Second Class Mail Registration
Number 5073

TCA

OCTOBER 1984

The Canadian Amateur Radio Magazine

La Revue des Radio Amateurs Canadiens

To all VEs: From YOUR Federation, here's YOUR TCA!

VE2FLB Bruno Molino at the Sorel Hamfest. "Sure, we're happy to sign you on as new CARF members!"

VE2FLB Bruno Molino au hamfest de Sorel. "Bien sûr on est content de vous enregistrer en tant que nouveaux membres de FRAC!"

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County Magazine Printshop Ltd.
RR 1 Bloomfield, Ont.
K0K 1G0

Printed in Canada

ISSN 0228-6513

TCA

THE CANADIAN AMATEUR

October 1984 Vol. 12 No. 9

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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.

TCA— The Canadian Amateur is published by C.A.R.F. Publications Limited, 370 King St., P.O. Box 356, Kingston, Ontario, Canada K7L 4W2. It is available for $20 per year or $2.50 per copy. It is recommended by the Canadian Amateur Radio Federation Inc. and members receive it automatically.
Indexed in the Canadian Periodical Index: ISSN 0228-6513
Second Class Mail Registration Number 5073

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WHAT IS CARF?

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

1. To act as a coordinating body of Amateur radio organizations in Canada;

2. To act as a liaison agency between its members and other Amateur organizations in Canada and other countries;

3. To act as a liaison and advisory agency between its members and the Department of Communications;

4. To promote the interests of Amateur radio operators through a program of technical and general education in Amateur matters.

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Most of our work is with repeat customers, for whom our regular delivery is 2 weeks on average for custom crystals. There is no premium for rush orders, and crystals in stock are sent out immediately.

HOW TO ORDER

Give us at least the information suggested in the sample order below. If we need more information, we will request it. In most cases, this is enough to proceed.

QTY	XTAL FREQ.	T/R	CARRIER	Make & Model Additional data
1		T	146.340	INOUE IC22
1		R	146.940	11
3		T	157.845	GE ROYAL EXEC
3		R	152.585	11

PRICING

If the pricing is obvious, total the amount, add $1.00 for First Class mail, and send in your money order, or cheque, with the order. If there is any doubt about the formula and or price, send in the order without the money. We will price the order and inform you by return mail. In the meantime, your order will be processed and shipped on receipt of your payment.

In the example, the amateur band crystals are $8.00 each and the custom or commercial crystals are $9.50 each. The total is $73.00 plus $1.00 = $74.00. Ontario residents add 7% sales tax.

1984 PRICES

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AMATEUR		
Amateur bands	8.00	8.00
CUSTOM		
6 - 55 Mhz	9.50	9.50
5 - 5.9	10.55	12.75
4 - 4.9	11.60	16.95
3 - 3.9	12.75	16.95
Below 3 mhz	16.95	-
55-100 (fifth)	12.75	12.75

MODULES	
Mocom 70	24.95
Mocom 35	21.95

REWORK MODULES to new frequency	
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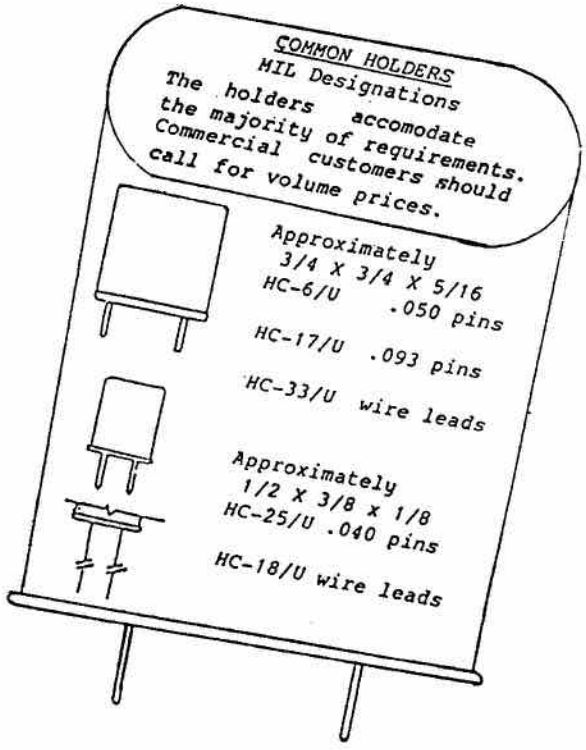

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VE7EAJ, Jim, Terrace, B.C.: I was very pleased with your variety of merchandise, prices & prompt service. I also appreciated the honest advice. Thanks.

VE3KDG, Jack, Toronto, Ont.: Very good products. Ordered on Monday, received Thursday. Fast delivery Best prices in Canada.

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VE4MB, Clarke, Miami, Man.: I was very pleased with your prices and the speed with which you filled my order. Thanks.

VE2BTT, Gilbert, Matane, P.Q.:

I am quite pleased with your rapid service, handling, and highly competetive prices and friendly customer relationship. I'll look you up for my next purchase.

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VE7BBD, Fred, Sidney, B.C.: The prompt business-like way in which you handled my order was much appreciated. The merchandise was first rate, well packed and as advertised, and the price was unbeatable. Very satisfactory.

VE3COP, Colin, St. Catharines, Ont.: Your prices were well below other Canadian dealers. Delivery was speedy. Goods were well packed and in first class condition on arrival. Have recommended you!

VE1CBF, Dean, Sydney, N.S.: The service was excellent and it arrived in a minimal time.

VE7DOG, Archie, Kamloops, B.C.: I received my rotor within 2 days. Your merchandise and service is 100% with me. Fantastic service, friendly staff!

