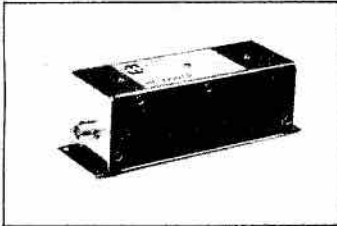


HL-2000A LINEAR AMPLIFIER

A truly rugged, uniquely Canadian, linear amplifier in the Hammond tradition. Top quality, heavy duty components designed for longest life performance.

General specifications;
 • 2000 watt PEP input SSB, 1000 watt CW and RTTY covering the 10M, 15M, 20M, 40M, and 80M amateur bands.

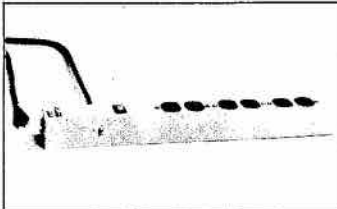
- Special Hammond power transformer designed for continuous duty operation. Rated 1100VA - 60Hz.
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- Full Pi-L output circuit network for maximum harmonic suppression.



HF-1000LP LOW PASS FILTER

Designed to eliminate spurious conduction from transmitters operating below 30 MHz and eliminate 2nd and 3rd harmonics appearing in the TV bands when operating in 10, 15, and 20 meters.

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 - Impedance 52 ohms input and output.



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Please send further information:

HF-1000LP LOW PASS FILTER

HL-2000A LINEAR AMPLIFIER

Hammond POWER BAR

Name _____

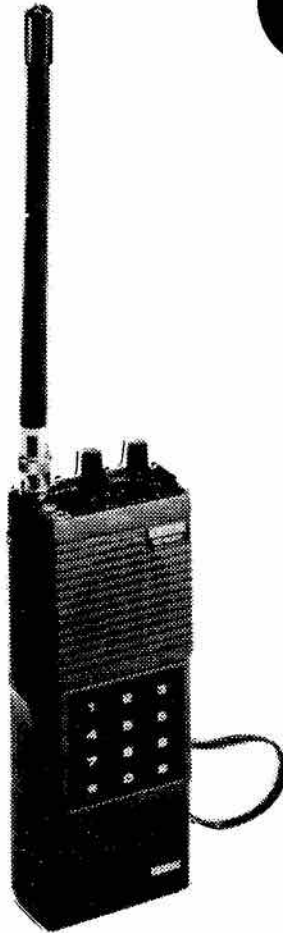
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2A Fever - Catch it!



ICOM waited while the others scrambled to put out a synthesized Handie Talkie. ICOM looked at their bells & whistles, their digital displays, high power consumptions and lumbering sizes. Then ICOM quietly built a handheld that people, not gimmickers, would like and use.

The result is an ultra compact unit (the rubber duck is longer than the set) with all of the channels, all of the power, and all of the convenience and performance that has made ICOM famous.

You can vary your power output or longevity by snapping on various Nicad Bottom Packs. You can take it anywhere since the IC-2A is at home in a shirt pocket or unobtrusively on a belt, and its clean handsome styling always makes it the centre of attention.

Standard Features

- 800 T/R Channels
- Variable NiCd Power Pack: 3 sizes to suit your needs.
- Super Sensitive ICOM receiver (2uv/20dB typical)
- Touch Tone pad on the IC-2AT model
- Separate built in speaker and microphone for excellent audio.
- BNC 'Rubber Duck' antenna

APPROXIMATE BATTERY LIFE vs POWER OUTPUT 3:1 Duty Cycle



BATTERY PACK MODEL	HEIGHT	CHARGER REQUIRED	BATTERIES	VOLTAGE	TYPICAL OUTPUT (IN WATTS)	REPLACEABLE BATTERIES	NOTES
IC-BP2	39mm	BC-30	Ni-425 AA (x6)	7.2	10	No	Low Power/Long Life (14hr) Long Life/Long Charge (1hr)
IC-BP3	39mm	BC-25 or BC-30	Ni-250 AA (x7)	8.4	15	No	Standard Power/Standard Charge (1hr)
IC-BP4	49mm	-	UM-3 (x3)	9.0	15	Yes	Standard Power/No technique required
		BC-30	Ni-425 AA (x6)	7.2	10	Yes	Low Power/Long Life/Standard Charge (1hr)
IC-BP5	60mm	BC-30	Ni-425 AA (x6)	10.8	23	No	High Power/Long Life/Quick Charge/Standard Charge (1hr)



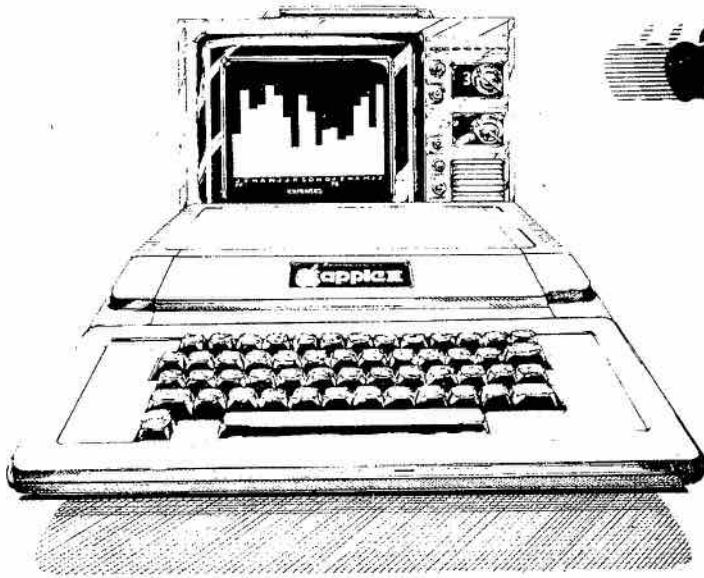
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TR-7800

Kenwood's remarkable TR-7800 2-meter FM mobile transceiver provides all the features you could desire for maximum operating enjoyment. Frequency selection is easier than ever, and the rig incorporates new memory developments for repeater shift, priority, and scan, and includes a built-in autpatch DTMF encoder.

FEATURES

15 multifunction memory channels, easily selectable with a rotary control

M1-M13... memorize frequency and offset (± 600 kHz or simplex).
M14... memorize transmit and receive frequencies independently for nonstandard offset.
M0... priority channel, with simplex, ± 600 kHz, or nonstandard offset operation.

Internal battery backup for all memories

All memory channels (including transmit offset) are retained when four AA NiCd batteries (not Kenwood-supplied) are installed in battery holder inside TR-7800. Batteries are automatically charged while transceiver is connected to 12-VDC source.

Priority alert

M0 memory is priority channel. "Beep" alerts operator when signal appears on priority channel. Operation can be switched immediately to priority channel with the push of a switch.

INTRODUCTORY PRICE

\$559⁰⁰

Extended frequency coverage

143.900-148.995 MHz, in switchable 5-kHz or 10-kHz steps.

Built-in autpatch DTMF (Touch-Tone) encoder

Front-panel keyboard
For frequency selection, transmit offset selection, memory programming, scan control, and selection of autpatch encoder tones.

Autoscan

Entire band (5-kHz or 10-kHz steps) and memories. Automatically locks on busy channel; scan resumes automatically after several seconds, unless CLEAR or mic PTT button is pressed to cancel scan.

Up/down manual scan

Entire band (5-kHz or 10-kHz steps) and memories, with UP/DOWN microphone (standard).

Repeater reverse switch

Handy for checking signals on the input of a repeater or for determining if a repeater is "upside down".

Separate digital readouts

To display frequency (both receive and transmit) and memory channel.

Selectable power output

25 watts (HI)/5 watts (LOW).

LED bar meter

For monitoring received signal level and RF output.

LED indicators

To show: +600 kHz, simplex, or -600 kHz transmitter offset; BUSY channel; ON AIR.

TONE switch

To actuate subaudible tone module (not Kenwood-supplied).

Compact size

Depth is reduced substantially.

Mobile mounting bracket

With quick-release levers.

Note: On Front Cover of Cat # 19 our Phone No. should be (604) 984-0404.

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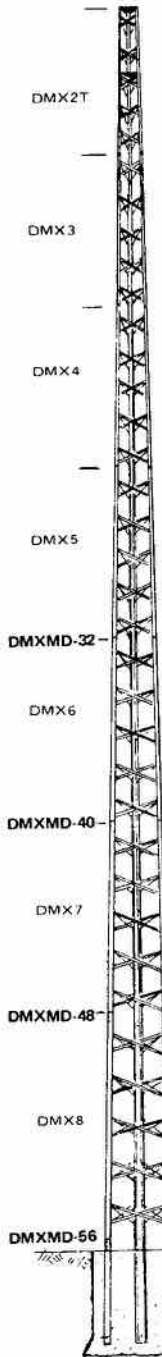
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DELHI SELF-SUPPORTING DMXHD, DMXMD CONCRETE-BASE TOWERS

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.

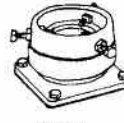
Guy wires must be used if larger loads are required or cross mounted antennas, or if greater height using straight sections is needed.



Unique beaded channel leg resists bending



244A Cast Alum. Mast Clamp



BBMB Ball Bearing Mast Bearing



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

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.
DMXMD Medium Duty Towers			
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
DMXHD Heavy Duty Towers			
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

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THE FT-207R HANDIE CHECKLIST

- | | | | |
|-----------------------------------|-------------------------|--------------------------------|-----------------------------------|
| <input type="checkbox"/> TA-2 | telescopic whip antenna | <input type="checkbox"/> NC-1A | 15-hr. desk charger |
| <input type="checkbox"/> YM-24 | speaker microphone | <input type="checkbox"/> NC-3 | 4-hr. quick charger |
| <input type="checkbox"/> LCC-7 | leather case | <input type="checkbox"/> NC-9B | wall charger |
| <input type="checkbox"/> FSP-1 | external speaker | <input type="checkbox"/> PA-2 | mobile battery eliminator/charger |
| <input type="checkbox"/> MMB-10 | mobile mounting bracket | <input type="checkbox"/> FBA-1 | battery sleeve |
| <input type="checkbox"/> FTS-32E | CTCSS/burst encoder | <input type="checkbox"/> NBP-9 | battery pack |
| <input type="checkbox"/> FTS-32ED | CTCSS encoder/decoder | <input type="checkbox"/> FEP-1 | earphone |

Piracy Amok!

December 14, 1980, saw a report from CARF that the Department of Communications hoped to initiate a study of the possible recovery of all regulatory service costs through increasing licence fees. Such an increase could take place in April 1982.

Today in QSO with a DF2 station around 28300 KHz, another station in the background was heard. I asked the DF station to stand by for a minute, the background station was calling, "This is Italy calling CQ DX move off the frequency". I asked the station for I.D. and only got a repeat of the previous comments. We resumed the QSO with the legit station; obviously the Italian was a pirate.

Later I was calling CQ around 28296 when up popped a female voice asking, "What is your country, this is international station KAP repeated, what is your country?" Naturally, I did not comply.

A week earlier a station with an

Irish brogue called me with a call I could not identify. I asked for a repeat of his call sign, again it did not conform to a legit EI or GI. I asked his country and he said he was in the Irish Republic. That terminated the operation.

Cruising the 10 metre band a little later, there was my female proclaiming to all and sundry she was "International short wave station calling CQ and QRT. The QRT in this case means she was waiting for replies, I did not hear her get any reply. Going down to 28005, there were two stations on SSB having a great time.

On 27997, there was Jasco of Jamaica in contact with 151 Jim in Toronto.

The crunch of the story is Amateurs pay \$13 per year for our licence. I would like to see a concerted effort put forward to apprehend the Canadian pirates and for their apprehension to be released to the Amateur Media, this

would circulate and hopefully curtail operations.

If the licence fee has to increase, it would probably be greeted with agreement if it means that regulations are to be enforced. Fines should automatically be channelled to the DOC.

Amateurs could assist considerably by using 28100-28400 KHz SSB much more than they do at the moment and, if they hear pirates, to get as much information as possible and inform the nearest DOC office.

These people use such gimmicks as QRZ QRZ after you have called CQ do not go back to them unless they give a proper call sign. Do not answer to requests of what is your country. Any legit Amateur has lists that can supply that information. No Amateur procedure lists calling CQ and using QRT inviting a contact, this procedure can be heard on other frequencies. If you suspect the station to be local, use your beam, get on two metres and enlist the assistance of other local Amateurs.

The Toronto 151 Pirate must be heard in that area as he was heard over 160 km away from Toronto. The Amateur may say it is not his problem, but this creeping into the 10 metre band is becoming more obnoxious and prolific and is a threat. Already the whole of 27000 to 28000 kHz is occupied by legit and illegal stations and is becoming very crowded. 28000-28400 is looking very attractive to these pirates.

Let us hope that if the fees are upped, the Canadian Bootleggers will be apprehended with the additional funds that will be then available. If no restrictive program is enforced rigidly, there will be more incentive to the non-licensed pirate.

Talking IC's

Speech synthesis integrated circuits are being introduced at a prolific rate. The latest entry is a complete speech processor on a chip from General Instruments Corp. and it is the kind of offering that will boost talking IC's into the realm of commodity products.

The SP-0256 can produce a human-like speech at a surprisingly low bit rate because of its novel speech encoding techniques.

The n-channel MOS chip holds the synthesizer, a mask-programmable read-only memory, and a 4-bit micro-controller. Its 16K ROM stores all data and instructions to produce 256 discrete

sound sequences. For more words or higher quality sound, as much as 512K of external ROM may be added. The chip can be programmed to produce high quality speech at the rate of one word for every 1,000 bits, to robotic speech, at one word for every 500 bits.

The single chip can completely process speech for applications that need a few dozen words, like clocks, calculators and instruments and, last but not least, ham radio gear. Automatic phone identifiers and CQ callers, anyone? Perish the thought!

SARL Newsletter

Letters:

ENOUGH U.S. SPECTRUM SPACE

Please find enclosed a copy of a letter sent to the Editor of QST. I would appreciate having it published in the Letters section of TCA, as it may reflect the feelings of other Canadian hams...

What sparked me to write this letter was the 'Correspondence' section of December's QST. Well, I have had it. When will U.S. Amateurs stop referring to 14.100-14.200, 7.050-7.100 etc. as the 'Canadian sub-bands'. Do U.S. Amateurs *realize* that not only Canadians but the rest of the hams in the world are in there too -- think about it! Before you scream for more frequencies in the U.S., I say this -- clean up your act! One only has to listen in the phone bands used by U.S. Amateurs -- the QRM is terrible!

The problem seems to be the indiscriminant use of linear amplifiers in the U.S. Why use so much power and cause so much interference when it's unnecessary? Who cares if your RS or RST is 59 + 40dB or if it's 58 -- as long as it is Q5, the signal strength is irrelevant if you can hear each other, right? But no, U.S. hams seem to have to run 'legal power' as a matter of course, causing QRM. It's a vicious circle.

Granted, the linear amps are useful tools, like other station equipment, if used properly and judiciously. If you reduce power, cause less QRM, you have more spectrum space on the band in which to operate -- simple, no? I think there would be less objection to the band expansions if the U.S. Amateurs cleaned house a bit. You must realize that you are not the only hams in the world, be considerate and think of others. You

presently enjoy enough spectrum space in the bands, why do you want to ruin what little the rest of us have!

Michael Masella VE2FSM
Pierrefonds, Que.

EXTRA COPIES?

Yesterday I received a second copy of TCA ... I like TCA and intend to continue as a member of CARF -- but one copy is enough.

Jim VE3IUG
Oakville, Ont.

If you receive an extra copy of TCA, then give it away to someone who may not be a member. If this continues to happen, please let our offices in Kingston know.

VE7 BUREAU

I noticed a very nice article about Howard Martin VE7AFY in the current issue of TCA. The story has a sequel.

Last night at the annual Christmas dinner of the Maple Ridge ARC, Marty was the recipient of a very special gift from the VE7 Amateurs. Both Marty and his wife Gloria have been active in handling the VE7 bureau for the past five years. They have done a good job, including attending most of the hamfests with the bureau.

Dennis Pekrul VE7CXN from the Burnaby ARC made the

presentation of a new rig, a TS130S complete with power supply, to Marty along with the sincere good wishes of all us VE7 Amateurs. Gloria, the other half of the bureau, was presented with a fine kitchen machine as well.

Lou Beaubien VE7CGE
Burnaby, B.C.

CUSTOMS DUTY

I would also like to add my voice in thanking CARF for a job well done in getting the Customs duty eliminated on most Amateur gear. CARF is one organization that just doesn't do a lot of talking about great things to do -- it does it!

I wonder if such things as Repeaters are covered by the new ruling. If such was brought in, what procedure would be followed when bringing it through Customs?

Gord Woroshelo VE3EYW,
Manitowadge, Ont.

Check the article by Dave Nessman VE3GEA. It points out most of the flaws in the system as well as the good points.

THE AURORA COMPUTER SOCIETY

The Aurora Computer Society (TACS) wishes to announce their second year of operation in the Edmonton, Alberta area. The Society meets on the second Wednesday of each month at the Holyrood School, 7920-94 Ave., Edmonton at 7:30 p.m.