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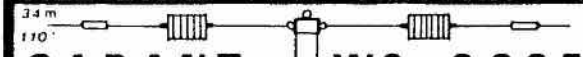
ALL BAND TRAP ANTENNA !



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TELEX. hy-gain

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CD45II	Rotator with control box, mast adaptor	$ 229
HAM IV	Rotator with control box, OUR BESTSELLER	$ 355
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HDR-300	Heavy duty rotator with digital readout	$ 1280
5055910	Tower spacing plate kit	$ 29
5146710	Heavy duty lower mast kit for HAM-IV, T2X	$ 109
5147210	Lower mast kit support for CD45II	$ 35

For price quote on rotor parts enclose a 32¢ stamp. Thanks.

ANTENNAS

EXPLORER 14	w. BN-86, 4-el. beam, 10-15-20m,	$ 555
QK-710	30m/40m conversion kit for Explorer 14	$ 145
Discoverer 7-1	Rotary Dipole for 30m or 40m	$ 259
Discoverer 7-2	2-element 40m beam, 6.5 dB gain	$ 579
Discoverer 7-3	conv. kit for Disc. 7-2, 8.7 dB gain	$ 369
TH7DXS	7-el. triband beam with BN-86, 10-15-20	$ 809
Conv. Kit	for TH6DXX to TH7DX	$ 299
TH5MK2S	5-el. beam with balun, 10-15-20m	$ 699
TH3JRS	3-el. beam, 10-15-20m, 600 W PEP	$ 335
TH2MK3S	2-el. beam, 10-15-20m,	$ 309
HQ2S	HY-Quad, 2-el. cubical quad, 10-15-20m	$ 689
DB 10/15	3-el. duoband beam, 10 + 15m	$ 409
103BAS	3-el. monoband beam, 1om band	$ 169
153BAS	3-el. monoband beam, 15m band,	$ 245
105BAS	5-el. monoband beam, 10m band	$ 222
12 AVQS	trap vertical, 10-15-20m	$ 89
14 AVQ/WBS	trap vertical, 10-15-20-40m	$ 117
18 AVT/WBS	trap vertical, 10-15-20-40-80m	$ 187
GRK-4	radial kit for above verticals	$ 45
14 RMQ	roof mount & radials for above verticals	$ 69
BN-86	ferrite balun, 1:1, 10-80m band	$ 39
2 BDQ	multiband trap dipole, 80 + 40m	$ 99
5 BDQ	multiband trap doublet, 80 - 10m	$ 219
64BS	4-el. beam for 6m band, 12.7 dB gain	$ 125
66BS	6-el. beam for 6m band, 15 dB gain	$ 235
V2S	2m colinear gain vertical, 138-174MHz	$ 85
GPG2A	2m ground plane base antenna	$ 46
23BS	3-el. beam for 2m band, 6.1 dB gain	$ 45
25BS	5-el. beam for 2m band, 9.1 dB gain	$ 59
28BS	8-el. beam for 2m band, 11.8 dB gain	$ 79
214BS	14-el. beam for 2m band, 13 dB gain	$ 89

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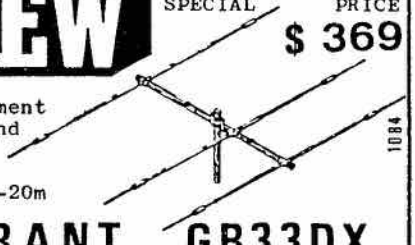

GARANT GB33DX

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A-18-24, 18+24MHz conv. kit...	$ 53
STR-II, radials for HF6V.....	$ 43
RMK-II, radials + roof mount..	$ 64
2-MCV, 2m colinear vertical...	$ 46
2-MCV-5, 2m 5/2 wavelength....	$ 57

For more BUTTERNUT see our catalogue.

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8-cond. rotor cable, each 10 ft.	$ 4.50
RG8/U-Coax, Standard, each 10ft	$ 5.95
RG8/U-Coax, DeLuxe, each 10ft....	$ 8.50
RG58/U-Coax, each 10 ft.	$ 2.50
PL-259 Coax connector.....	$ 1.50

Prices include FREE shipping - ONLY - if ordered with rotor or antenna!

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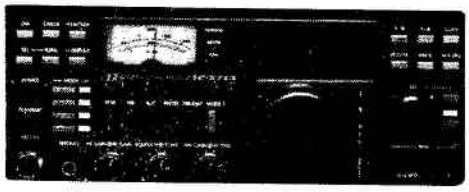
Order the 3el. beam DB10/15 at $ 409, get the CD45II rotor for $ 1, order the GARANT W3-2005/S at $ 89 and pay only $ 499 for all 3 items - and you save $ 228 and work all 5 HF-bands. HURRY, quantities are limited!

ICOM VHF

New

IC-271H(A) BASE

- *100/25 Watts*
- *32 Built-in Subaudible Tones*
- *32 Memory Channels*
- *12 VDC*
- *Internal Power Supply Option*
- *Fluorescent Display*



2-Meter/FM/CW/SSB/100 or 25 Watts

For the ultimate in 2-meter communications, ICOM presents the **IC-271H** transceiver with a high dynamic range receiver and a 100 watt transmitter. Operating from the IC-PS30, IC-PS15, or the internal IC-PS35 (optional), the **IC-271H** brings all the advanced functions of the latest CPU controlled radios to your shack.

Standard features include 100 watts of power...32 built-in subaudible tones which are easily selected by rotating the main tuning knob...32 memory channels which hold frequency, offset, offset direction, mode and subaudible tone...PLL locked at 10Hz...ICOM's high visibility, easy-to-read fluorescent display...memory and programmed band scanning, including Mode scan which scans memories with a particular mode or locks out busy frequencies so the receiver will not stop at that memory channel while scanning.

Optional features include a switchable preamplifier, CTCSS encoder/decoder (encoder is standard), computer interface and voice synthesizer.

The 25 watt **IC-271A** is also available and has the same outstanding features and size (11¼"W x 4⅜"H) as the **IC-271H**. An optional IC-PS25 internal power supply makes the **IC-271A** a compact, go-anywhere 2-meter base station.

Some Specifications:
■ **Frequency Coverage:** 143.8000 — 148.1999MHz ■ **Frequency Resolution:** SSB, 10/100 Hz Steps/FM 5KHz steps, 1KHz steps with TS button depressed ■ **Frequency Readout:** 7 digit fluorescent display 100Hz readout w/RIT ■ **Frequency Stability:** ±10 PPM (-10° — +60°C) ■ **Memory Channels:** 32 channels, any inband frequency programmable ■ **Usable Conditions:** Temperature: -10°C — 60°C (14°F — 140°F) Duty cycle: continuous ■ **Power Supply Requirement:** 13.8V DC ±15% (negative ground) 6A max. or 117V/AC ±10% ■ **Dimensions:** 111mm(H) x 286mm(W) x 274mm(D) ■ **Transmitter Ouput Power:** SSB 25W (PEP), CW 25W, FM 1 — 25W (Adjustable) ■ **Emission Mode:** SSB (A3J, USB/LSB), CW (A1), FM (F3) ■ **Modulation System:** SSB: Balanced modulation, FM: Variable reactance frequency modulation ■ **Max. Frequency Deviation:** ±5KHz ■ **Microphone:** 600 Ohm (IC-SM6 optional base mic available) ■ **Operating Mode:** Simplex, Duplex (any inband frequency separation programmable) ■ **Receiving Mode:** SSB: (A3J, USB/LSB), CW (A1), FM (F3) ■ **Sensitivy:** SSB, CW: Less than 0.5 microvolts for 10dB S+N/N, FM: More than 30dB S+N+D/N+D at 1 microvolt ■ **Selectivity:** SSB, CW: More than ±1.2KHz at -6dB point Less than ±2.4KHz at -60dB point; FM: More than ±7.5KHz at -6dB point, Less than ±15KHz at -60dB point ■ **Audio Output Power:** 2 Watts ■ **Audio Output Impedance:** 8 ohms ■ **RIT Variable Range:** ±9.9KHz

New

IC-27H/A MOBILE

- *Compact*
- *Internal Speaker*
- *32 PL Frequencies*
- *9 Memories*
- *45/25 Watts*
- *Scanning*

2-Meter/FM

ICOM presents the **IC-27A**, 25 Watt and its brother, the **IC-27H** 45 Watt, 2 meter mobiles. Together they constitute an important breakthrough in 2 meter mobile communications. Both measure only 1½"H x 5½"W and have internal speakers which make them the most compact 2 meter mobiles available. The **IC-27's** are full featured VHF mobiles with 32 PL frequencies front panel selectable from the main tuning knob, 9 memories which store a receive frequency, transmit offset and PL tone; priority scan, dual VFO's, 1 meg-up button, tuning speed button and optional speech synthesizer. The HM23 microphone with up/down buttons and DTMF pad are standard. A new style mobile mount allows front mounting of the unit without having to swing the mobile mount open.

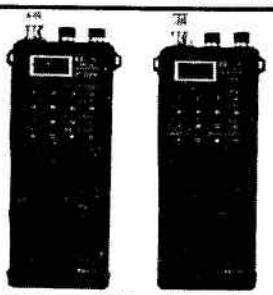
The optional speech synthesizer (UT16) verbally announces the receiver frequency of the transceiver through the simple push of a button. This unique feature allows the user to hear what frequency he is operating on without looking at the transceiver.

Some Specifications:
■ **Frequency Coverage:** 143.800 — 148.195MHz ■ **Current Drain (at 13.8VDC):** Receiving squelched approx. 0.4A; receiving max audio approx. 0.6A; transmit at 5 watts approx. 3.0A; transmit at 25 watts approx. 6.0A (25H .45 watts, 10A) ■ **Dimensions:** 140mm(W) x 38mm(H) x 177mm(D) (226mm - 25H) ■ **Weight:** Approx. 1.2kg ■ **Transmitter Output Power:** 45W/25W High, 5 Watt Low ■ **Emission Mode:** 16F3 ■ **Microphone:** 600 ohm electret condenser mic PTT switch Touchtone® encoder built-in Up/Down scan buttons ■ **Operating Mode:** Simplex or duplex with ±600KHz, or splits. Programmable in 100KHz increments ■ **Receiver Receiving System:** Double conversion superheterodyne ■ **Receiver Intermediate Frequency:** 1st: 10.695MHz; 2nd: 455KHz ■ **Receiver Sensitivity:** Less than 0.4μV for 20dB noise quieting, less than 30dB S+N+D/N+D @ 1 microvolt ■ **Receiver Selectivity:** More than ±7.5KHz at -6dB, less than ±15KHz at -60dB

New

IC-02A(T) HANDHELD

- *Digital Readout*
- *Scanning*
- *10 Memories*
- *32 PL Tones*
- *3 Watt Std/ 5 Watt Opt*



2-Meter/FM

ICOM's new top-of-the-line **IC-02A** and **IC-02AT** compliment its existing line of popular handheld transceivers and accessories. The new direct entry microprocessor controlled **IC-02A** is a full-featured 2-meter handheld.

Some of its many features are: scanning, 10 memories, duplex offset storage in memory, odd offsets, 32 keyboard selectable PL tones which store in memory, and internal lithium battery backup.

Keyboard entry through the 16-button pad allows easy access of frequencies, duplex, memories, memory scan, priority, dial lock, PL tones and DTMF in the **IC-02AT**.