Our Society boasts over 100 members and is involved, with various groups such as inter-computer activity, computer to Amateur Radio interfacing, basic classes, PET-TRS80-SWTC user groups, etc.

The monthly magazine 'Inter-

**TCA WELCOMES LETTERS
TO THE EDITOR. PLEASE
SEND ALL CORRESPONDENCE
TO EDITOR TCA,
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OTTAWA, ONT. K1H 8A9.**

com 80' provides interesting technical articles and news of activities of the Society. Fees are \$25 per year with family membership at \$35 per year.

TACS would appreciate articles and submissions from other computer organizations. Membership on behalf of your organization, as well as individual memberships, is encouraged.

Anyone wishing contact with the Aurora Computer Society may write to the Secretary, Bob Huntingford at Box 4342 South Edmonton, or the Communications Chairman, Bill Gillespie at 10129-90 St., Edmonton, Alta T5H 1R5.

ZAPP!

Enclosed is a copy of our publication, ZAPP Impedance and Power Potential, which is composed to enhance not only Amateur Radio communications but all forms of communication where individuals are concerned with the operation of their station.

This booklet is available from RYCO Enterprises Limited at the address above for a minimal cost of \$4.95 Can. each, which is far surpassed by the contents of the booklet.

Chas. F. Ryan VE7BFT

I am impressed by this book. It has a very clear and logical organization. The table of contents lists every item in the book. The material is written in a very clear and concise manner. There are no stories and anecdotes to waste the readers time. The book provides useful information on grounding, lightning and antenna theory. The material is easy to find and to the point.

Ron Walsh VE3IDW

I agree fully with Ron's assessment of ZAPP. Ryan has, in 55 pages, managed to cover topics that other books cover in 3 or 400 pages. Very little space is wasted and the theory is well-illustrated... Editor.

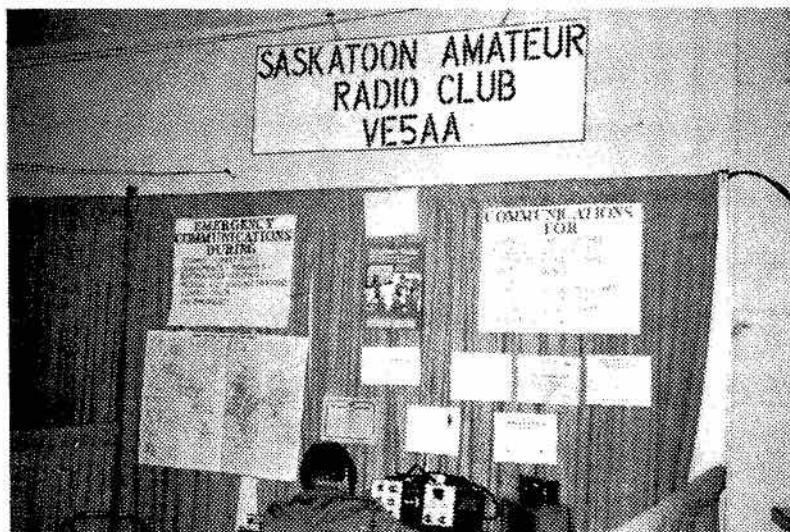
HIGH-RISE BLUES

I am living in a high rise apartment building, and it is a big (ham) problem to get permission to hook up antennas in town. I hope that our organization is still working to include this point in the law, as in

my case (and others that I know of) we are reduced to operating on 2 metres and higher frequencies with very limited range only.

Claude Vallee VE2FGV
Quebec

SARC wins ribbon at Hobby Show



The Saskatoon Amateur Radio Club won a ribbon at a Hobby Show. It was a Club effort and the result was a nice display, interesting, informative and appreciated by the many visitors at the booth.

Several interesting events happened while setting up the display. VE5YK's all-band vertical was used as a conductor between 4160 volts and the Jubilee Building roof. After being air-conditioned and re-structured by Wally VE5IX, the antenna performed to optimum expectations.

The other interesting event involved the HW 101 from VE5EDF, which blew two 100 ohm resistors. These were replaced, thanks to VE5XS coming to the rescue.

It was a great Club effort and I believe that it's one of the few

times we had that many operators willing to help. This speaks well for the Club. A special thanks to Wally VE5IX, Gerry VE5FF, Roy VE5XS for erecting the antennas and helping take them down.

The following Amateurs took part in the Hobby Show: Ed VE5GE, Ted VE5ED, Don VE5LQ, Clair VE5CR, Keith VE5VJ, Vic VE5GH, Dennis VE5KR, Erci VE5HG, Wally VE5IX, Ross VE5BCK, Alan VE5BBQ, Leo VE5AO, Yukio VE5BCJ, Mark VE5ZU, Bruce VE5ZN, Lorne VE5WY, Mel K5MH/VE5, Matt VE5FG, Russell VE5BBY, Paul VE5EZ, Bruce VE5RC, Harry VE5NH, Roy VE5XS, Brian VE5CC, Gerry VE5FF, Martha VE5YY, Fred VE5UX, Joe VE5BBL, Ken VE5NR, Don VE5FW.

Syl VE5YK



Canadian
Repeater
Advisory Group

Hugh Lines VE3DWL P.O. Box 192,
R.R.#3 Belleville, Ont. K8N 4Z3

Repeater Directory

Well, your Editor is back again after a long absence. I apologize for the delay in the column but there were a number of factors involved including working for a living and also a broken computer. However, all is back to normal and the column should be appearing each month again.

This month will be short but will include the current repeater listing as I have it now. It is possible, and knowing our postal system quite probable, that some of your corrections and additions may not have reached me as a result of the move from Ottawa. If you don't see your information reflected in the listing that follows, please try again and send it to me at the new address in the column head above or phone 613-966-8223 (Home) or 613-392-2811 Local 2989 (business).

I hope that by publishing the listing this early, I can get your corrections in and have an up-to-date listing for publication in the July-August issue. To do that, I must have your corrections to me no later than May 5, as I must have the listing to the publisher by the 15th.

1 FEBRUARY, 1981

Canadian Amateur Radio Federation
Canadian Repeater Advisory Group

Compiled by H. Lines, VE3DWL

NEWFOUNDLAND/LABRADOR

Corner Brook	VO1MO	146.340	146.940
Gander	VO1AV	146.340	147.940 O
St Johns	VO1GT	146.340	146.940
St Johns	VO1EN	146.460	147.060 A

NOVA SCOTIA

Bear River	VE1ASQ	146.190	146.790
Big Harbour	VE1BVH	147.720	147.120
Blockhouse	VE1LCA	147.840	147.240
Bridgetown	VE1BO	146.460	147.060
Dartmouth	VE1PB	146.250	146.850
Gore	VE1LHR	146.040	146.640
Halifax	VE1CBC	146.340	146.940
Liverpool	VE1VO	147.900	147.300
Mt Blomidon	VE1AEH	147.780	147.180
Mulgrave	VE1RTI	146.220	146.820
New Glasgow	VE1HR	146.160	146.760
New Ross	VE1 ?	147.840	147.240 P
North Sydney	VE1AU	147.840	147.240 A
Nutby Mtn	VE1LHD	147.810	147.210 D
Rear Boisdale	VE1HAM	146.280	146.880
Shelburne	VE1SCR	146.010	146.610
Springhill	VE1SPR	146.400	147.000 I
Springhill	VE1SPR	443.300	443.300 A 2
Sydney	VE1CBI	146.010	146.610 R
Sydney	VE1SYD	146.340	146.940 A

Truro	VE1LHD	147.810	147.210
Truro	VE1XK	146.190	146.790
Truro	VE1ZG	146.310	146.910 P
Yarmouth	VE1YAR	146.130	146.730

NOTES

- 1 - Linked with VE1AHC (PEI)
- 2 - VE1AHC link frequency

P.E.I.

<<<<<#>>>>>

Charlottetown	VE1AHC	146.070	146.670 I A
Charlotte town	VE1HI	146.340	146.940
Charlottetown	VE1AHC	448.300	443.300 I 2
Charlotte town	VE1UHF	449.400	444.400 I A
O'Leary	VE1ATN	147.720	147.120
Summerside	VE1CFR	146.250	146.850

NOTES

- 1 - Linked with VE1SPR (NS)
- 2 - VE1SPR link frequency

NEW BRUNSWICK

<<<<<#>>>>>

Bathurst	VE1PL	146.340	146.940
Dalhousie	VE1BKX	146.040	146.640
Fredricton	VE1BM	147.720	147.120 A
Fredricton	VE1PD	146.160	146.760
Moncton	VE1MTN	147.690	147.190
Moncton	VE1RPT	146.280	146.880 A
Mt Champlain	VE1TWO	146.100	146.700
Newcastle/Chatham	VE1NCR	147.750	147.150 P
Perth	VE1BKG	146.220	146.820
Perth	VE1KMT	146.460	147.060
Saint Davids Ridge	VE1IE	146.250	146.850
Saint John	VE1KI	146.220	146.820
Saint John	VE1 ?	Not	Known P
Sussex	VE1SMT	146.010	146.610
Woodsstock	VE1EMT	146.370	146.970

QUEBEC

<<<<<#>>>>>

Alma	VE2RCA	146.070	146.670
Alma	VE2RCM	146.250	146.850
Alma	VE2RCR	146.340	146.940 E L
Amos	VE2RYE	146.160	146.760
Amqui	VE2KH	146.280	146.880
L'Assomption	VE2RBB	147.810	147.210
Baie Comeau	VE2RPR	146.100	146.700 A
Brownsburg	VE2RWC	146.205	146.805
Carleton	VE2 ?	Not	Known P
Chicoutimi	VE2IU	146.160	146.760
Chicoutimi	VE2RCC	147.720	147.120
Deux Montagnes	VE2RAU	146.310	146.910 B
Donacona	VE2RAP	146.430	147.030
Dolbeau	VE2RCD	146.100	146.700
Drummondville	VE2RDV	147.690	147.090
Franklin Ctr	VE2RBV	147.810	147.210
Gagnon	VE2RGA	146.340	146.940
Gaspe	VE2ELE	146.280	146.880
Grand Fond	VE2CTT	146.400	147.000 A
Granby	VE2RTA	147.780	147.180 E
Haute Rive	VE2RJB	147.900	147.300
Hereford	VE2RDM	147.960	147.360 E
Hull	See NATIONAL CAPITAL REGION		
Joliette	VE2RMA	146.430	147.030
Jonquiere	VE2VP	146.220	146.820
La Tuque	VE2EH	146.190	146.790
Laval	VE2RVS	146.250	146.850
Matane	VE2RAS	147.720	147.120 A E
Mont Dufor	VE2ES	146.280	146.880
Mont Laurier	VE2RMC	146.370	146.970 E
Mont Logan	VE2OE	146.160	146.760
Montmagny	VE2RAB	146.370	146.970
Montreal	VE2BG	146.460	147.060
Montreal	VE2HH	222.900	224.500
Montreal	VE2MRC	147.720	147.120 A E
Montreal	VE2RBD	444.600	449.600
Montreal	VE2RED	147.870	147.270
Montreal	VE2REP	146.280	146.880
Montreal	VE2RKO	146.040	146.640
Montreal	VE2RM	146.400	147.000 A
Montreal	VE2RM	146.400	224.060
Montreal	VE2RM	444.000	449.000

Montreal	VE2RMB	146.100	146.700	E
Montreal	VE2RMP	146.160	146.760	
Montreal	VE2RY	147.900	147.300	
Montreal	VE2 ?	223.500	223.500	D 6
Mont Joli	VE2RAC	146.130	146.730	E L
Mount Carmel	VE2 ?	Not	Known	P
Mt St Joseph	VE2IN	146.220	146.820	
Mt Tremblant	VE2RMT	146.130	146.730	E
Parc Des Laurentides	VE2RMG	147.690	147.090	E L
Perce	VE2ELC	146.190	146.790	
Plessisville	VE2CRP	146.130	146.730	
Port Alfred	VE2TG	146.430	147.030	
Quebec City	VE2ASU	146.100	146.700	
Quebec City	VE2DB	146.280	146.880	A
Quebec City	VE2OM	146.340	146.940	
Quebec City	VE2RAA	147.960	147.360	L
Quebec City	VE2RAD	146.010	146.610	
Quebec City	VE2RAQ	146.250	146.850	R
Quebec City	VE2RCQ	147.780	147.180	E A
Quebec City	VE2RCQ	449.000	444.000	
Quebec City	VE2SRC	147.720	147.120	A
Quebec City	VE2UX	146.220	146.820	E L
Quebec City	VE2VD	146.160	146.760	E
Rimouski	VE2CSL	146.340	146.940	E
Rimouski	VE2WM	146.010	146.610	
Ripon	VE2RBA	147.945	147.345	
Riviere Du Loup	VE2(O)	146.190	146.790	
Riviere Du Loup	VE2NY	147.660	147.060	E L
Riviere Du Loup	VE2RAY	147.750	147.150	A
Rouyn-Noranda	VE2RON	146.220	146.820	A
Sept Isles	VE2RRU	146.190	146.790	
Sept Isles	VE2RSI	146.340	146.940	
Sherbrooke	VE2FX	147.930	147.330	L
Sherbrooke	VE2RAL	146.310	146.910	
Sherbrooke	VE2RSH	146.370	146.970	
Sherbrooke	VE2SS	146.250	146.850	
Sherbrooke	VE2TA	146.190	146.790	E
Sorel Tracy	VE2RBS	146.010	146.610	
St Georges	VE2RMF	146.040	146.640	
St Hyacinthe	VE2RBE	147.225	147.825	E
St Jean	VE2RVR	147.840	147.240	
Trois Rivieres	VE2RTR	146.070	146.670	
Trois Rivieres	VE2CTR	146.460	147.060	A
Trois Rivieres	VE2QW	147.900	147.300	A
Val D'Or	VE2RYE	146.160	146.760	A
Victoriaville	VE2RBF	147.750	147.150	

NOTES

6 - Soon to be changed to 222.300 222.300

NATIONAL CAPITOL REGION

<<<<<<#>>>>>>

Hull/Ottawa	VE3CPC	147.750	147.150	
Hull/Ottawa	VE2CRA	146.340	146.940	
Hull/Ottawa	VE2CRA	443.300	448.300	O
Hull/Ottawa	VE2CSO	146.100	146.700	
Hull/Ottawa	VE3JGP	56.760	52.525	
Hull/Ottawa	VE2KPG	147.960	147.360	A
Hull/Ottawa	VE30CR	52.525	52.525	T L
Hull/Ottawa	VE30CR	52.150	53.150	A P L
Hull/Ottawa	VE30CR	53.150	53.150	L
Hull/Ottawa	VE30CR	146.250	146.850	A E L
Hull/Ottawa	VE30CR	223.340	224.940	A E L
Hull/Ottawa	VE30EA	146.070	146.670	A
Hull/Ottawa	VE30RA	146.280	146.880	
Hull/Ottawa	VE30TT	147.720	147.120	
Hull/Ottawa	VE2RBC	147.990	147.390	A
Hull/Ottawa	VE2RBC	223.100	147.390	A
Hull/Ottawa	VE2RBC	223.100	224.700	A
Hull/Ottawa	VE3RMR	222.340	222.340	D
Hull/Ottawa	VE3ROB	147.780	3.540	4
Hull/Ottawa	VE3TEL	146.430	147.030	
Hull/Ottawa	VE3TWO	147.900	147.300	
Hull/Ottawa	VE3TWO	449.200	444.200	P

NOTES

4 - Special DOC Authorization

ONTARIO

<<<<<<#>>>>>>

Aurora	VE3RYC	147.225	147.825	
Bancroft	VE3TBF	147.840	147.240	
Barrie	VE3RAG	146.070	146.670	
Belleville	VE3IVL	146.430	147.030	
Belleville	VE3KBR	146.985	146.385	
Bracebridge	VE3MRT	146.280	146.880	