An easy-to-read custom LCD readout indicates frequency, memory channel, signal strength and transmitter output, PL tone, and scanning functions.

The new **IC-02A** has a high/low power switch, battery lock, frequency lock, and lamp on/off switch. An aluminum case back is provided for superior heatsinking when the **IC-02A** is run at the standard 3 watt level or 5 watts (optional battery pack).

A variety of batteries are available for the **IC-02A**, including the new long-life 8.4 volt IC-BP8 and 13.2 volt IC-BP7. The IC-BP7 and BP8 may be charged from a top panel connector...for 13.8 volts which will also power transceiver operation.

ICOM's IC-2A(T) continues to be available...and its complete line of accessories are compatible with the new **IC-02A(T)**.

Some Specifications:
■ **Frequency Coverage:** 144.000 — 147.995MHz ■ **Frequency Resolution:** 5KHz steps ■ **Frequency Control:** Digital PLL synthesizer, with keyboard entry ■ **Scanning System:** Priority, memory, program ■ **Frequency Readout:** LCD display (with switchable back light) ■ **Power Supply Requirement:** 13.8VDC or attendant batteries ■ **Current Drain (at 8.4VDC):** Transmitting — High (3.0w) approx. 1.0A, Low (0.5w) approx. 450mA; Receiving — At max. audio approx. 140mA, squelched approx. 35mA ■ **Dimensions:** 116.5mm(H) x 65mm(W) x 35mm(D) without battery case ■ **Weight:** 515g (including BP3 battery pack and flexible antenna) ■ **Transmitter Output Power:** High — 3.0w (at 8.4VDC), 5.0w (at 13.2VDC); Low — 0.5w (at 8.4VDC) ■ **Emission Mode:** 16F3 ■ Receiver Receiving System: Double conversion superheterodyne ■ **Receiving Mode:** 16F3 ■ **Receiver Intermediate Frequencies:** 1st 16.9MHz, 2nd 455KHz ■ **Receiver Sensitivity:** Less than 0.32μV for 20dB noise quieting ■ **Receiver Audio Output Power:** More than 500mW ■ **Audio Output Impedance:** 8 ohms

HF General Coverage Receiver

ICOM introduces the **IC-R71A** 100KHz–30MHz superior-grade general coverage receiver with innovative features including keyboard frequency entry and wireless remote control (optional).

This easy-to-use and versatile receiver is ideal for anyone wanting to listen in to world-wide communications. Demanding no previous shortwave receiver experience, the **IC-R71A** will accommodate an SWL (shortwave listener), Ham (amateur radio operator), maritime operator or commercial operator.

With 32 programmable memory channels, SSB/AM/RTTY/CW/FM (optional), dual VFO's, scanning, selectable AGC and noise blanker, the **IC-R71A's** versatility is unmatched by any other commercial grade unit in its price range.

Utilizing ICOM's DFM (Direct Feed Mixer), the **IC-R71A** is virtually immune to interference from strong adjacent signals, and has a 100dB dynamic range.

ICOM introduces a unique feature to shortwave receivers...direct keyboard entry for simplified operation. Precise frequencies can be selected by pushing the digit keys in sequence of frequency. The frequency will be automatically entered without changing the main tuning control. Memory channels may be called up by pressing the VFO/M (memory) switch, then keying in the memory channel number from 1 to 32.

A quartz-locked rock solid synthesized tuning system provides superb stability. Three tuning rates are provided: 10Hz / 50Hz / 1KHz.

Thirty-two tunable memories, more than any other general coverage receiver on the market, offer instant recall of your favorite frequency. Each memory stores frequency, VFO and operating mode, and is backed by an internal lithium memory backup battery to maintain the memories for up to five years.

Options. FM, synthesized voice frequency readout (activated by SPEECH button), RC11 wireless remote controller, IC-CK70 DC adapter for 12 volt operation, MB12 mobile mounting bracket, two CW filters FL32 — 500Hz, and FL63 — 250Hz, high-grade 455KHz crystal filter FL44A, and CR64 high stability crystal.

Some Specifications.

■ **Frequency Coverage:** 0.1MHz — 30.0MHz ■ **Frequency Control:** CPU based 10Hz step Digital PLL synthesizer with dual VFO system. Direct frequency entry through keyboard or RC-11 remote unit. ■ **Memories:** 32 tunable memories store frequency and mode. ■ **Scanning:** Memory and band scan with auto-stop. ■ **Frequency Readout:** 6 digit 100Hz fluorescent readout. ■ **Frequency Stability:** Less than 250Hz after switch on 1 min to 60 mins, and less than 50Hz after 1 hour. Less than 500Hz in the range of +10°C to +50°C. With optional CR-64 high stability crystal: Less than ±50Hz after switch on 1 min to 60 mins, and less than ±10Hz after 1 hour at normal room temperature. Less than ±100Hz in the range of -10°C to +60°C. ■ **Power Supply Requirements:** 117V or 235V ±10% 50 — 60Hz 30V A.(100V/200V/220V use requires internal modification). ■ **Antenna Impedance:** 50 ohms Unbalanced (Single wire can be used on 0.1 — 1.6MHz). ■ **Weight:** 7.5kg (16.5 lbs.) ■ **Dimensions:** 111mm(H) x 286mm(W) x 276mm (D) (4⅜ in. x 11¼ in. x 10⅞ in.) ■ **Receiving System:** Quadruple Conversion Superheterodyne with continuous Passband Tuning. (F3*: Triple Conversion Superheterodyne). ■ **Receiving Mode:** A1, A3J (USB, LSB), F1 (Output F5K audio signal), A2, F3*. ■ **IF Frequencies:** 1st: 70.4515MHz, 2nd: 9.0115MHz, 3rd: 455KHz, 4th: 9.0115MHz (except F3*); with continuous Passband Tuning (except F3*). ■ **2nd IF Center Frequency:** SSB (A3J) FM* (F3) — 9.0115MHz, CW (A1) RTTY (F1) — 9.0100MHz, AM (A2) — 9.0100MHz. ■ **Sensitivity (when preamplifier is ON):** SSB, CW, RTTY: Less than 0.15 microvolts (0.1 — 1.6MHz : 1 microvolt) for 10dB S+N/N; AM: Less than 0.5 microvolts (0.1 — 1.6MHz : 3 microvolts); FM*: Less than 0.3 microvolts for 12dB SINAD (1.6 — 30MHz). ■ **Selectivity:** SSB, CW, RTTY: 2.3KHz at -6dB (Adjustable to 500Hz min), 4.2KHz at -60dB; CW-N, RTTY-N: 500Hz at -6dB, 1.5KHz at -60dB; AM: 6KHz at -6dB (Adjustable to 2.7KHz min), 15KHz at -50dB; FM*: 15KHz at -6dB, 25KHz at -60dB. ■ **Spurious Response Rejection Ratio:** More than 60dB. ■ **Audio Output:** More than 2 watts. ■ **Audio Output Impedance:** 8 ohms.

IC-R71A BASE

- *100KHz - 30MHz General Coverage Receiver*
- *Keyboard Frequency Entry*
- *32 Memories*
- *FM Option*
- *Microprocessor Controlled*
- *110/220 VAC*
- *12 VDC Option*

*When optional FM unit is installed.

2-Meter/FM

Here are a few reasons why the IC-2A is an extremely popular handheld: It's versatility...3 sizes of battery packs which easily slide on or slide off providing other power outputs and operating cycles...

Extremely compact...Fits in the palm of your hand...Only 2.6" × 1.4" × 6.5" with 800 channels transmit and receive...Synthesized...Excellent audio quality...Separate speaker and mic built in...Output power 1½ watts high with BP3, .5 watt battery saving on low...Touchtone® pad on the 2AT is provided as standard.

Each 2A and 2AT comes complete with BP3 NiCd pak, AC wall charger, flexible antenna, earphone, wrist strap and belt clip. All standard at no extra cost.

See page 10 for options.

Some Specifications:

■ **Frequency Coverage:** 144.00 — 147.995 MHz ■ **Frequency resolution:** 5 KHz steps ■ **Frequency control:** Digital PLL synthesizer, with thumbwheel switches ■ **Power supply requirement:** DC 8.4V with attendant power pack IC-BP3 negative ground is acceptable ■ **Current drain (at 8.4V DC):** Transmitting - High (1.5w) approx. 700mA, Low (0.15w) approx. 300mA Receiving - At max. audio approx. 170mA, Squelched approx. 22mA ■ **Dimensions:** 116.5mm (H) × 65mm (W) × 35mm (D) without power pack ■ **Attendant power pack IC-BP3:** 49mm (H) × 65mm (W) × 35mm (D) ■ **Weight:** 470g (IC-2AT: 490g) including power pack, IC-BP3 and flexible antenna ■ **Transmitter Output Power:** High 1.5w (at 8.4v), Low 0.15w (at 8.4v) ■ **Emission mode:** 16F3 ■ **Receiver Receiving system:** Double conversion superheterodyne ■ **Receiving Mode:** 16F3 ■ **Receiver Intermediate Frequency:** 1st 16.9 MHz, 2nd 455 KHz ■ **Receiver Sensitivity:** Less than 0.5 uV for 20dB noise quieting. More than 26dB S+N+D/N+D at 1 microvolt ■ **Receiver Audio output power:** more than 400mW ■ **Audio output power:** 8 ohms

IC-2A(T) HANDHELD

- *Easy to use*
- *Affordable*
- *Digital PLL*

ICOM
The World System

ICOM AMERICA, INC.
2112-116th Ave NE, Bellevue, WA 98004 (206) 454-8155
3331 Towerwood Drive, Suite 307, Dallas, TX 75234 (214) 620-2780

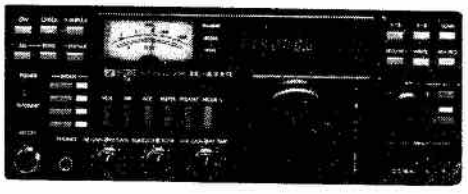
ICOM CANADA
810 SW Marine Drive, Vancouver, B.C. (604) 321-1833

ICOM UHF

New

IC-471(H)A BASE

- *75/25 Watts*
- *430 - 450MHz*
- *Fluorescent Display*
- *32 Memories*
- *32 PL Tones*
- *12 VDC Operation*



430 - 450MHz/FM/CW/SSB/75 or 25 Watts

Full 20MHz coverage 430 — 450MHz.

32 Memories. Each memory holds frequency, mode, offset direction, offset frequency and subaudible tone for easy return to an often used frequency or for remembering a new repeater or simplex frequency.

Subaudible Tones. Subaudible tones are selected by rotating the main tuning knob. These tones may then be stored into memory along with the frequency, offering ease of operation.

An extremely low noise and good design allows the IC-471(H)A to lock to 10Hz for extreme accuracy.

New Display. ICOM's new easy-to-read two color fluorescent transceiver situation display shows frequency, mode, offset direction, VFO in use, memory channel, and RIT offset direction and amount.

Scanning. Scanning of memories, programmable band scan, and mode scanning are available and easy to use.

New Size. Only 11¼"W x 4⅜"H x 10¾"D the IC-471(H)A is styled to look good and engineered for ease of operation.

Internal power supply/mast-mounted preamp optional.