Brampton	VE3MHZ	146.280	146.880	E
Brampton	VE3SSS	147.880	147.280	
Brantford	VE3TCR	147.750	147.150	
Brantford	VE3XPR	147.990	147.390	
Brockville	VE3BAT	146.220	146.820	9
Brockville	VE3WXR	146.370	146.970	
Brownsburg	VE3BOW	146.025	146.625	
Burlington	VE3RSB	147.810	147.210	
Cambellford	VE3KFR	146.370	146.970	
Carleton Place	VE3FXE	147.870	147.270	P
Chatham	VE3KCR	147.720	147.120	
Chelmsford	VE3JIQ	146.160	146.760	
Cobalt	VE3TAR	146.370	146.970	
Collingwood	VE3MTR	146.190	146.790	
Copper Cliff	VE3ZZZ	449.400	444.400	
Cornwall	VE3SVC	147.780	147.180	
Elliot Lake	VE3 ?	Not	Known	P
Finch	VE3SDG	147.840	147.240	P
Finch	VE3SDG	223.260	224.860	P
Finch	VE3SDG	449.200	444.200	P
Finch	VE3WCR	147.900	147.300	
Fonthill	VE3GOD	147.630	147.030	
Goderich	VE3MGB	147.780	147.180	
Georgian Bay	VE3OD	147.135	147.735	
Georgetown	VE3IZU	52.130	53.130	P
Georgetown	VE3ZMG	147.960	147.360	
Guelph	VE3GTS	147.720	147.120	
Haliburton	VE3DRW	146.160	146.760	
Hamilton	VE3MBR	147.705	147.105	
Hamilton	VE3TVI	146.805	146.205	
Hensall	VE3OBC	146.310	146.910	
Kenora	VE3LWR	146.430	147.030	
Kingston	VE3KER	146.340	146.940	
Kingston	VE3KNR	146.190	146.790	9
Kingston	VE3KLR	146.280	146.880	O
Kirkland Lake	VE3KSR	146.370	146.970	
Kitchener	VE3XRX	146.190	146.790	
Kitchener	VE3DVQ	146.610	52.525	
Lavant	VE3LAC	147.660	147.060	
London	VE3NDT	146.340	146.940	
London	VE3RGM	146.160	146.760	
London	VE3TIT	147.780	147.180	A E
London	VE3TIT	449.400	444.400	
London	VE3OPR	147.600	147.000	
Lucan	VE3MIN	Not	Known	P
Minden	VE3SVR	146.160	146.760	
Morrisburg	VE3TAR	146.340	146.940	
New Liskeard/Cobalt	VE3TAR	146.460	146.940	
New Liskeard/Cobalt	VE3NFM	146.340	146.940	
North Bay	VE3RSO	146.625	146.025	
Orangeville	VE3LSR	146.250	146.850	
Orillia	VE3ORR	147.810	147.210	
Orillia	VE3OSH	147.720	147.120	
Oshawa	See NATIONAL CAPITOL REGION			
Ottawa	VE3OSR	146.340	146.940	
Owen Sound	VE3NRR	146.160	146.760	
Pembroke	VE3KRA	222.340	223.940	
Peterborough	VE3PBO	146.340	146.940	A
Peterborough	VE3IL	146.070	146.670	
Pickering	VE3WCR	147.900	147.300	
Port Colborne	VE3TIR	146.460	147.060	
Ramore	VE3STP	146.460	147.060	
Renfrew	VE3NRS	147.840	147.240	
St Catharines	VE3SAR	146.340	146.940	
Sarnia	VE3SAP	146.460	147.060	O
Sault Ste Marie	VE3SSM	146.340	146.940	
Sault Ste Marie	VE3YAK	147.750	147.150	A
Sault Ste Marie	VE3RLR	147.810	147.210	O
Smiths Falls	VE3 ?	146.340	146.940	P E
St Ignace Island	VE3SJI	146.280	146.880	B
St Joseph Island	VE3SSI	146.100	146.700	O
Sudbury	VE3MRB	146.460	147.060	
Sudbury	VE3TEM	146.310	146.910	P
Temagami	VE3YQT	146.460	147.060	
Thunder Bay	VE3TIR	146.460	147.060	
Timmins	VE3TIS	146.340	146.940	
Timmins	VE3TIV	146.010	146.610	
Tiver ton	VE3MHZ	146.280	146.880	
Toronto	VE3MOT	147.780	147.180	
Toronto	VE3PRT	448.300	443.300	
Toronto	VE3RPT	52.760	52.525	
Toronto	VE3RPT	147.660	147.060	A
Toronto	VE3SIS	52.230	53.230	
Toronto	VE3SKY	146.985	146.385	
Toronto	VE3TD0	146.430	147.030	
Toronto	VE3TDX	147.930	147.330	
Toronto	VE3TFM	147.870	147.270	
Toronto	VE3TOR	146.340	146.940	
Toronto	VE3TTY	146.100	146.700	R
Toronto	VE3TWR	449.400	444.400	P
Toronto	VE3UHR	449.250	444.250	
Toronto	VE3YRC	147.825	147.225	

Waterloo	VE3WFM	147.690	147.090	
Waterloo	VE3RRR	146.835	146.235	
Wawa	VE3WAW	146.340	146.940	O
White River	VE3WRR	146.160	146.760	P
Whitney	VE3 ?	Not	Known	P
Windsor	VE3HFR	147.720	147.120	
Windsor	VE3III	146.460	147.060	
Windsor	VE3III	146.280	147.060	
Windsor	VE3WIN	146.400	147.000	

NOTES

9 - Exchanging Freqs in early 1980

MANITOBA

<<<<<#>>>>>

Brandon	VE4AL	146.130	146.730	A T
Brandon	VE4BDN	146.340	146.940	
Flin Flon	VE4FFR	146.340	146.940	
Gimli	VE4GIM	146.250	146.850	
Killarney	VE4KIL	146.250	146.850	
Miami	VE4HS	146.220	146.820	
Pinawa	VE4PIN	146.340	146.940	
Winnipeg	VE4AGA	52.760	147.120	
Winnipeg	VE4CNR	146.160	146.760	
Winnipeg	VE4MAN	146.010	146.610	
Winnipeg	VE4TTR	223.340	224.940	
Winnipeg	VE4RAG	147.840	147.240	
Winnipeg	VE4WDX	147.780	147.180	
Winnipeg	VE4WPG	146.460	147.060	A

SAKATCHEWAN

<<<<<#>>>>>

Anglin	VE5 ?	146.160	146.760	
Grenfell	VE5 ?	146.310	146.910	P
Ituna	VE5ABO	146.310	146.910	
Last Mountain	VE5AT	146.250	146.850	
Lloydminster	VE5RI	146.340	146.940	
Meacham	VE5HVR	146.220	146.820	L
Melfort	VE5RPT	146.280	146.880	
Melville	VE5 ?	Not	Known	P
Moose Jaw	VE5CI	106.340	146.940	
Moose Mountain	VE5MR	146.220	146.820	
Moosomin	VE5 ?	146.160	146.760	
North Battleford	VE5BRC	146.280	146.880	
Pilot Butte	VE5 ?	449.000	444.000	P
Prince Albert	VE5EEE	146.460	147.060	
Prince Albert	VE5 ?	146.160	146.760	
Regina	VE5KE	146.460	147.060	
Regina	VE5SS	146.280	146.880	
Rock Point	VE5XW	146.130	146.730	B
Rosetown	VE5 ?	Not	Known	P
Saskatoon	VE5SK	146.040	146.640	L
Saskatoon	VE5SM	146.340	146.940	
Shaunavon	VE5 ?	146.160	146.760	P
Sintaluta	VE5 ?	Not	Known	P
Stranraer	VE5 ?	146.370	146.970	P
Swift Current	VE5SCR	146.280	146.880	
Tompkins	VE5 ?	146.070	146.670	P
Watrous	VE5 ?	146.010	146.610	P
Weyburn	VE5WEY	146.100	146.700	
Yellowhead	VE5ESK	146.160	146.760	L
Yorktown	VE5 ?	146.280	146.880	P

ALBERTA

<<<<<#>>>>>

Andrew	VE6JET	146.040	146.640	
Calgary	VE6AUY	146.460	147.060	A
Calgary	VE6RPT	146.340	146.940	A L
Calgary	VE6RUM	Not	Known	
Calgary	VE6RYC	146.250	146.850	
Calgary	VE6 ?	Not	Known	B P
Cold Lake	VE6OC	146.460	147.060	
Edmonton	VE6EAR	144.960	147.960	
Edmonton	VE6HM	146.460	147.060	
Edmonton	VE6MC	146.250	146.850	A
Elk Point	VE6SB	146.070	146.670	
Fort McMurray	VE6TRC	147.600	147.000	
Grand Prairie	VE6OL	146.460	147.060	
Hardisty	VE6WW	146.250	146.850	P
Hinton	VE6YAR	146.160	146.760	
Lethbridge	VE6CAM	146.280	146.880	
Medicine Hat	VE6HAT	146.460	147.060	
Medicine Hat	VE6COH	146.250	146.850	
Milk River	VE6BRC	146.160	146.760	
Pigeon Lake	VE6SS	146.280	146.880	
Porcupine Hills	VE6ROT	146.130	146.730	
Red Deer	VE6OE	146.400	147.000	

Swan Hills	VE6 ?	146.220	146.820	P
Three Hills	VE6FUN	146.220	146.820	
Willingdon	VE6PP	146.190	146.790	

BRITISH COLUMBIA
<<<<<#>>>>>

Burnaby	VE7FVR	147.780	147.180	
Chilliwack	VE7ELK	146.400	147.000	
Chilliwack	VE7RCK	146.370	146.970	
Courtenay	VE7CVW	146.310	146.910	
Cranbrook	VE7 ?	146.340	146.940	
Dawson Creek	VE7RDC	146.340	146.940	
Dawson Creek	VE7RSP	146.280	146.880	
Delta	VE7RTY	146.100	146.700	R
Fernie	VE7 ?	Not	Known	P
Fort Fraser	VE7RFF	147.630	147.030	
Fort St John	VE7RSJ	146.220	146.820	A
Fort St John	VE7RTR	438.100	445.100	L
Fort St John	VE7RSJ	445.100	438.100	L
Fruitvale	VE7 ?	146.340	146.940	
Houston	VE7 ?	146.460	147.060	P
Kamloops	VE7RKA	146.250	146.850	L
Kamloops	VE7KAR	146.340	146.940	
Kelowna	VE7ROK	146.220	146.820	P
Kimberly	VE7CAP	146.340	146.940	
Maple Ridge	VE7RMR	146.190	146.790	
Mackenzie	VE7 ?	146.040	146.640	P
Masset	VE7DRZ	146.340	146.940	
Mt Bruce	VE7RSI	147.930	147.330	
Nanaimo	VE7ISC	146.040	146.640	
Nanaimo	VE7 ?	144.830	145.430	P
Nelson	VE7BTU	146.460	147.060	
Nelson	VE7 ?	146.340	146.940	
North Vancouver	VE7RDY	147.900	147.300	
Penticton	VE7OKN	146.340	146.940	
Port Alberni	VE7RAC	147.840	147.240	C
Port Edward	VE7RPE	146.400	147.000	
Prince George	VE7AFG	146.340	146.940	
Prince George	VE7RPG	146.280	146.880	
Prince George	VE7RTI	52.525	52.525	P L
Prince George	VE7RTI	146.730	147.330	P L
Prince George	VE7RTI	446.000	446.000	P L
Prince Rupert	VE7RPR	146.280	146.880	
Quesnel	VE7RQL	146.460	147.060	
Salmon Arm	VE7APH	146.460	147.000	
Sandspit	VE7RQC	146.340	146.940	
Shuswap	VE7 ?	146.160	146.760	P
Smithers	VE7RHD	146.460	147.060	
Terrace	VE7DRI	146.340	146.940	
Trail	VE7CAQ	146.340	146.940	
Trail	VE7 ?	147.830	147.230	P
Vancouver	VE7ESR	147.810	147.210	
Vancouver	VE7RAG	147.630	147.030	
Vancouver	VE7RPT	146.340	146.940	A
Vancouver	VE7UHF	448.800	443.800	
Vancouver	VE7URG	449.000	444.000	
Vancouver	VE7VAN	147.720	147.120	
Vancouver	VE7 ?	224.300	222.700	P
Vancouver	VE7WRS	147.870	147.270	D
Vernon	VE7NOR	Not	Known	
Vernon	VE7RSS	146.280	146.880	
Vernon	VE7RVN	146.460	147.060	A
Victoria	VE7RSR	144.810	145.410	
Victoria	VE7VIC	146.250	146.850	A
Williams Lake	VE7DSO	146.340	146.940	L
Williams Lake	VE7 ?	146.160	146.760	P
100 Mile House	VE7RKM	146.220	146.820	P

YUKON/N.W.T

<<<<<#>>>>>

Whitehorse	VY1RBW	146.340	146.940	
Frobisher Bay	VE8 ?	146.340	146.940	

NOTES

- A - Autopatch
- B - Battery Power
- C - Temporary Call
- D - Packet Radio/Data
- E - Emergency Power
- L - Linked
- () - Temporarily off the air
- P - Proposed
- Q - Temporary Location
- R - RTTY/FAX
- T - Tone Access

Tariff Item 44534-2

In the Summer and Fall of 1978, the Amateurs of Canada made their representations across the country to the Tariff Board on Reference No. 156, which dealt with the proposed duty-free entry into Canada of certain classes of Amateur Radio and other hobby equipment, and collectables.

On the national scene, at a Tariff Board hearing held in Ottawa Nov. 15, 1978, separate briefs on this subject were presented on behalf of Canada's Radio Amateurs by two major Amateur organizations: CARF and CRRL.

The CARF delegation was headed by the Federation's President, Bill Wilson VE3NR. It should be noted that these briefs represented a 'group effort' aimed at the achievement of a common goal, contrary to inferences made in the CRRL Newsletter of Dec. 1980.

The Tariff Board completed its deliberations and made its final recommendations on Aug. 28, 1979. Several days later, CARF received a request from the Minister of Finance for comments from Canada's Amateurs on the recommendations made. Your Federation passed on this request via individual and club contacts across the country shortly thereafter. The feedback received formed the basis for the Federation's subsequent official response to the Ministry of Finance.

Early in the following year, the government of the day fell and another took its place in the citadels of power. In June 1980,

your Federation again requested renewed input from Canada's Amateurs to the new Minister of Finance in an effort to keep the Tariff removal issue alive in the minds of the new government officials concerned.

The response by the Amateur community met with success in the form of the legislative proposals tabled in parliament as part of the budget of Oct. 28, 1980. As reported in the Dec. 1980 issue of TCA, these included a provision for the duty-free entry of Amateur Radio equipment as had been recommended by the Tariff Board.

In a November 1980 letter to your Federation, the Minister of State for the Department of Finance indicated that the new duty-free status would also be provided for such items as transmitters, linear amplifiers, VFO's and power supplies designed for use with Amateur equipment, as well as Amateur receivers, transmitters and transceivers.

In the following month, the Federation's President wrote a letter of thanks to Revenue Canada, Customs and Excise, for the favourable tariff decision, to the appreciation of Canada's Amateur community, and stated in part:

"We are glad that the government has recognized that Amateur Radio equipment is a unique and readily identifiable kind of equipment which requires a licence to be used in Canada and that Radio Amateurs contribute to the welfare of Canada by providing radio communications, especially

during times of emergency and public events."

Well, just as things were looking quite rosy, a fly appeared in the ointment — almost immediately after the presentation of the October budget, CARF officials recognized several potential problems that could arise in the interpretation of Tariff Item 44534-2.

Since the Tariff Board hearings of 1978 and the interval when the Board and the Department of Finance were considering these representations, technological advances and the decisions of the 1979 World Administrative Radio Conference of the International Telecommunications Union (WARC '79) led to significant changes in the design and construction of Amateur Radio equipment.

It is these changes that have contributed largely to the problems for which solutions are sought that would be in accord with the principle of the Tariff Item, namely that Amateur equipment can be identified by its use of specific, internationally agreed and domestically authorized Amateur frequency bands.

In December 1980, CARF President Wilson wrote letters to DOC and Revenue Canada, Customs and Excise, in which he discussed these items of concern.

1. Manufacturers are now adding the new bands (10, 18 and 24 MHz) to their lines of equipment although these bands will not be authorized for Amateur use for a year or more. Recognition of the eventual use of these new bands in

What was and What is...

the interpretation of the Tariff Item would mean that Amateurs could invest in new equipment, taking advantage of new technological developments and the duty-free status now, rather than waiting for the new bands to be officially cleared for Amateur use in Canada. Theoretically, the alternative is to continue paying full duties on virtually all Amateur equipment operating below 30 MHz.

2. Standard frequencies, Time Signals and Propagation Forecasts (eg: WWV, JJY) — such frequencies are now commonly added to Amateur equipment in a receive-only mode although they cannot be properly considered 'Amateur' frequencies. The frequent and valuable use of these frequencies by Amateurs for frequency calibration and time and propagation checks is well known. The Tariff Item should allow duty-free entry of Amateur equipment using these frequencies in a receive-only mode.

3. The design of Amateur radio equipment using frequency synthesizers and frequency control systems based on sub-bands of 500 KHz width means that such equipment is capable of operating slightly outside of the Amateur bands authorized internationally and domestically. Notwithstanding this situation, which DOC accepts and understands, licences are issued for the authorized bands only. The interpretation of the Tariff Item should take this into favourable consideration.

4. Some manufacturers of

Amateur equipment are now producing transceivers in which the receiver portion is 'general coverage' (1.8-30 MHz) and the transmitter is Amateur bands only. As it is considered unlikely that non-Amateurs would purchase such units, they should be allowed duty-free entry under the new Tariff Item.

In a Jan. 1981 letter to the Federation, DOC passed on three possible solutions to these observations, namely:

1. A new Tariff could be submitted for passage by the House of Commons;

2. A remission of duties order could be obtained by a special Order-in-Council;

3. An amendment of the Tariff Item could be submitted with the next budget to be brought down by the government.

The general consensus offered was that the wording of the new Tariff is not open to any interpretation or special handling instructions. This, of course, could work in favour of the Amateur operator as well as against him. What it comes down to is this — it's up to the Customs Officer concerned, when the equipment arrives at the border crossing point. This is true whether the importer is an individual or a retailer.

All this is not to say that there have been wholesale refusals to grant the new duty-free status at the border. On the contrary, problems have so far been reported only in isolated cases. But the potential is definitely there to cause us renewed grief as individual consumers of imported

Amateur Radio equipment. Your Federation is continuing to lobby on your behalf to close the 'loopholes' which may endanger the newly won duty-free status of Amateur Radio equipment.

In the meantime, you are requested to advise your national Federation of any problems encountered in this regard so as to keep tabs on the situation in our continuing efforts to iron things out.

For the hamfest and flea market hounds who contemplate bringing back a load of 'goodies' this year and wish to take advantage of the new Tariff Item, here are a couple of hints:

If you know what you will be bringing back into Canada, stop at the border on your way south and have a chat with your friendly Customs Officer in charge and ask him for a ruling on your contemplated purchase, in writing. This should prevent any problems upon your return.

On the other hand, if you are required to pay duties at the border, you can lodge a protest. Within 90 days of paying the duty, obtain and carefully fill out Customs form B2A, 'Request for Re-determination', and file it with the Customs office at the port of entry. If the response is not favourable, you can obtain and fill out a second form, K14D, 'Request for Re-appraisal'. If the present CARF intercession with the Department of National Revenue proves to be successful, this will hopefully enable the Amateur to get the duty refunded to him.

Stay tuned..... VE3GEA

Contest Scene

Dave Goodwin VE2DZE, 4 Victoria Place, Aylmer,
Quebec J9H 2J3

Contest Calendar

March

7-8 ARRL DX SSB
14-15 RSGB CW Commonwealth
CW

21-22 CARF Phone Commonwealth*

21-23 BARTG RTTY

28-29 CQ WPX SSB

April

4-5 Polish DX CW
4-6 QRP ARCI QSO Party
18-19 Polish DX SSB
25-26 Helvetia 26 Contest (HB)

* See Jan. TCA

The entire question of special prefixes should be of some importance to contesters. In fact, of all the groups in Amateur Radio, the contesters are probably those greatest in need of some sort of strange prefix.

For the WPX contest, of course, it is essential. If one looks over the Canadian record scores in that contest, most of the records are held by stations using something other than the VE label.

The recent proposal by DOC seems to respond to only one class of Amateur. In November TCA, page 38, you can read an extracted version of DOC's proposal for special prefixes. In order to celebrate the anniversary of the incorporation of a town, creation of a province or some other significant Canada-wide occasion, a special prefix can be authorized for the occasion. This suits the gent's who like to get on 80-metres and fool their friends, or work DX more easily in a pile-up, but in the

past we have seen relatively few people using such attention-getting devices actually sending out QSL cards.

The Contester, who really needs a special prefix for only two contests (the WPXes), under this system can only pray that he can get his town council to declare some bizarre anniversary to coincide with the WPX. It is interesting to note that the general ragchewer Amateur, who generally provides the hobby with little innovation, gets a special dispensation that he really doesn't need, and he has an additional privilege that a contesters, who is among the only innovators on the HF bands, can only enjoy accidentally, and not when he really needs it.

The contesters is the guy building the big antennas, with the aim of taking advantage of various propagation modes. He is the guy who tries to improve the efficiency of his station by figuring out what configuration of receiver, transmitter and amplifier gives the best results. He is the one who improves his operating skill and personal efficiency far beyond the level of the general ragchewer.

Don't misunderstand my comments, as I am not trying to rail about ragchewing, phone patching or other more conventional aspects of the hobby. I am trying to show that the real innovators in HF Amateur Radio these days are the contesters.

The more conventional Amateur enjoys the hobby in his own way, and that has its own

validity. If someone goes to the trouble to build enormous antennas, and design a station for maximum efficiency in every way, and proposes to compete with other Amateurs around the world, the callsign of the station is the one thing that can ruin his hopes.

If we, through our government, support amateur athletes with subsidies to enable them to compete in national or world-wide competition (i.e. Olympics, etc.), is there any reason why the government, through a change in policy which costs virtually nothing, can't support Amateurs in a Radio version of the Olympics, for only two 48-hour periods per year? That is one argument for special prefixes for Amateurs. Please remember that a special prefix cannot help a ragchewer ragchew, or a phone patcher phone patch, but a contesters can be helped to win with this modicum of help from our government. Why is the proposed policy all bass-ackwards?

On a lighter subject, this month sees the first running of the new CARF Phone Commonwealth Contest, with rules very similar to the RSGB CW event. It is hoped that there will be a healthy level of activity for this one. Considering all the hype I've tried to generate through TCA, in a modest fashion albeit, I hope a good many Canadians enter. For the DXer, I think we can expect some rare and semi-rare countries to show up, that might be more difficult to work outside the contest.

RSGB COMMONWEALTH CONTEST (CW)

1200z Mar 14 to 1200z Mar 15.

CARF PHONE

COMMONWEALTH CONTEST

1200z Mar 21 to 1200z Mar 22.

These contests are consecutive, using almost exactly the same rules. Please remember that logs for the CW contest go to: Dennis Andrews G3MXJ, 18 Downsview Cres., Uckfield, East Sussex, U.K. Logs for the Phone contest go to: P.O. Box 2172, Stn. D, Ottawa, Ont. K1P 5W4. The two contests are quite independent of each other, so be certain to send your logs to the appropriate address.

CQ WPX SSB

Period: 0000z 28 Mar to 2400z 29 Mar. A maximum of 30 hours is permitted to single op stations.

Classes of Entry: Single op, all or single band; Multi op, single or multi transmitter; Single operator QRP category for stations 5 watts or less.

Bands: 1.8 through 28 MHz.

Exchange: RS plus serial number. Only multi-multi entrants may use separate numbers on each band.

Points: On 160, 80 and 40, 3 pt per QSO with stations in N.A., 6 pt per QSO with others. On 20, 15 and 10, 2 and 4 points respectively.

Multiplier: Total number of prefixes worked, regardless of band. A prefix is the letter/number combination at the beginning of a call. For example, VE7, VP2, J28, etc. Once you work a prefix, regardless of band, you may not claim it more than once as a multiplier.

Final Score: QSO points times number of prefixes worked.

Entries: Separate logs must be used on each band. Entries must be postmarked by May 10 and sent to: CQ WPX SSB Contest, 76 North Broadway, Hicksville, N.Y. 11801, USA.

POLISH DX CONTEST

Period: CW - 1500z April 4 to 1500z April 5. SSB - 1500z April 18 to 1500z April 19.

Classes: Single op, single or all band; Multi-op, single transmitter. Bands: 80 through 10 metres.

Exchange: Polish stations will send RST, serial number and a two letter county abbreviation. Others send RST and serial number only.

Points: 3 points per QSO with any Polish station.

Multiplier: Total number of Polish countries worked on each band.

Final score: QSO points times multiplier points.

Entries: Must be sent to PZK, SP DX Contest Contest Committee, P.O. Box 320, 00-950 Warsaw, Poland. CW logs must be postmarked by May 1, SSB logs by May 16.

QRP ARCI QSO PARTY

Period: 2000z April 4 to 0200 April 6.

Classes: Single op, all band only.

Bands: 160 thru 10 metres, both CW and SSB. Recommended frequencies are: 1810, 3560, 3710, 3985, 7060, 7110, 7285, 14060, 14285, 21060, 21110, 21385, 28060, 28110, 28885, 50360, 50385 kHz.

Exchange: RST, state/prov. or DXCC country. Members of QRP ARCI send membership numbers as well, non-members send power input.

Points: 3 pt per QSO with QRP ARCI members, 2 pt for others.

Multiplier: There are two sets of multipliers. First there is a power multiplier based on your power input. More than 100 watts mult. is 1; 25-100 w, mult is 1.5; 5-25 w, mult is 2; 1-5 w, mult is 3, and if using less than 1 watt the mult is 5. As well, you earn one mult point for each state/prov/DXCC country you work on each band.

Final Score: QSO points times power mult times area mult.

Entries: Must be received by April 30 and sent to: QRP ARCI Contest Chairman, Edwin Luppi WD4LOO, 203 Lynn Dr., Carrboro, N.C. 27510, USA.

HELVETIA 26 CONTEST

Period: 1500z Jan 25 to 1500z Jan 26.

Classes: Single op, all band only.

Bands: 160 through 10 metres, CW and SSB.

Exchange: RST and serial number. Swiss stations will add their Canton abbreviation.

Points: 3 pt per QSO with Switzerland.

Multiplier: Total of Swiss Cantons worked on each band.

Final Score: QSO points times total mult points.

Entries: Must be postmarked no later than 30 days after the contest and sent to: TM USKA, K. Bindscheldler HB9MX, Strahleggwegg 28, 8400 Winterthur, Switzerland.

Ode to Telephony Operators

We all get issued call signs, of which we're justly proud with strict instructions how to use when talking to the crowd. The call sign must be used in full each time we're on the air, with a phonetic alphabet to help us 'get it there'. But there are those among us, some 'oldies' most offend who leave the prefix off the front and only use their end! Apart from being sloppy, this is illegal too, and contravenes the licence (if you care to read it through). So when you're in that local net and chatting to your mates, remember all your listeners; the impression it creates. And set a good example, chaps, it's really done with ease: just quote your call sign fully and act professional please!

GM3HBT, Ottawa 'Rambler'

The Vertigo Antenna

While glancing through club bulletins each month, we often come across articles that can be used in TCA. The following appeared as a long letter to the editor in the Nipissing FM News.

Let me tell you, there are some real dandy challenges in putting up HF antennas when you are 16 stories up and four stories below the roof! Especially when that roof is also a roof garden for the owners, complete with flower gardens and *trees* already.

We wanted to work all bands as well as two metres. Two metres was no problem, as I put a cubical quad out on our rather large balcony. How then, to get something up on the roof that would be out of sight and out of the way?! Having done that, how would I get transmission lines down four stories neatly, so they would not be noticeable?

I brooded about this problem for several weeks until Dot, my wife, came up with a terrific idea. Stop brooding about it and do something — anything!

Well, as a wise philosopher once said, “the start is the thing”, or something like that.

At this point you may well be asking yourself, “Why didn’t he get permission to string antennas on the roof, run transmission lines down between the balconies affixing said lines to the face of the building so they would not flap in

the wind?”. If you are asking yourself this question, my reply is a qualified, “Are you kidding?” Having now satisfied your unspoken question, I move on.

One day Dot and I were getting some camping supplies together at one of Toronto’s better camping supply houses (Canadian Tire or Honest Ed’s or one of those ritzy places), when I happened to notice a braided steel trolling line about the diameter of a thin pencil lead. It came on 400 ft. spools! It was cheap! At ten feet you could not see it!

Great Scott! I roared — I’ve got it! Six clerks and two doctors came on the run to see what the devil I had. Convincing the medics that my fever was of a temporary nature brought on by certain earlier activities in the Yucatan and rain forests of Brazil, they let me up. Hurriedly Dot and I bought two spools of this dream come true wire and sidled out of the place.

Now the idea I had was this — if you can’t see this wire at ten feet, how are you going to see it 20 stories up? Specially if you place the wire close to the face of the building. Well, you won’t see it,

that’s what! Nor would you see it from the top of the building, because the builder thoughtfully erected a 4½ ft. solid concrete fence around the perimeter of the roof. (This was probably necessary as certain owners, when *very* happy as a result of partying on the roof, could have taken the short way down, stepping gaily off into oblivion.)

It was my intention to place this wire for 80 metres as a long wire or random wire on the outside of this 4½ ft. wall. The outside of said wall looked straight down for 20 stories! Funny things happen to me from the top of a three-foot step ladder!

Dot volunteered to lean out over the wall and place the screw-type eyelets into the expansion material. This ran vertically up the wall every six feet or so along the wall. A very strong impulse to accept Dot’s offer flowed through my mind. In the end, however, I did it myself.

With Dot hanging onto my belt and giving me words of comfort, I leaned from the waist over the wall and placed the screws carefully into the expansion joints as far down as I could reach. I tried not to look

Do Something

straight down. We had an understanding that when I became white behind the ears Dot would haul me back and revive me. It took me two days to accomplish this phase of laying out our 80 metre wire — during this time I was very nice to Dorothy.

On the third day (I was hoping for rain) we were to tie small egg insulators to the screw eyes already in place. Our luck was holding as nobody had seen us at our labours ... probably because it was early April and quite chilly on the roof. In spite of this I found myself sweating profusely whenever I leaned over the wall.

Dorothy thought I was trembling from the excitement of getting back on 80. I did nothing to correct her belief.

Finally, with Dot gripping my belt firmly and me head-down over the wall, the eggs were all tied on. All we had to do now was string the wire down to our balcony four stories down, then run the random wire across the balcony and in through a window to the transmitter.

Stringing the wire through the eggs was accomplished the next morning. Dropping the wire to the proper balcony was fun & games! Dot placed herself on our balcony with a broom!

We had our 80 metre antenna! This antenna did not work well because of its close proximity to the ferro-concrete building, but we were 'getting out' on 80.

The next venture was to erect a vertical for 10, 15 and 20 on the roof, putting it in plain sight and disguising it so it would not be seen. Tricky, right? Wrong! But that's another story.

Bob VE3CDE
NFM Bulletin

There is a bumper sticker that reads: "Lead, follow or get out of the way, but for Heaven's sake — do something!"

To those club members who rarely, if ever, attend club meetings or otherwise participate in club activities: This is your song! Do you realize that your lack of participation in this club represents a far greater threat to its continued existence than if you simply quit? (Do you know what a quorum is?)

Just paying your dues is not enough. The money is simply a little lubrication for the machinery. Your participation is what powers the machine, the Club.

If you don't take part, you are in the way. When activities are planned, everyone must be considered. Some people never participate but are highly offended if they aren't asked. What a waste of time. Do they want to be begged just to feed their egos? Add this to the ones who won't decide until the very last minute. It's a planner's nightmare.

All too often I've heard these people say, "I don't go to meetings because the business portion is too long and boring and the programs are seldom of interest to me". Incredible! Do they actually believe that for \$15 per year they can go to a meeting once a month and just sit there and be entertained for the evening, much like a movie or watching TV? If so, they've got the wrong Club. I think a Playboy Club might meet their expectations, although I understand the dues are slightly higher!

Entertainment from leisure time activity is attainable through participation only, no matter what form it might take. Let's take an absurd example: Picture in your mind an avid DXer as he walks into

his Shack and sits down in an easy chair near but out of reach of the operating position. Notice all the equipment, the finest available, carefully and conveniently arranged. He has paid his dues. He sits there, looking at the station, waiting for something. Do you think he is entertained? I think not. Why?

In a short time, in walks his volunteer operator for this week, who sits down, loads up our DXer's favorite DX band and starts operating. As our DXer sits watching the proceedings, do you think he is entertained? Of course not! Once again... why? That's right, he isn't participating.

Absurd as it may be, there are three important points in my example. He has paid his dues, he is not entertained and he is not participating. Sounds familiar, doesn't it?

"I don't like the way the Club is run." Horse feathers! The Club is run *by* you, not *for* you. You come to the Club, it doesn't come to you. If you don't like it, lead it. Join the executive and show how it should be. Or put it on paper and show it to the executive. Anything rational and justified will gain lots of support.

Cal VE6LZ
Key Klix

GUIDE TO AMATEUR RADIO

The latest edition of *A Guide to Amateur Radio* has now been published in hardback by the RSGB, and should prove a useful addition to any radio club or school library. Price is 6.18 Pounds worldwide from RSGB. With our dollar and their pound fluctuating as it is, we dare not venture to calculate the exchange.

Proposed DOC Policy

Special Prefixes

In Nov. 1979, DOC requested comments from Amateur associations on the policy governing the assignment and the use of Amateur call sign special prefixes, and the desirability for such special prefixes.

This resulted in an October 1980 draft proposal for a new special prefix policy, and a request to your Federation for a review of the proposal and comments regarding its acceptability to Canada's Amateur Radio community.

The proposed policy states:

"Requests for special prefixes will be considered when they qualify in one of the following categories:

a) to honour significant national events and anniversaries, a national special prefix will be assigned for use by all Canadian Amateurs for a period not to exceed two months. No individual or club station request to mark the same event with a different special prefix will be considered;

b) to honour significant provincial or territorial events and anniversaries a provincial/territorial special prefix will be assigned for use by all Canadian Amateurs residing within the province/territory for a period not to exceed one month. An event/anniversary will be considered significant when the appropriate provincial/territorial government issues a proclamation marking the event. No

individual or club station request to mark the same event with a different special prefix will be considered;

c) to honour significant municipal events or anniversaries, a municipal special prefix will be assigned for use by all Canadian Amateurs residing within the boundaries of the municipality for a period not to exceed two weeks. An event/anniversary will be considered significant when the municipal government issues a proclamation marking the occasion. No individual or club station request to mark the same event with a different special prefix will be considered.