Some Specifications:

■ **Frequency Coverage:** 430 — 450MHz ■ **Frequency Resolution:** SSB 10/100Hz steps, FM 5KHz steps, 1KHz steps with TS switch turned ON ■ **Frequency Readout:** 7 digit fluorescent display / 100Hz readout / RIT ■ **Frequency Stability:** ±10 PPM (-10°C to +60°C) ■ **Memory Channels:** 32 Channels, any inband frequency programmable ■ **Usable Conditions:** Temperature: -10°C — 60°C (14°F — 140°F) ■ **Power Supply Requirement:** 13.8V DC ±15% (negative ground) 4A Max. or 117V AC ±10% ■ **Current Drain (at 13.8V DC):** Transmitting: SSB Approx. 8.0A; CW, FM Approx. 6.0A; FM Approx. 2.5A (471H 4.0A) Receiving: At max. audio output Approx. 1.2A; Squelched Approx. 1.2A ■ **Dimensions:** 111mm(H) x 286mm(W) x 274mm(D); 471H - 324mm(D) ■ Transmitter Output Power: SSB CW, FM 1 — 25W (Adjustable); 471H - 10 - 75W (Adjustable) ■ **Modulation System:** SSB Balanced modulation, FM Variable reactance frequency modulation ■ **Max. Frequency Deviation:** ±5KHz ■ **Microphone:** 600 ohm electret ■ **Operating Mode:** Simplex, Duplex ■ **Receiving Mode:** SSB (A3J, USB/LSB), CW (A1), FM(F3) ■ **Sensitivity:** SSB, CW: Less than 0.5 microvolts for 10dB S+N/N; FM: Less than 0.6 microvolts for 20dB Noise quieting ■ **Selectivity:** SSB, CW: More than ±1.2KHz at -6dB point, Less than +2.4KHz at -60dB point FM: More than ±7.5KHz at -6dB point, Less than ±15KHz at -60dB point ■ **Audio Output Power:** 2.0W ■ **Audio Output Impedance:** 8 ohms ■ **RIT Variable Range:** ±9.9KHz

New

IC-47A MOBILE

- *440 - 450MHz*
- *TT Mic Included*
- *Microprocessor Controlled*
- *Scanning*
- *9 Memories*
- *32 PL Frequencies*
- *25 Watts*
- *12 VDC*

440MHz/FM

The **IC-47A** 440MHz FM mobile is ICOM's micromini-sized transceiver for UHF communication. It has 25 Watts of RF power, internal speaker, 32 PL frequencies built in and selectable with the main tuning knob, 9 memories storing frequency, offset and PL tone with lithium battery backup; scanning of memories and band, priority scan plus an optional speech synthesizer. HM23 DTMF microphone is standard, as is a stacking front loading mobile mount, for use in conjunction with either the IC-27A or the IC-37A.

The optional speech synthesizer (IC-UT16) verbally announces the receive frequency. Tones are selected by holding the tone button in and rotating the main tuning knob. Tone channel number appears in the display.

Memory scanning, priority scanning and band scanning are easily accessed through S/S button. Top panel controls are for scan parameters.

Some Specifications:

■ **Frequency Coverage:** 440MHz — 450MHz ■ **Frequency Resolution:** 5KHz/25KHz steps ■ **Frequency Control:** Microcomputer based 5KHz step Digital PLL synthesizer Independent Dual VFO Capability ■ **Frequency Stability:** Within ±0.001% ■ **Memory Channels:** 9 channels with any inband frequency programmable ■ **Usable Conditions:** Temperature: -10°C — 60°C (14°F — 140°F); Operational time: Continuous ■ **Antenna Impedance:** 50 ohms unbalanced ■ **Power Supply Requirement:** 13.8V DC ±15% (negative ground); 7A Max. ■ **Current Drain (at 13.8V DC):** Transmitting: High (25W), Approx. 7.0A; Low (5W), Approx. 3.5A Receiving: At max audio output, Approx. 0.7A; Squelched, Approx. 0.5A ■ **Dimensions:** 38(41)mm(H) x 140mm(W) x 226(238)mm(D); ( ): Shows the dimensions including projections ■ **Weight:** Approx. 1.4kg ■ **Output Power:** High 25W Low 5W ■ **Emission Mode:** 16F3 (F3E 16K0) ■ **Modulation System:** Variable reactance frequency modulation ■ **Max. Frequency Deviation:** ±5KHz ■ **Spurious Emission:** More than 60dB below carrier ■ **Microphone:** 600 ohm electret condenser microphone with push-to-talk and frequency UP/DOWN switches. (IC-47A: with 16 key dual-tone pad) ■ **Operating Mode:** Simplex, Duplex (Any offset in-band in 100KHz increments programmable) ■ **Receiving System:** Double-conversion superheterodyne ■ **Modulation Acceptance:** 16F3 (F3E 16K0) ■ **Intermediate Frequencies:** 1st: 21.800MHz, 2nd: 455KHz ■ **Sensitivity:** Less than 0.2μV for 12dB SINAD, Less than 0.4μV for 20dB Noise quieting ■ **Squelch Sensitivity:** Less than 0.15μV ■ **Spurious Response Rejection Ratio:** More than 60dB ■ **Selectivity:** More than 15KHz at -6dB point, Less than 30KHz at -60dB point ■ **Audio Output Power:** More than 2.0W ■ **Audio Output Impedance:** 4 — 8 ohms

New

IC-04AT HANDHELD

- *440 - 449.995MHz*
- *LCD Readout with S-Meter*
- *Frequency Entry*
- *PL Tones*
- *Scanning*
- *10 Memories*
- *3 Watt Std/ 5 Watt Opt*

440MHz/FM

The **IC-04AT** reflects the latest technology in a multi-function, multifeature handheld transceiver for 440 — 450MHz. Frequency entry, control functions and the 32 PL tones are controlled by the 16-button pad on the face of the radio. Also included are priority scanning (both of memories and programmable band scan), custom LCD readout, and DTMF.