For an anniversary to qualify in one of the three above categories, it must be one of the following: a golden (50th), diamond (60th), 75th or centennial (100th) anniversary.

Consideration will not be given to events that do not qualify under one of the foregoing categories for a special prefix. There is no objection to regional offices issuing special suffixes to mark occasions subject to the availability of the suffixes, e.g. for the Canadian National Exhibition, a Toronto Amateur station could be authorized to use VE3CNE for the period of the exhibition."

CARF subsequently circulated the DOC draft proposal by radio and written news bulletins to

Amateurs across the country and received no objections. Your Federation President advised DOC in Dec 1980 of the results of our poll and passed on some supplementary suggestions of merit which originated from the Northern Alberta Radio Club (of Edmonton):

"1. Paragraphs (b) and (c) might be made more specific with regard to residence. That is, portable stations with temporary residence within an authorized area should or should not be allowed to use the special prefix. We have no strong feelings either way.

2. Perhaps there should be a provision to prohibit the use of two or more special prefixes within the same time frame and area. There may be situations where two special events may overlap each other.

3. Perhaps there should be a limit on the number of special prefixes an Amateur may use simultaneously. The possibility exists under the proposal for an individual to have authority to use three at the same time and more if events overlap each other."

At the time of this writing, CARF is awaiting the final DOC decision on the new special prefix policy.

VE3GEA

DX

Douglas W. Griffith VE3KKB
33 Foxfield Drive,
Nepean, Ont. K2J 1K6

DXing is an aspect of Amateur radio which can be enjoyed by newcomer and old-timer alike.

One does not require a large antenna array or high power in order to work DX. Indeed, many have worked their DXCC, even 5-band DXCC, and achieved a very respectable country score without the benefit of a linear amplifier, while using simple wire antennas.

Obviously, Amateurs not using gain antennas, or running power, must be a little more selective in their operating spectrum. By staying below 14.200 MHz, 21.250 MHz and 28.500 MHz, one does not have to compete with the super signals emanating from the American portion of the phone bands. On CW, by keeping above the first 30 kHz of each band, again one can avoid being clobbered by the stronger signals from stateside.

On the band, attentiveness and patience — lots of patience — are the two virtues required of an Amateur wishing to work DX while using only modest power and simple antennas.

I hope, in the coming months, to be able to provide information on what is available on the HF bands. Further, I hope to be able to elaborate more on the vagaries of propagation, and assist in the interpretation of the many excellent propagation forecasts available to us. Once an Amateur has a feel for when, and to which geographical location, we have propagation, then it becomes a much easier task to work specific countries at specific times.

One nice thing about DX operators is that, like most of us, they are creatures of habit, and tend to show up at about the same time and frequency.

Last month I wrote a brief notes on sunspots and their effect on propagation in the HF bands. Next month I will write a similar account on geomagnetic phenomena and their influence.

I am very interested in hearing some feedback from the readers. I would like to know whether the information is useful, whether you would like more or less detail, general comments and constructive criticism. I would also appreciate a note from anyone planning to operate while out of the country, giving details of the destination, operating times and frequencies.

Last month, I gave a number of on-the-air sources of DX information. The following is a list of some excellent publications:

DX News Sheet, published by Geoff Watts, 62 Belmore Rd., Norwich, England NR7 0PU.

DX Press, published by Central Bureau VERON, P.O. Box 1166, 6801 BD Arnhem, Netherlands.

Long Island DX Bulletin, published by Long Island DX Association, P.O. Box 173, Huntington, N.Y. 11743, USA.

Long Skip, published by the Canadian DX Association, P.O. Box 717, Stn. Q, Toronto, Ont. M4T 2N7.

DX Report, published by Alan Leith, 10 Fairington Cres., St. Catherines, Ont. L2N 5W3.

The DX Bulletin, 306 Vernon Ave., Vernon, CT., 06066, USA.

QSL INFORMATION

	VIA
A22ZM	KA2GNJ
BV2A/BV2B	C.B.A.
CR9B	WA3HUP
CR9CT	WB9WBR
D68AM	WB20HD
FGOFOK	YASME
FGOFOK/FS	"
FGOFOL	"
FGOFOL/FS	"
F0ØDX	K1MM
HV3SJ	1ØDUD
J73A	K2TJ
PYØZZ	PY7ZZ
PYØCW	PY7CW
T3ØAT	G3XZF
VK9ZG	VK30T
VK9ZD	"
ZD7HH	W4FRU
ZD8RB	W8LCZ
1AØKM	IØMGM
4U1UN	W2MZV
5Z4MM	K1MM
5Z4EM	K1MEM
5U7AF	P.O. BOX 877, NIAMEY, NIGER.
8R1RBF	P.O. BOX 10932, GEORGETOWN, GUYANA.

BITS & PIECES

A9 - Bahrain: Bahrain now has a new incoming QSL Bureau — ARAB, Box 25425, Awali, Bahrain. There is no shortage of stations available from that Persian Gulf Island: A9XDA, daily

from 0300 on 14.225. QSL to N4BPP. A9XDB, daily from 1300 on 14.220 and Sat/Sun from 1400 on 28.700 MHz. A9XDD, QSL via K7DVK.

BV2A - Taiwan. It appears that the station signing BV2A on 20 metres CW and giving QSL information as K2CM, was another in a long line of 'Slims'. Tim has been worked on 14.025, Wed. from 1200-1300 GMT. QSL to C.B.A.

CE0A - Easter Island. Look for W4GSM and W4PRO, who expect to be active from Easter Island from Feb. 24 through March 20. Their call sign and QSL routing is not known at this time.

CE0Z - Juan Fernandez. A DXpedition is planned from April 13-16. More information will be forthcoming in the April issue.

CN8AN - Morocco. Jim will be in Morocco for two years. Listen on 14.195 from 2330 GMT.

D68AM - Comoros. A list is taken on Tues around 1800 GMT by K0VVV. He operates CW on the first and third Tues. of each month and SSB on the second and fourth Tues. QSL to WB2OHD.

JM1AYV/JD1 - Ogasawara Is. Very active on 20M and 40M CW.

K4YT - African DXpedition. Karl Renz will be in Africa until April, and plans layovers of between 2-10 days at 6W8, C5A, D4, J5, 9L1, XT2, 5U7, TU2, 5V7 and TY. Watch 21.416 MHz at 1530 and 28.616 at 1600 GMT on Sundays.

K1FMP/6 - Persian Gulf DXpedition. Will be operating from 9K2, A4X, A6X, A7X and A9X over the next couple of months. Watch 14.250 MHz, 21.300 MHz and 28.600 MHz. QSLs go to 18YCP.

KC6KR - Velau (Ex. W. Caroline Is.) JA8DNZ and JA8JL were active from this newly independent Pacific republic in early Jan. QSL via JA8DNZ.

VK0JS - Heard Is. By the time you read this, hopefully, VK0JS will be in your logs. They were ex-

pected to arrive around the 15th of Feb. for a week of around the clock SSB and CW activity.

ZD9 - Tristan da Cunha. ZD7HH and the group going to ZD9 were bumped from the boat leaving St. Helena. The earliest that they can be expected to arrive on the island is March 10.

1A0KM - It is unlikely that this operation from the Sovereign Military Order of Malta bldg. in Rome will count for a new DXCC country. They did, however, create quite a stir on the bands. QSL to I0MGM.

3X - Republic of Guinea. Ian VK4NIC/3X has been showing up nightly at 2100-2130 GMT on 21.300 and again at 2230 on 21.187 MHz. He also has been checking into the Round Table Net on 14.175 MHz at 2100 and again at 1800 GMT with 5T5Jd at 14.205. By the time you read this, he

should have his new tribander and linear amplifier.

Further, compliments of Jack Reed and CANAD-X, he should be on CW with a TRAC keyer and set of Nye paddles. He will be in Guinea until the end of April. W4FRU is handling the QSLs, but they will not be printed until Ian's operation has DXCC approval from the ARRL DX desk.

Documentation is now in the US, and accreditation should be forthcoming shortly. Ian also requires only one more signature to obtain a 3X prefix. For 40m and 80m enthusiasts, listen between 0700-0800 GMT on 7.060 and 3.765 MHz.

A last note is that VS5JB and a group will be going on a Pacific Island DXpedition in VS5JB's boat. Projected stops include KH5, KH5K, ZL/K, ZM7, 5W1. They will be on the air /MM, so keep your ears open.

News Briefs

VK STATIONS

Despite the distance separating Canada and Australia, there has been an ever-growing number of skeds and contacts between VE, VO, VY and VK stations. In many respects Canada and Australia are similar in their history and outlook. Amateurs 'down under' go Canadians one better however, when it comes to support of their national organization. Out of 12,600 full, limited and novice licensees more than 7,500 or almost 60% are members of the Wireless Institute of Australia. In Canada though, out of the more than 20,000 operators, just over 25% belong to CARF. To put it in perspective it should be noted that the WIA has been around for a number of decades while CARF only went to individual membership seven years ago.

PROPER USE OF 33

'33', the signature used between YLs, is often mis-used and its origin tends to get lost. YLRL was organized in 1939 and it was then that women Amateur radio operators seemed to find their niche.

'YL' was adopted as a general term denoting any licensed Amateur feminine operator, regardless of age or marital status.

'33' was originated this same year by Clara Reger W2RUF, ex W8KYR, and adopted by YLRL for exclusive YL use. It means "Love sealed with friendship between one YL and another YL".

With this background and meaning, it is very understandable that '33' is not only exclusive with YLs, but is never used in the plural. We sign '33'.

From 'YL Harmonics'

The Canadian Traffic Handler

By Ed 'Chip' Schoenherr VE3JLL

I would like to thank the many Canadian Amateurs who responded to my first column, and we acknowledge the concerns expressed by Ernie VE7FB and Roy VE6XC. The writer also wishes to thank both gentlemen for their cooperation and fine comments.

I am pleased that Reg Gibbs VE3DPO of Hanover, Ont. has accepted the appointment of Eastern Manager for the Canadian Traffic System sponsored by CARF and it's communications wing CARL. We know that Reg will do an excellent job in the Eastern district, with over 25 years experience in traffic handling.

I would also like to announce the affiliation of the Grey Bruce Nets (sponsored by the Grey Bruce Amateur Radio Association) with the CARFCOM operations of CARF. The Grey Bruce Nets is an official CARF traffic net operating in Ontario. The GBN (as it is commonly referred to by most traffic handlers) has been operating, along with its Net Manager, Reg Gibbs, in the Province of Ontario for the past 25 years.

The Grey Bruce has seen many other nets come and go in Ontario and Quebec, and has continued to function at peak capacity through many frustrating years. The GBN operates three times daily on 3645 KHz, with a Slow Speed net at 2315Z (2215Z in the summer months) and two fast speed nets 2330Z and 0300Z (with the hour difference for summer hours).

VE3DPO assures me that *all* checkins are accepted in the GBN, regardless of the station's call area.

Through a recent survey conducted by CARF, I have received a number of inquiries from a number of clubs operating from coast to coast on how to form a traffic net and requesting info on how to join CARFCOM (or CARLNET) with the thought of becoming part of the Canadian Traffic System.

At present, a number of experienced Traffic Handlers are preparing the draft for the CARFCOM traffic system and by the time this article is actually in TCA, the draft should have been finalized and forwarded to the various clubs concerned.

Along with the request via the survey, I also received a number of queries from other clubs and individual Amateurs, requesting the same information, in addition to providing feedback on this column and their thoughts as to what should appear in the column. When the draft has been finalized, it will be forwarded to those concerned.

Thanks to one and all that supplied feedback to the column. We will, in time, be able to apply about 99.99% of the ideas in the column. Future columns will see portions of the draft appear in TCA, as a means of forming a basis of traffic training.

At present I am working with VE3DPO of the Grey Bruce Nets

with the view of getting an ON AIR training net going either as part of the GBN format or as a separate net operating on the GBN frequency. Tentatively, the call for the net will be GBTN (Grey Bruce Training Net) operating on 3645 KHz at 0000Z (2300Z in the summer).

The net will operate on the loop method, which means as each training cycle is completed, the next begins. All checkins are welcomed; it does not matter where you check in from, if you can hear the net and the net can hear you, you are welcomed to jump in when requested.

As you will note listening to the net, the key to learning is 'Listen a lot and Transmit little'.

One of the problems in doing this column is the lead time. The article is actually written about two months before it appears in print. For things like the Traffic Training Net, listen on the air for announcements covering the operations of the net.

I would like to thank those concerned individuals that have faithfully submitted their statistics to the writer on the air and by mail. Although the statistics have not as yet appeared in the column, hopefully in the very near future we can submit these figures in print so that other Canadian Amateurs can see the involvement you have in traffic and the amount of time and effort you have in Third Party Traffic. Keep watching TCA for changes in the

status of various countries that Canada has Third Party agreements with.

Protect your station, DO NOT accept any traffic which appears to be of a commercial nature, watch what area the traffic is destined for; above all, route your traffic through an established net. The Net Control Stations and Net Managers know where the traffic can go and where it can't.

To those Amateurs not involved in Third Party Traffic, remember you are welcomed to join in or, if you do not wish to become involved in handling traffic, you can submit the traffic through the various CW, Fone and 2-Metre nets in operation. Non-traffic-handlers provide the practice material needed to keep the skills of the Traffic Handler honed.

The basic concept of the various traffic nets is to maintain preparedness in case of emergencies, and most disaster communications is provided by well-trained traffic handlers.

In closing this column for this month, I would request that the various Net Managers forward to me the Times, Frequency and Method of operations of the nets in their districts. We will prepare a full listing of all traffic and emergency nets operating in Canada and make this listing available to all those wishing to receive a copy.

In addition to making a list of the various nets, I will attempt to come up with a Routing chart showing the various nets and where, how and when they interact with each other. Although this routing chart will include any nets known to me (by means of advisement from the Net Managers), we are not concerned whether the net is a member net of CARFCOM and The Canadian Traffic System. We are only concerned that it exists to pass traffic (or handle emergency traffic); we will not concern ourselves with whether or not the net is affiliated with the

ARRL. The idea of an all-Canadian Traffic System is to provide a means for routing Canadian traffic through Canada, using the talents of Canadian Amateurs and ensuring that they are fully trained in case of emergency situations involving Canadians.

Comments on the column and queries on Traffic Handling in

general or specific questions on a particular part of traffic handling are always welcomed. You can forward your comments and queries through Box 356, Kingston. Each question and comment will be dealt with on an individual basis, and each one answered.

Spread-Spectrum

As radio Amateurs, we are all aware of the need to conserve bandwidth and to use our precious frequency allocations in the most efficient way. That, after all, is the main reason for the popularity of SSB.

What, then, would we think of a communications method which deliberately spreads the transmitted bandwidth to some several hundreds of times the data bandwidth? Sheer stupidity or not? In fact, so-called 'spread spectrum communications' is now being considered for the next generation of land-mobile services.

How does spread spectrum work? The answer, as might be expected, is locked up in some fairly complicated mathematics which goes back to the early 1950's. It is only recently that digital technological advances have made spread spectrum techniques look attractive and practical.

One of the basic laws of communications theory, Shannon's Law, states that the information carrying capacity of a communications channel in bits per second is proportional to the product of the logarithm of the bandwidth and the signal to noise ratio (S/N) of the channel.

For example, a conventional channel transmitting at 30 kilobits/sec would require a S/N of 30 dB in a 3 kHz channel. If the bandwidth were spread to 2 MHz, the same data could be transmitted successfully with a S/N of -20 dB.

That is, the signal could be 20 dB below the noise!!

The trick, of course, is to be able to recover the signal from the noise. This is not as difficult as it may sound, provided that the receiver knows exactly how the original signal was spread.

This may be accomplished using a pseudo-random (PN) signal as the spreading function. A PN signal is one which is digitally generated to appear random, but in fact is completely predetermined and repeats itself at regular intervals. A locally generated copy of the same PN signal in the receiver is synchronized with that from the transmitter, making it possible to recover the signal from the noise.

This technique is particularly attractive for military use, since the signal sounds exactly like noise, and unless the exact PN sequence used is known, it is impossible to extract the signal.

There is much more to spread spectrum communications than that outlined above. There is no doubt, however, that recent advances in digital technology will enable many of today's theoretical concepts to be realized tomorrow.

It may not be long before we get reports like, "You have a beautiful signal, OM, peaking at almost 20 dB *below* the noise"! Experiments by Amateurs on the HF bands have already been reported.

OARC Groundwave

The Aim of CARF

The Aim of your national Federation has always been to develop the strongest possible, autonomous national Amateur Radio society for the Amateurs of Canada. CARF has never wavered from implementing this Aim although much adverse criticism has been generated, and it is pleasing to note the growing support of the Amateurs in the achievement of this goal.

The keyword in the Aim is 'autonomous' with the accepted meaning that such a society is wholly dependent on the support of the Amateurs of Canada for its finances and relies on their expertise, as officials, to efficiently manage administrative and operational details.

On several occasions in the past, your national Federation has been approached by US commercial firms to merge TCA with a major US Amateur publication. Such mergers have attractive possibilities, particularly financial, but have been rejected by the National Executive as they would compromise the autonomy of CARF.

Unquestioned autonomy is, in CARF's opinion, essential for the proper functioning of the Canadian national society. Without it, any representations made at any level are suspect as being influenced by outside agencies.

CARF's autonomy has resulted in our selection by DOC as the organization to sponsor the annual National Amateur Radio Symposia; in the selection of a CARF official as the Amateur member of the Canadian delegation to WARC '79; and in

demonstrated leadership in working with DOC and other federal departments on behalf of the Amateurs.

As has previously been reported, it was CARF that organized effective representations to the Tariff Board, in every area the Board met, to discuss duties on Amateur equipment and has followed this with direct contact with officials of the Board in attempts to resolve the minor problems that are occurring in the interpretation of the regulations.

Recently the CARF presentation to DOC on Amateur examinations and procedures is resulting in changes and the drafting of a new TRC-24 for the guidance of candidates and instructors. A CARF committee is now working on the draft of the strongest possible presentation to the FCC in the event that a Proposal for Rule Making is made in reference to a

change in phone frequency allotments on the 40M and 20M Amateur bands.

This stand for autonomy has not significantly handicapped your national Federation as evidenced by the steady growth of services and the steady development of TCA and the CARF News Service. Due to expert management of finances and resources, CARF has achieved a sound financial base, has spearheaded the publication of handbooks and study guides for Canada (imitation is the sincerest form of flattery) and possesses an office staffed with paid employees, a national Amateur Radio station VE3VCA and a fully operational computer system.

All this, and more, has come about by the support of the Amateurs of Canada as members of the national society.

"Nuff said!!"

VE3AHU

Director Nominations

Nominations for Director positions in CARF closed recently. Here are the details:

Atlantic Region (1 Director)
Nominated: Nate Penney VO1NP, Shoal Harbour, Nfld.

Quebec Region (1 Director)
Nominated: Lionel Bonhomme VE2SY, Hull, Que.

Ontario Region (2 Directors)
Nominated: Craig Howey VE3HWN, Waterloo, Ont.; Allan Wilson VE3AMB, Washago, Ont.

Mid-West Region (1 Director)
Nominated: Jim McKenna

VE6HO, Fort Macleod, Alta.

Pacific Region (1 Director)
Nominated: Peter Dreissen VE7BBQ, Vancouver, B.C.; Art Spence VE7DKY, Vernon, B.C.

In all but the Pacific Region, the number of Directors nominated equals the number of positions available and those nominated are acclaimed. In the Pacific Region, an election will be held and the arrangements to do so are now being made. Full details will be given in our weekly news bulletins and in TCA.

No VE2HI on PL Net

The announcement by Ethel Pick VE2HI that she will no longer take the Net Control of the PL Net has aroused deep feelings of regret among those who check into this old assembly of 'Professional Loafers'.

For some time now, Ethel has been feeling unwell on and off, and now with the added burden of failing eyesight she has been compelled to come to this decision.

The PL Net was started in the late 40s by a group of old-timers who met twice daily to exchange greetings and tell of some experiences which were of general interest to all. The proceedings were quite informal, there was no Net as such and there was no Net Control.

It was 'happy-go-lucky' activity. People took their turn to speak according to the sequence of announcing their presence initially. By 1960, the numbers of retired people in this group had grown and included Tommy Lettes VE2BG, who sometimes made his presence known by a whistling greeting, Alec Reid VE2BE, Tony Lawruk VE2VV, Bill Skarstedt VE2DR, Bill Stygall VE2GK, Don Slater VE2KW, Sid Chapman VE2LV and old Hartland Wilder VE2SF.

Because of its informality, things sometimes got a bit confused, people missed their turn to speak and doubling took place. VE2TD suggested privately to Hartland that he should take over the Net and operate it formally and obtain some semblance of order so that all had a chance to say their piece.

He did, and the gathering became established as a formal net known as the PL Net. Hartland did a good job but he passed away around 1965. Ethel took over and has done the Net Control ever since.

In the middle 70s, people had moved away or had become 'silent keys', but new people came in and kept the number of regulars around 8 or 10.

New members of the Net were Phil Leprade VE3KN, Don Hanna VE2CD, Wold Kalmann VE3BIK (formerly VE2BAC), Gordon

Smith VE2BIO, Bud Punchard VE3UD, Frank Rapp VE3RZ, Geoff Field VE2BO and others.

All those who know Ethel VE2HI will want to wish her well for the future and thank her for an excellent job done as Net Control of the now famous PL Net.

It's the Law!

VE3GCO recently attended an Audio-Visual Workshop for teachers. There is more than coincidence between these and what many hams endure.

1. Murphy's Law: If anything can go wrong, it will.

2. O'Toole's Commentary on Murphy's Law: Murphy was an optimist.

3. The Unspeakable Law: As soon as you mention something, if it's good, it goes away; if it's bad, it happens.

4. Nonreciprocal Laws of Expectations: Negative expectations yield negative results. Positive expectations yield negative results.

5. Howe's Law: Every man has a scheme that will not work.

6. Zymurgy's First Law of Evolving Systems Dynamics: Once you open a can of worms, the only way to recan them is to use a larger can.

7. Etorre's Observation: The other line moves faster.

8. Skinner's Constant (Flannagan's Factor): That quantity which, when multiplied by, divided by, added to or subtracted from the answer you get, gives you the answer you should have gotten.

9. Law of Selective Gravity: An object will fall so as to do the most damage.

10. Jennings's Corollary: The chance of the bread falling with the buttered side down is directly proportional to the cost of the carpet.

11. Gordon's First Law: If a research project is not worth doing, it is not worth doing well.

12. Maier's Law: If the facts do not conform to the theory, they must be disposed of.

13. Hoare's Law of Larger Problems: Inside every large problem is a small problem struggling to get out.

14. Boren's First Law: When in doubt, mumble.

15. The Golden Rule of Arts and Sciences: Whoever has the gold makes the rule.

16. Segal's Law: A man with one watch knows what time it is. A man with two watches is never sure.

17. 90-90 Rule of Project Schedules: The first 90% of the project takes 90% of the time, and the last 10% takes the other 90%.

Letter to FCC

This letter appeared in the December issue of The Nova Scotia Amateur. It might be wise if all of us were to send a similar letter to FCC.

Gentlemen:

In connection with the recent petition sponsored by ARRL, as well as RM3729 and RM3734, all of which request expansion of the radiotelephone sub-bands for U.S. Amateurs, I respectfully ask the Commission to consider the following.

There are about 373,000 licensed Amateurs in the United States, and about 21,000 in Canada. This means that for Canadian Amateurs to have effective radiotelephone communications, we need some spectrum space in which the very much larger number of U.S. stations is not permitted to operate.

Of a total of 2775 KHz of radiotelephone allocations in North America, only 750 KHz is available to Canadian Amateurs, free from U.S. radiotelephone stations. These figures are for the most popular Amateur bands, namely 80 through 10 metres. All of the above-mentioned petitions, if accepted, would reduce the Canadian share even further.

Although the 750 KHz Canadian allocation is free from U.S. radiotelephone stations, it is by no means free from U.S. stations operating on CW.

On 80 metres, U.S. stations routinely operate on CW up to 3.775 MHz, severely limiting the usefulness of this 'phone' sub-band.

On 40 metres, the situation is even worse. U.S. CW traffic is overwhelming, and coupled with illegal broadcast stations and other commercial signals, renders this 'phone' sub-band almost useless. Our so-called gain of 7.050-7.100 MHz as a 'phone' band from

WARC '79 was only a nominal gain, because we must share it with huge numbers of U.S. stations operating on CW.

The situation on 20, 15 and 10 metres is much the same, that is, heavy CW traffic from U.S. stations. If any of these petitions becomes accepted, it will be the Extra Class Amateurs who will be permitted to use the lower portions of the 'phone' bands, and since the Extra Class Amateurs in the U.S. equal or outnumber the entire Canadian Amateur population, we would be squeezed into smaller,

busier portions of the crowded bands.

Canadian Amateurs would not be the only ones to suffer if the U.S. radiotelephone sub-bands are expanded. The 'phone' sub-bands in many countries are already quite limited, and for Amateurs in these countries to have effective radiotelephone communications with other than U.S. stations, they must operate in very narrow segments of the bands. Any downward expansion of U.S. allocations would only serve to squeeze the foreign stations even further.

Dishes on loan

Since Doreen King and her family, of Macdiarmid, Ont. were loaned a 1.2 m dish antenna for direct reception of TV signals off the Anik B satellite as part of a federal Department of Communications (DOC) project, her neighbours have been asking where they too can get a dish.

"All the neighbours want to know about it, if they're going to get a 'dish' too and if they too can get clear reception by hooking into the dish."

The King family is just one of about 100 families, community centres and cable TV companies in rural areas which are being loaned 1.2 m or 1.8 m dish antenna earth stations as part of the DOC project.

The dishes are being distributed to families in Ontario and British Columbia and in the Yukon and Northwest Territories. More than 12 hours a day of TV programming will be available over Anik B, which was launched last December for

Telesat Canada. The Department has leased channel space for two years for this and other projects using the 14/12 gigahertz transponders on Anik B.

Ontario viewers will have access to programming supplied by TV Ontario, while those in British Columbia and the North will have access to CBC and BCTV programming.

This trial is the first involving extended transmission of regular programming to substantial numbers of home receivers.

The project is planned to continue until at least next spring.

The earth stations to be used in the project cost about \$3,600 a unit but could cost as little as \$500, or even less, if manufacturers are able to sell to a mass market.

-DOC 'Modulation'
(No Amateurs are known to be involved in these trials. Could be that the dish would quickly become two-way?)

DOC-CARF-CRRL meeting

Examinations

The effective presentation made by your national Federation in November 1980 has resulted in immediate changes in examinations and procedures including a new format using separate books for each level of examination, the giving of necessary data and formulae (with exception of Ohm's Law!) if calculations are required and the deletion of the requirement for the Amateur level to memorize and draw circuit diagrams.

However, the main thrust of the CARF presentation was directed toward the need to revise the existing TRC-24 (Information for Candidates) and a meeting, including CRRL officials, was held with DOC officials on Jan 24, 1981 to review a revised draft of TRC-24 and recommend improvement where considered necessary.

The philosophy of your Federation, reference the Amateur level examination requirements, is that a class of citizen candidates should qualify 70% of that class after a 16 week night school course with competent instruction.

The requirements should be that the successful candidate is qualified to install, operate and adjust a basic Amateur station and possess sufficient knowledge to progress to the Advanced Amateur level either through home study or further class instruction.

The Advanced Amateur candidate should demonstrate detailed knowledge of Amateur level re-

quirements plus specialized communication systems (SSTV, RTT and Auto-repeaters). Further, there should be a better link between the Amateur and Advanced Amateur technical knowledge requirements. This basic philosophy was accepted by those attending.

In brief, the meeting recommended:

1. That a candidate be allowed three errors during a Morse code test plus any allowance for errors in transmission, too high a speed, etc. The sending test to be re-introduced.

2. That a candidate be tested only on the Radio Regulations that relate to the level being tested.

3. That the Amateur and Advanced Amateur technical examination be based on

- (a) Amateur — conceptual knowledge and practical applications of that knowledge on the following subjects: (1) Electrical Theory, (2) Vacuum Tubes & Semiconductors, (3) Power Supplies, (4) Transmitters, (5) Receivers, (6) Interference, (7) Antennas & Transmission Lines, (8) Propagation, (9) Measurements and (10) The Amateur Radio Station set-up and operation.

- (b) Advanced Amateur — detailed knowledge and practical applications of that knowledge on the subjects 1 to 9 above plus (10) Specialized Communication Systems.

- (c) Digital Operator — same requirements as at present with some rewording of detailed requirements of digital theory.

4. That in 3(a) and 3(b) above, each subject should be described in much greater detail than at present, so instructors and students would have a better knowledge of DOC's technical requirements.

Your national Federation argued on the side of the "housewife and plumber" and obtained agreement on a more equitable balance between the technical requirements for the Amateur and Advanced Amateur levels. Revision and rewriting of the CARF Study Guides is now in progress with expected publication of the Amateur Study Guide by mid-summer 1981.

The revised TRC-24 and a revised TRC-25 (Amateur Regulations) is scheduled for publication in early summer 1981 and copies will be available from DOC offices and CARF — see TCA for up-to-date information.

FRIGGIN' IN THE RIGGIN'

Some Aurora-like propagation effects may have been triggered by experimental transmissions in the Antarctic. A 19 kHz transmitter operating into a 13-mile antenna laid out on Antarctic ice more than a mile thick set off the phenomenon which is suspected of having had some effect on both HF and satellite-relayed communications.

TCA: Technical Section

An Artificer's Tilt-Over Mast

By George Goodwin VE2DQ

Contemplating my tilted over 40 metre inverted V in the warm spring sunshine, I wondered as to my best course of action to adequately support a 35-foot, ground-mounted mast without guy wires or becoming a permanent fixture.

The mast itself had assumed a ten-degree tilt after the winter blizzards and March winds had exacted their toll. This was easily rectified by simply pushing it back, but it indicated that there was a weakness with my mounting pipe. This was a seven-foot length of ½" galvanized water pipe pounded into the ground for four feet, leaving three feet exposed above ground.

While it had served admirably with all manner of lighter-weight aluminum tubing verticals, the heavier swaged steel tubing being used as a mast for the inverted V was just a bit too much for it.

The method of mounting had been to simply slide the mast over the three feet of ½" exposed pipe but to do this required the services of a couple of strong, able-bodied men. It would likewise require their services again to remove it.

One would have to be a Hercules indeed to support that 35 feet of swaying, wiggling mass of metal in the vertical position until it was centred over, or was freed from, the top of that three feet of projecting mounting pipe. There *had* to be a better way.

Better ways there were, but

they all cost money. Big money too as I found, searching through my assortment of catalogues and magazines.

As the mast was lifted from over its retaining three feet of ½" pipe (for the last time I vowed), placed on the ground and 'walked down', the glimmering of an idea came to mind.

What was needed here was a swivel and I had to strengthen that ½" mounting pipe anyway. I would use that eight-foot length of 1" galvanized water pipe I had, place it over my existing ½" pipe and pound it into the ground for a couple of feet, after which I would fasten the mast to the pipe somehow.

Yes, that was it ... a tilt-over mast, not a tilt-over tower, was the answer. But how to go about it?

The crux of the problem then was the swivel, the swivel support and a mast locking arrangement and how to mount them to the ground-mounted pipe support.

Welding was the obvious answer and would simplify things, no doubt, but this I wished to avoid, as welding facilities are not too handy to my location. I would also have to transport my ground mounting pipe and other bits and pieces to the welder, so welding was not what I wanted.

The next best thing was nuts and bolts, but I was also averse to drilling ¼" holes in small diameter pipe as this would weaken the structure considerably.

As I surveyed my motley collection of workshop supplies of old angle iron, plumbing, electrical and TV antenna fittings, I found the basic elements to my crystallizing idea.

These were a ½" galvanized water pipe T fitting which would become the swivel and some old TV antenna U bolts and clamps which would obviate the need for welding.

A 3/8" diameter carriage bolt, about three inches long, would be slipped laterally through the T fitting and be the fulcrum or shaft upon which the T fitting would pivot when mounted to an appropriate bracket yet to be devised.

Into the vertical portion of the T, a length of ½" water pipe would be screwed which, when inserted into the bottom of the mast, would hold or anchor the mast in place.

As a locking device for the mast when it was raised to its vertical position, I would use a piece of steel plate anchored to the ground mounted pipe by a couple of U bolts. These would be placed at the top and bottom of the plate. In between these two U bolts I would drill two wider spaced holes which would accommodate a larger U bolt which would fit around my 1 ¼" OD mast and be anchored to the plate.

This then was the general idea and the only problem now remain-

ing was the bracket which would mount the swivel to the ground mounted pipe.

Taking a few cursory measurements of the T to be used and the width of the bottom section of my mast, I arrived at an enclosure or bracket 2½" wide, 2" deep and 3½" or more in length.

Some measurement latitude was permissible so I searched around for a suitably strong steel box which would suffice for my needs. One end could be cut off to allow the mast to swing through when mounted on the swivel which would be mounted to the sides of the box. The bottom of the box would be used for mounting it to the ground mounted pipe by suitable U bolts.

This of course would make things just *too* easy, and one should be so lucky. Once again Murphy's Law interjected itself with "the availability of a component is inversely proportional to the need for that component".

It was therefore up to me to fashion my own bracket, rather than a box, using the thickest steel material I could find, and yet not so thick that I couldn't handle it with a hammer, vise, hacksaw and drill.

The workshop assortment of old junk yielded sufficient suitable steel about 3/32" thick but in small pieces. So, I had to manufacture the bracket in three pieces, one back mounting plate and two side pieces, all bolted together with ¼" bolts, rather than in one piece. Also, the bracket would have to be 3½" long, this being dictated to me by the available steel rather than for any other reason.