Ten memories with internal lithium battery backup give the ultimate in flexibility for easy access to most-used channels. The **IC-04AT** may be used to bring up any frequency between 440 and 449.995MHz with 5KHz spacing, or favorite frequencies may be stored in the memory and recalled at the touch of a button.

The **IC-04AT** comes complete with a sealed case, an aluminum heatsink and battery lock. The **IC-04AT** utilizes the existing accessories for the IC-2A(T), plus new accessories such as long-life and high-power battery packs and a boom headset.

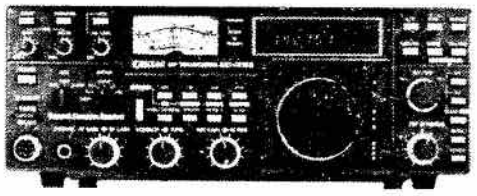
Some Specifications:

■ **Frequency Coverage:** 440.000 — 449.995MHz ■ **Frequency Resolution:** 5KHz steps ■ **Frequency Control:** Digital PLL synthesizer with keyboard entry ■ **Scanning System:** Priority, memory, program ■ **Frequency Readout:** LCD display (with switchable back light) ■ **Power Supply Requirement:** 13.8VDC or attendant batteries ■ **Current Drain (at 8.4VDC):** Transmitting — High (3.0w) approx. 1.2A, Low (0.5w) approx. 450mA; Receiving — At max. audio approx. 170mA, squelched approx. 45mA ■ **Dimension:** 116.5mm(H) x 65mm(W) x 35mm(D) without battery case ■ **Weight:** 515g (including BP3 battery pack and flexible antenna) ■ **Transmitter Output Power:** High 3.0w (at 8.4VDC), 5.0w (at 13.2VDC); Low 0.5w (at 8.4VDC) ■ **Emission Mode:** 16F3 ■ **Receiver Receiving System:** Double conversion superheterodyne ■ **Receiving Mode:** 16F3 ■ **Receiver Intermediate Frequencies:** 1st 21.8MHz, 2nd 455KHz ■ **Receiver Sensitivity:** Less than 0.32μV for 20dB noise quieting ■ **Receiver Audio Output Power:** More than 500mW ■ **Audio Output Impedance:** 8 ohms

ICOM HF

IC-751 BASE

- *160-10M*
- *100KHz - 30MHz Receiver*
- *CW/SSB/ AM/RTTY/ FM*
- *32 Memories*
- *Microprocessor Controlled*
- *12 VDC Operation*
- *Fluorescent Display*



HF Transceiver/General Coverage Receiver

ICOM is proud to announce the most advanced amateur transceiver in communications history. Based on ICOM's proven high technology and wide dynamic range HF receiver designs, the IC-751 is a competition grade ham receiver, a 100KHz to 30 MHz continuous tuning genera coverage receiver, and a full featured all-mode, solid state ham band transmitter, that covers all the new WARC bands. And with the optional internal AC power supply, it becomes one compact, portable/field day package.

• 105dB Dynamic Range • 70.4515MHz First IF • Deep IF Notch • RIT With Separate Readout • Low Noise Preamp • Low IMD Transmitter • 100% Duty Cycle • 12VDC Operation • Quiet Relay Selection of LPFs • Monitor Circuit • Full QSK • Dual VFO With Data Transfer • 32 Tunable Memories • Internal Memory Backup • Scanning • Digital I/O For Computer Control • Mode Scan • Full Function Metering • Squelch • FM • Multicolor Fluorescent Display • Mic

Options: Voice ..equency Readout. External frequency controller, external PS15 power supply, PS35 internal power supply, high stability reference crystal (less than ±10Hz after 1 hr.), desk mic, filter options:

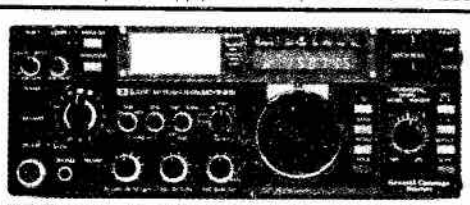
SSB: FL70
CWN: FL52A, FL53A, FL32, FL63
AM: FL33

Some Specifications:

■ **Frequency Coverage (Ham Band):** 1.8MHz — 2.0MHz, 3.45MHz — 4.1MHz, 6.95MHz — 7.5MHz, 9.95MHz — 10.5MHz, 13.95MHz — 14.5MHz, 17.95MHz — 18.5MHz, 20.95MHz — 21.5MHz, 24.45MHz — 25.1MHz, 27.95MHz — 30.0MHz, General Cover (Receive Only), 0.1MHz — 30.0MHz, Thirty 1MHz Segments ■ **Frequency Control:** CPU based 10Hz step digital PLL synthesizer, independent transmit-receive frequency available ■ **Frequency Readout:** 6 digit 100Hz fluorescent readout, with RIT readout. ■ **Frequency Stability:** Less than ±200Hz after switch on 1 min. to 60 mins, and less than 30Hz after 1 hour. Less than ±500KHz in the range of 0°C to +50°C. (Optional high stability crystal available). ■ **Power Supply Requirements:** DC 13.8V ±15% negative ground current drain 20A max. (at 200W input) internal or external AC power supply is available for AC operation. ■ **Antenna Impedance:** 50 ohms unbalanced ■ **Dimensions:** 115mm(H) x 306mm(W) x 355mm(D) ■ **Transmitter RF Power:** SSB (A3J) — 200 watts PEP input, CW (A1), RTTY (F1) — 200 watts input. Continuously adjustable output power — 10 watts Max, AM (A3) — 40 watts output, FM (F3) — 100 watts. ■ **Microphone:** Impedance 600 ohms ■ **Receiving Mode:** A1, A3J (USB, LSB), F1 (output FSK audio signal), A3. ■ **IF Frequencies:** 1st: 70.4515MHz, 2nd: 9.0115MHz, 3rd: 455KHz, 4th: 35OKHz except FM, with continuous bandwidth control ■ **Sensitivity:** Less than 0.15uV for 10dB S+N/N (Preamp On) ■ **Selectivity:** SSB, CW, RTTY 2.3KHz at -6dB (Adjustable to 0.8KHz min); 4.0KHz at -60dB ■ **Audio Output:** 3 watts ■ Audio Output Impedance: 4 — 16 ohms ■ **RIT Variable Range:** ±9.9KHz