First of all, the ½" galvanized T fitting was too slack with a 3/8" diameter carriage bolt through it for a shaft or pivot for my liking. It would probably serve as it was for all practical purposes but would allow more lateral movement as the mast was raised or lowered.

Not having a suitable piece of smaller diameter pipe or tubing which could be inserted and cemented in place, I filled the lateral portion of the T fitting with auto body filler, taking care to use the vertical portion of the T free for the insertion of a short length of ½" pipe.

When dry, a suitable washer was centred over one end and a small pilot hole was drilled halfway through the T. The same procedure then occurred at the other end until the two holes met, thus ensuring that the pivot would be straight and level.

After this, the hole was enlarged to accommodate the diameter of the pivot bolt, thus taking care of the slack.

The next requirement was a short length of ½" water pipe which was to screw into the upright or centre part of the T fitting. This is the anchoring point for the bottom of the mast which is slid over the ½" pipe until it rests on the T fitting.

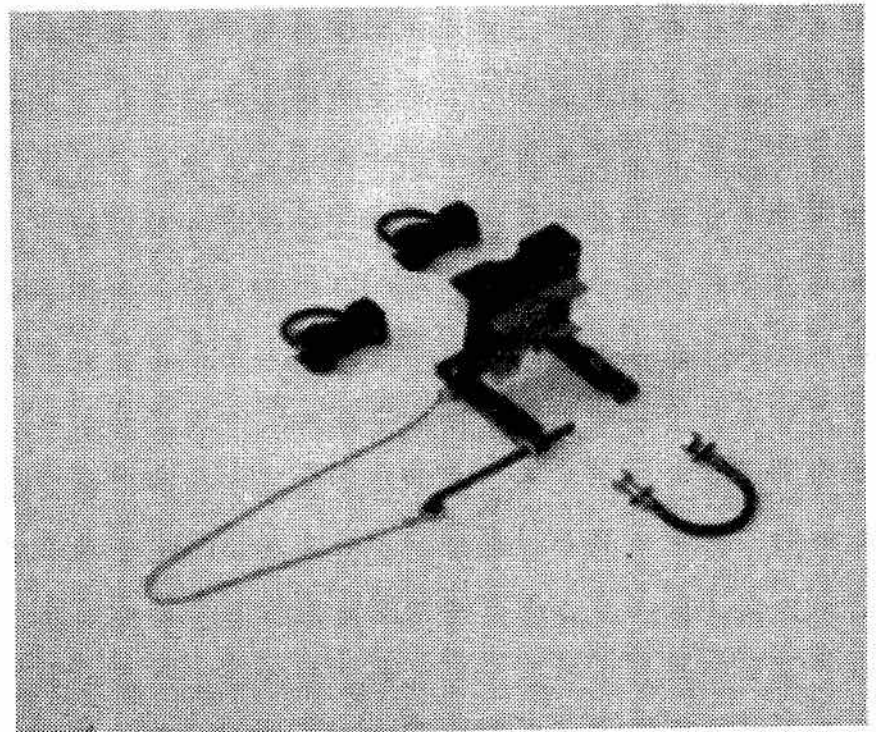
Inasmuch as the bottom section of my mast measured 1 ¼" inside diameter and was to be slipped over a pipe measuring only ¾" outside diameter, there was going to be considerable slack between the two. This was undesirable as it would allow the mast to teeter backwards and forwards and generally slide around on the T fitting during a heavy wind.

Many possibilities exist for such a solution, even wooden spacer strips taped around the circumference of the ¾" OD pipe would do the job.

If one wanted to be fancy and spend the money for it, one could obtain a piece of the correct diameter pipe and by a series of reducer fittings reduce it down to the required ½" of the T fitting. Any other combination of larger diameter pipe slipped over the ½" pipe to take up the excess slack would also do as it is only required to act as a shim or spacer.

My own solution was to use a couple of old galvanized ½" water

The completed mast locking plate ready for installation on the top of the ground mounted pipe by the two U-bolts, upper left. Mast seats against captive clamp bolted to plate, temporarily supported by chained pin through hinge joints while U bolt, lower right, is being installed.



pipe unions which would never be used again in these days of copper and plastic plumbing.

After filing off the squared edges of the unions and ensuring that they were a loose fit for the inside diameter of the mast, one union was connected to the T fitting by a short length of pipe, or nipple, about 3" long. The other end of the union again connected to another short piece of pipe which, in turn, connected to the second union. The other end of this second union remained blank and the whole assembly was then tightened up.

After assembly, the completed unit was once more checked to see that it was a loose fit to the inside walls of the mast without any binding taking place.

This then completed the swivel mount for the mast which now had to mount to a suitable bracket of some kind.

As stated, my particular bracket had to be made up in three pieces, one back plate and two side plates, all held together by $\frac{1}{4}$ " nuts and bolts.

The finished dimensions were to be $3\frac{1}{2}$ " long, $2\frac{1}{2}$ " wide and 2" deep. To add some rigidity to the side pieces at the front of the bracket, where the mast would pass when being raised or lowered, a $\frac{1}{4}$ " lip was to be bent inward on the side pieces.

The back plate would also require another couple of side lips bent over, to which the side pieces would be attached. As $\frac{1}{4}$ " bolts were to be used for attachment, the lips had to be about $\frac{3}{4}$ " or more in width.

After the required pieces were cut out, bent over to form the lips and finished off, the holes for the $\frac{1}{4}$ " bolts were drilled and the bracket assembled.

The midpoint of the $3\frac{1}{2}$ " length of the bracket was then marked on the outside circumference of the bracket which established where the swivel was to be mounted.

The proper placement of the swivel T along this line depends of course on the diameter of the mast and the particular size of the T being used if the mast is to sit straight and not have a built-in tilt to it when mounted.

With my particular components, I arbitrarily chose $\frac{3}{4}$ " from the inside lips of the side pieces as the mounting point for the swivel. This point was then marked and drilled through both side pieces to accommodate my $\frac{3}{8}$ " diameter carriage bolt which would mount the swivel to the bracket.

The mating locking plates of the U bolts which would mount the bracket to the ground mounted pipe were then lined up at each end of the $3\frac{1}{2}$ " bracket and the mounting holes marked and drilled.

One observation at this point. If one were using a larger diameter pipe, say 2" dia. or more, the bracket obviously would not accommodate the larger U bolts required. One way out of this dilemma would be to use another longer and wider steel plate upon which the bracket, as is, would be centred and bolted. The wider spaced U bolts would then mount to the top and bottom of the added plate instead of the bracket.

The final stage of construction is the mast locking plates which will hold the mast up after it is raised to its vertical position.

Again, there are no critical dimensions apart from a sufficiency of space in which to mount three U bolt locking plates. Basically, two U bolts would mount the plate to the ground mounted pipe, one at the bottom and the other at the top of the plate. On the opposite side of the plate and in between the two U bolts and locking plates, the mast locking U bolt would be mounted, along with its associated locking plate.

However, with my $\frac{1}{2}$ " thick steel, it was thought advisable to incorporate a couple of bent over clips to provide some rigidity.

Consequently, another piece of my $3\frac{1}{2}$ " wide steel was cut to a length of 6" and a $\frac{3}{4}$ " lip was bent over at each end.

For no particular reason, and it could just as easily be reversed, I decided that the lip side of the plate would anchor to the ground mounted pipe rather than to the mast. So I chose one of the TV mast clamps which were to be used for anchoring and centred it on the inside of one end of the plate and up against the lip. The U bolt holes were then marked off on the body of the plate, as well as the portion of the clamp against the lip where the ground mounted pipe would seat. This latter would have to be cut and filed away for the TV clamps to do their job.

The same thing was done at the other end of the plate but this time the mounting holes for the TV clamp were spaced sufficiently from the lip to accommodate the heads of a couple of $\frac{1}{4}$ " bolts.

After cutting and filing away the excess metal from each lip of the plate, the four holes for the U bolts are then drilled and the plate turned over to the other side.

One point worthy of note here is that both TV mast and locking clamps should have the same aperture where the mast seats. My pair of misfits apparently came from different manufacturers which resulted in having to file one of the clamps down somewhat. If one of the clamps is higher or lower than the other, the mounted plate is not going to sit vertically.

The U bolt clamp, against which the mast will sit, is then centred between the two pairs of holes and the plate is marked and drilled for the U bolt which will anchor the mast to the plate.

At the same time, another similar hole is drilled through both the centre of this clamp and the plate and the two are bolted together with a small $6/32$ " flat head nut and bolt. This will help the clamping of the mast later, when it is raised into position and

the U bolt is being inserted around the mast and into the plate.

However, inasmuch as the U bolt and associated nuts would probably be in one's pocket, along with other assorted junk, it could be rather awkward to support the mast upright with one hand while fumbling around with the other. Neither would the situation be improved if one happened to drop the U bolt or nuts, the latter probably getting lost in the grass.

To circumvent such a situation, two $\frac{3}{4}$ " wide steel brackets, just long enough to reach the forward edge of the mast when in its raised position, are fashioned. These are bolted to the lip which has space for the bolt heads and are mounted at each end of the plate, facing toward the mast.

To the ends of these protruding brackets two hinge joints, cut from one half of an old $3\frac{1}{2} \times 3\frac{1}{2}$ "

steel hinge, are bolted. Brass would of course be a better choice for the hinge joints, as it would forestall any rust problems that might occur in the future but, not being readily at hand, was not used.

A loose fitting carriage bolt about 4" long, or similar type rod, is inserted through the two hinge joints to act as a temporary pin to hold the mast in place while the U bolt is being inserted or removed. No tightness or snug fit is desirable for the pin, as the object here is a quick insertion or withdrawal of the pin while supporting the upright mast with one hand.

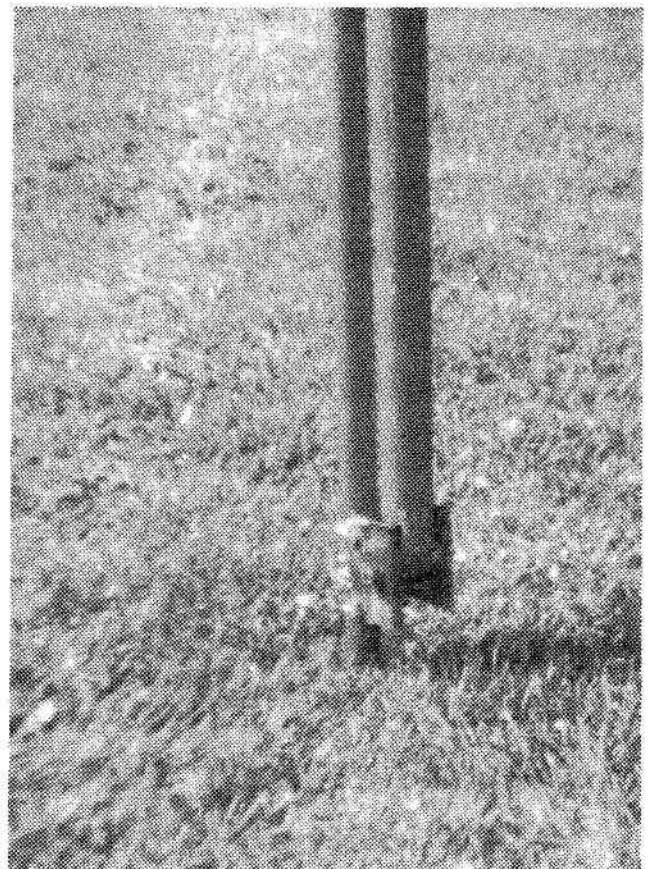
This completed the construction of all the required bits and pieces and, after rounding off all sharp corners, a coat of rust-proofing paint was applied to all parts except the U bolts themselves.

While waiting for the paint to dry, my $\frac{1}{2}$ " ground mounted pipe was augmented by placing the eight foot length of 1" galvanized water pipe over it and pounding it into the earth for a couple of feet. After filing off the burrs resulting from the heavy pounding, this too got an application of paint, along with the mast.

The swivel bracket is installed to the ground mounted pipe first as this must face toward an area which is clear of wires so that the mast can be raised straight up from the horizontal to the vertical position.

It is placed a few inches off the ground and securely fastened to the ground-mounted pipe, using the appropriate U bolts and locking plates. The excess threads of the U bolts are then broken or sawn off and the swivel T is inserted into the bracket and the

Left, below: The swivel 'T' unit mounted to the ground mounted pipe. The mast is slid over the swivel to rest against the T which holds the bottom of the mast securely into place as the mast is raised into position. Right, below: The mast mounted over the swivel T arrangement and raised into position.



pivot bolt and nut installed with a suitable washer on each side. This is snugged down but not so tightly that the plate will not move freely. The mast locking plate is then tentatively mounted a couple of inches from the top of the pipe, in line with the swivel.

The final lining up is done by taking the bottom section of the mast and inserting its swivel mount and lining things up with the mast section raised into posi-

tion. The U bolts are then tightened securely and the excess threads again broken or cut off as these will probably interfere with the proper seating of the mast.

Lowering the single mast section. I would suggest at this point that the whole assembly be given a final coat of rust proofing paint, except for the U bolt which is to straddle and lock the mast into position. It would not be advisable to paint over the threads although the rest of the body could be painted. A rust-preventative oil or grease would serve the purpose better than paint for this particular U bolt which may have to be removed at some future date in order to lower the mast.

With the mast lying on the ground and in line with the swivel mount, the swivel mount is inserted into the bottom section of the mast by sliding the mast over it until the mast rests against the T of the swivel.

Starting at about the centre of the mast, it is simply picked up and raised to near the vertical position when the pin through the two hinge joints is quickly removed, the mast is properly seated and the pin quickly replaced again. This leaves both hands free to search for the U bolt and those elusive nuts.

The U bolt is then placed over the mast and inserted into the locking plate and finally tightened by the two retaining nuts.

Lowering the mast only entails making sure that the retaining pin be in place through the two hinge joints. Both hands are now free to manipulate a wrench and remove the U bolt, after which one simply supports the mast with one hand, pulls the retaining pin away from

the hinge joints and walks the mast down.

While not necessary to the operational feature of the mast, the retaining pin has a small hole drilled through its diameter at one end of the pin through which a bath plug chain, about 18" long, is attached. The other end of the chain was then attached to one of the protruding bolts on the lip of the plate. This would forestall any inadvertent dropping of the pin at a crucial moment when raising the mast and it would remain within easy reach.

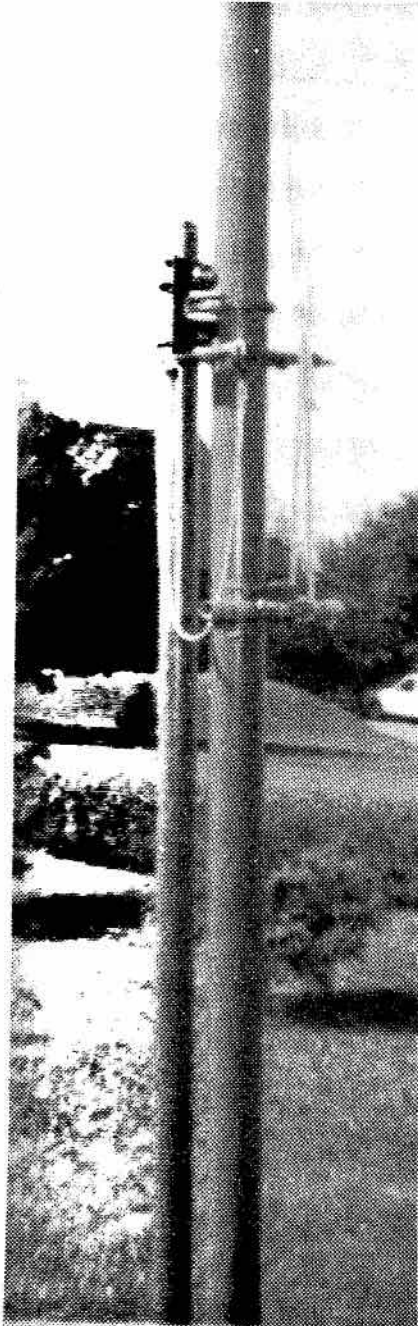
Well, there it is, a far superior arrangement and much more solid than my previous mounting system. It even looked every bit as good as my neighbour's flag pole.

If one desired, the attachment of a winch is perfectly feasible but such a frill was deemed unnecessary with such a light-weight mast.

The mast has been raised and lowered perhaps a dozen times to check for weaknesses, but none have developed. It has also withstood gusting winds of 85 Km/hr. as a free standing mast without any dipole being attached. After 12 hours or more of that kind of treatment and no problems, the winter blizzards and March winds leave little to be feared.

There are no hard and fast rules for dimensions, as this is not a precision piece of machinery. However, if one were to substitute say a $\frac{3}{4}$ " T instead of the $\frac{1}{2}$ " as used, then the bracket would have to be somewhat larger,

I just happen to be an artificier; not so much a craftsman as one who makes do with what one has at hand.



Left: Pulley, halyard and cleat installed to the mast, the mast is raised into position and locked to the ground mounted pipe.

TCA: Technical Section

Hacksaw Blade Paddle for 50¢ or less

By Tim VE5ADL

Amateurs often build equipment to save money, but when you build keyers you have another problem.

If you want a paddle, you can either shell out \$XX for a silver-plated marvel or get the use of a machine shop to make your own. Either way, it could cost you a mint and, being a student, I just can't handle that.

An idea came to me one day while I was cutting quad spreaders, that perhaps a hacksaw

blade could be used for something other than cutting. The blade is a conductor and has enough spring to it to be perfect for a paddle.

The first step in making the paddle is sanding the paint off the blade in order to ensure good electrical contact. Then you take the blade and secure it by placing it between two blocks of wood with about 1/2" of the blade sticking out one end and half the blade's length out the other end.

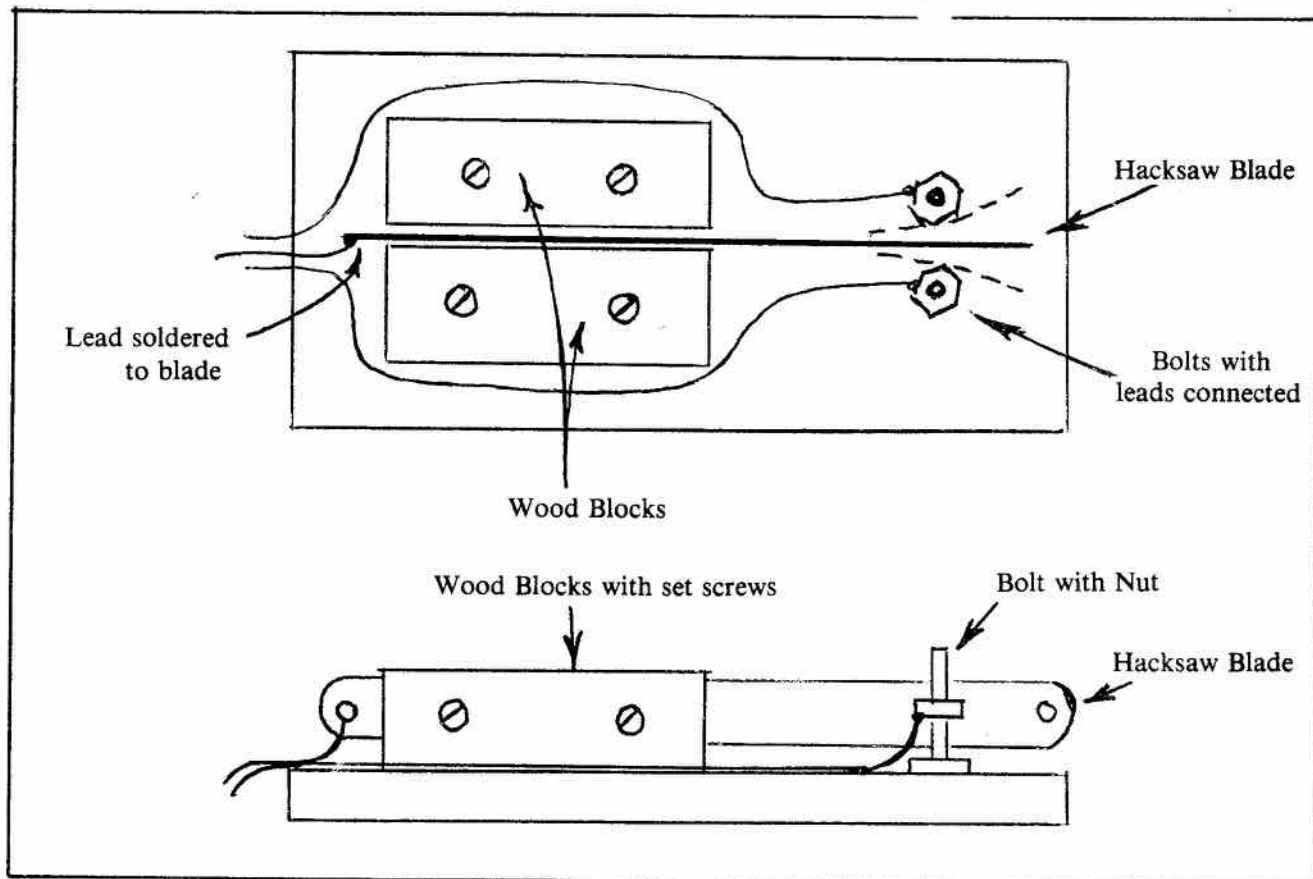
To the short end attach (solder or lugs) the ground lead from the keyer. You can then form contacts

for the other two leads by putting two 2" bolts through a wood base about 1/2" to each side of the blade (close enough for easy contact but far enough to prevent misfires) and about 3" from the end.

Then place nuts on the bolts until they are level with the blade and secure leads to them.

The basic construction is now done but the paddle can be finished by taping the end of the blade for a handle and perhaps painting the base.

Not bad for a few minutes of your time!





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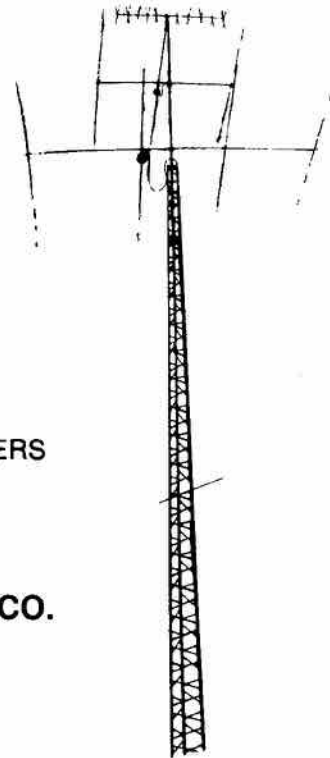
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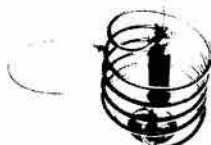
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These continuing changes bring subsequent problems in writing, editing, typesetting, layout design, paste-up, proofing, correcting, pre-press production, press run, bindery and distribution.

During this time, we have examined the need for another important change ... earlier distribution of TCA. The solution to this problem is the establishment of a new deadline system.

Advertisers and readers are asked to note this new deadline schedule for advertising and editorial copy: Six Weeks prior to the month of issue (**February 15** for the **April** issue.)

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Membership data is now held on two series of discs. One is the

Referral Disc series that holds only the coding lines and is arranged by Membership number; the other holds label data and is arranged by the postal code.

Note that Life members, foreign members and miscellaneous listings have a different format in the coding line.

Please check your label information and, if not correct, advise the CARF Office. Your postal code is especially important.

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Single insertion is \$1.00 (minimum charge) for 10 words and \$1.00 for each additional 10 words. To renew, send copy and payment again. Deadline is first of month preceding publication (e.g. Jan. 1 for Feb. issue). Put your membership number and call (not counted) at the end of your ad. Print or type your ad and include your address with postal code. If using a phone number, include the area code. TCA accepts no responsibility for content or matters arising from ads. This feature is for use of members wishing to trade, buy or sell personal radio gear. It is not open to commercial advertising. Send to: TCA Swap Shop, Box 356, Kingston, Ont. K7L 4W2.

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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.

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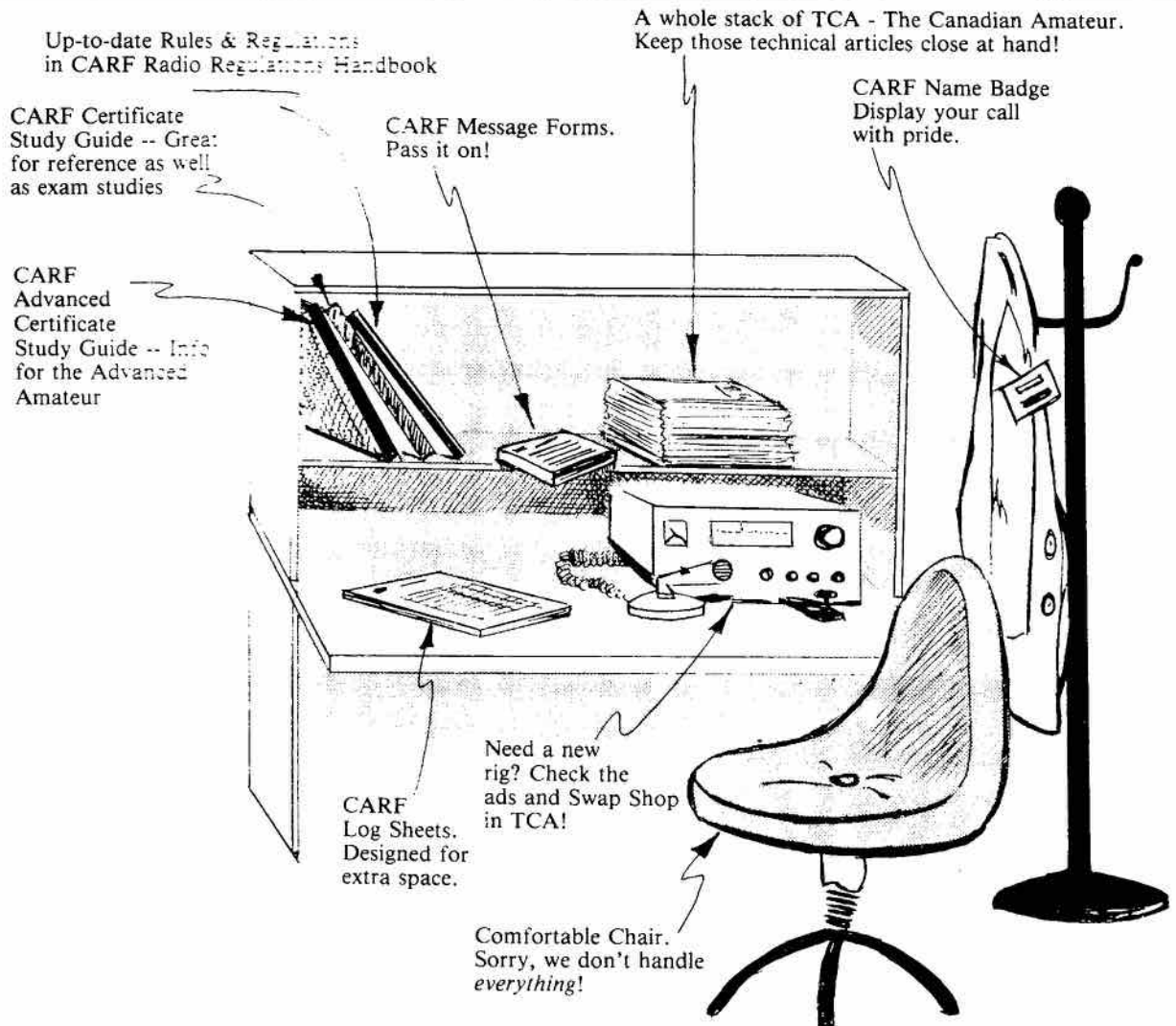
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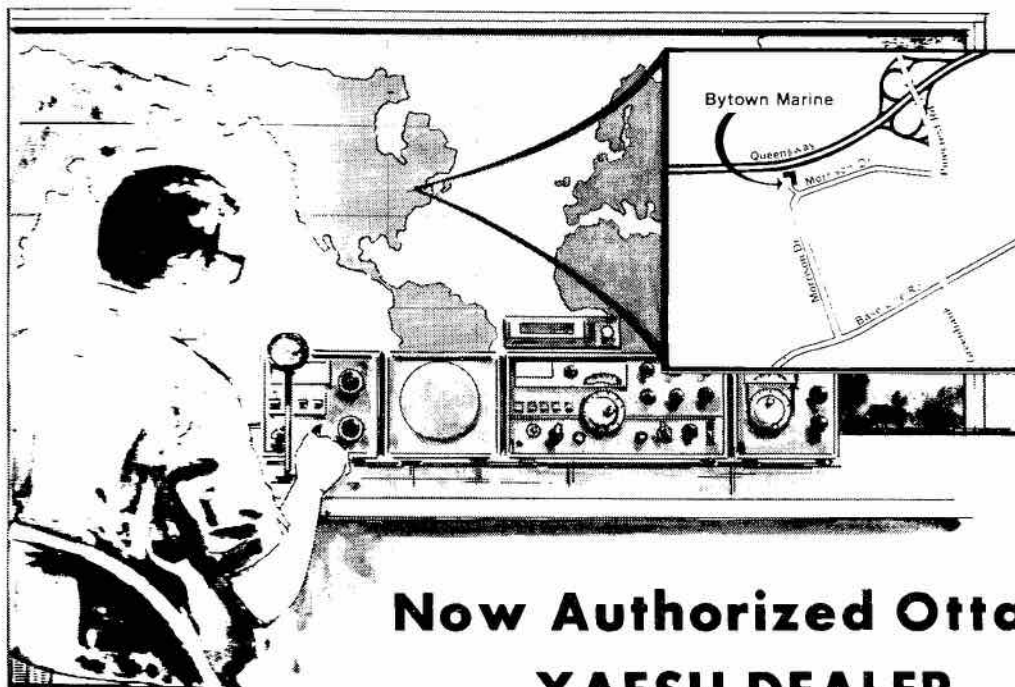
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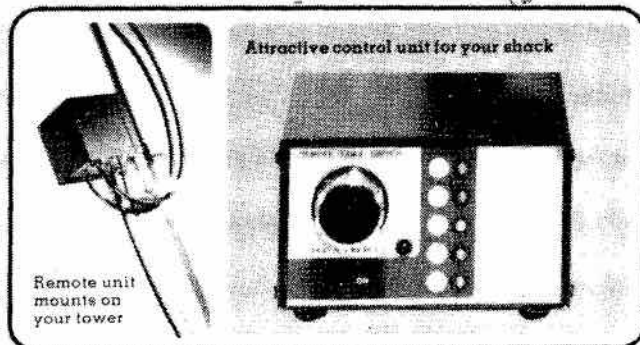
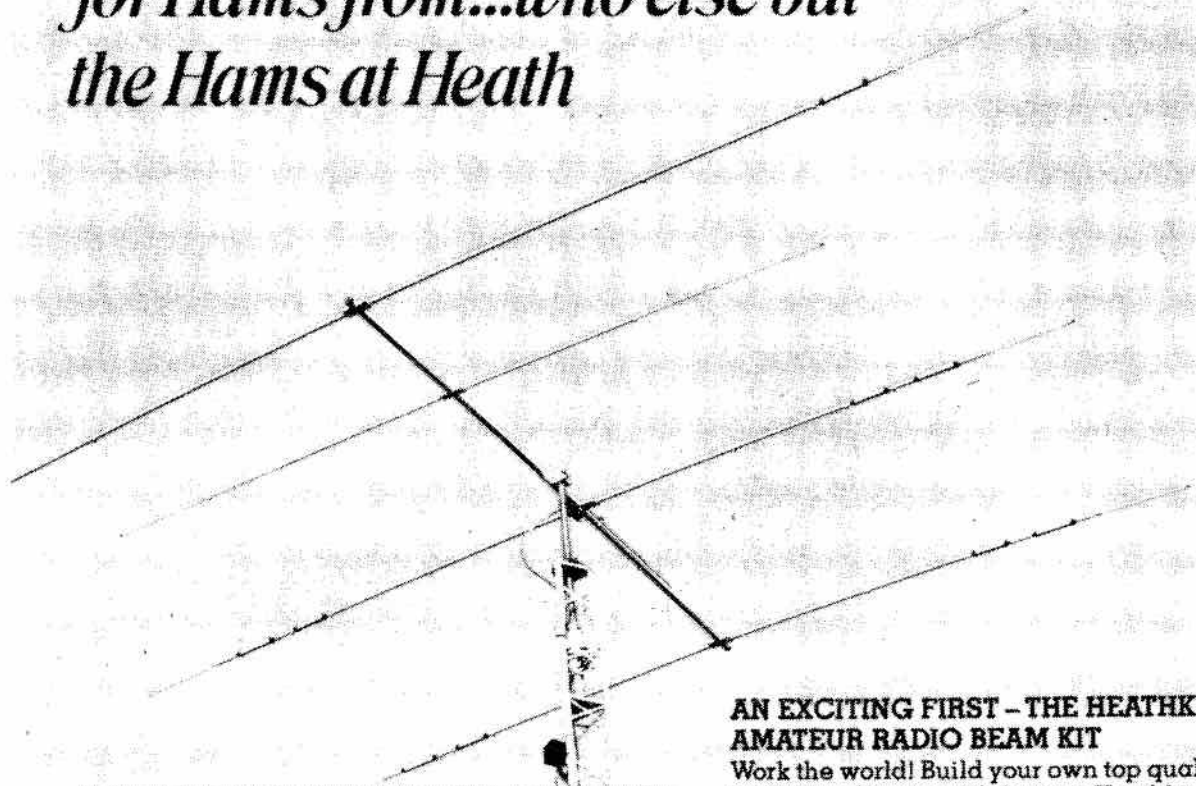


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