IC-745 BASE

- *160-10M*
- *100KHz - 30MHz Receiver*
- *SSB/CW/ AM/RTTY*
- *16 Memories*
- *FM Option*
- *Microprocessor Controlled*
- *12 VDC Operation*



HF Transceiver/General Coverage Receiver

ICOM's **IC-745** has features to fine tune received signal and ignore interference. ICOM delivers 100dB dynamic range plus these standard features:

• All Solid State • 100% Duty Cycle • Dual VFO's/Split Operation • 16 Memories • Adjustable Noise Blanker • Adjustable AGC With OFF • Squelch on Call Modes • IF Shift and Passband Tuning • Notch Filter • Automatic Sideband Selection • Speech Compressor • Tone Control • CW Sidetone • Lithium Battery Memory Backup • 12 Volt Operation

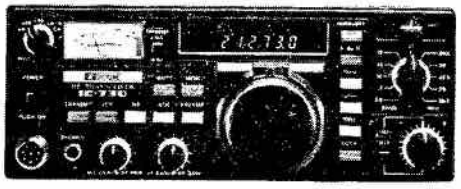
Options: IC-EX241 Marker Unit, IC-EX242 FM Unit, IC-EX243 Electric Key Unit, FL-45 9MHz Xtal Filter 500Hz -6dB, FL-54 9MHz Xtal Filter 270Hz -6dB, FL-52A 455KHz Xtal Filter 500Hz -6dB, FL-53A 455KHz Xtal Filter 250Hz -6dB, FL-44A 455KHz SSB Filter 2.4KHz -6dB, IC-PS35 Built-in Type Power Supply.

Some Specifications:

■ **Frequency Coverage:** 0.1MHz — 30MHz, 1.8MHz — 2.0MHz, 3.45MHz — 4.1MHz, 6.95MHz — 7.5MHz, 9.95MHz — 10.5MHz, 13.95MHz — 14.5MHz, 17.95MHz — 18.5MHz, 20.95MHz — 21.5MHz, 24.95MHz — 25.1MHz, 27.95MHz — 30.0MHz ■ **Frequency Control:** CPU based 10Hz step Digital PLL synthesizer Independent Transmit-Receive frequency ■ **Frequency Stability:** Less than 500Hz after switch on 1 min. to 60 min., and less than 1.00Hz after 1 hour. Less than 1KHz in the range of -10°C to +60°C ■ **Power Supply Requirements:** DC 13.8V ±15% Negative ground Rx Current 1.5A Current drain 20A MAX. (at 200W input) ■ **Antenna Impedance:** 50 ohms Unbalanced ■ **Weight:** 8.0Kg ■ **Dimensions:** 111(123)mm (H) x 286(304)mm (W) x 355(383)mm (D) ■ **RF Power:** SSB (A3J) 200 Watts PEP Input; CW (A1), RTTY (F1) 200 Watts Input; Continuously Adjustable Output; Power (10 — 100W); AM (A3) No Transmit; FM(F3) 200 Watts Input (Option) ■ **Emission Mode:** A3J SSB (Upper sideband and Lower sideband); A1 CW; F1 RTTY (Frequency Shift Keying); F3 FM (+5KHz — FM Option) ■ **Receiving Mode:** A1, A3J (USB, LSB) F1 (output FSK audio signal), A3, F3 (FM Option) ■ **IF Frequencies:** 1st 70.4515MHz, 2nd: 9.0115MHz, 3rd: 455KHz with continuous Bandwidth Control ■ **Sensitivity:** SSB/CW/RTTY for 10dB S/N: 1.6 — 30MHz Preamp On 0.15uV, AM for 10dB S/N 0.1 — 1.6MHz ■ **Selectivity:** SSB, CW, RTTY: 2.2KHz at -6dB, 4.5KHz at -60dB, CW AF Filter: Passband Tuning will narrow to 700Hz. AM: 4KHz at -6dB, 15KHz at -60dB, FM: 15KHz at -6dB, 30KHz at -60dB, Audio Output: 2.8W RIT Range: +1.5KHz Notch Filter: 30dB

IC-730 MOBILE

- *80 - 10M*
- *SSB/AM/CW*
- *Microprocessor Controlled*
- *Small Size*
- *12 VDC Operation*



HF Transceiver

ICOM's **IC-730** is the go anywhere HF rig for everyone's pocketbook. This compact size HF transceiver for the amateur band will fit in extremely small spaces, measuring only 3.7" x 7½" x 10.8" deep, the unit is perfect for car, airplane, boat or suitcase portable operation. Convenient to use features such as 3-speed tuning with tuning rates of 1KHz, 100Hz or 10Hz, electronic dial lock, 1 memory per band, and dual VFO's are built in at no extra cost.

The **IC-730** is full featured. 200 watts PEP input, receiver preamp, VOX, noise blanker, large RIT knob, speech processor, IF tuning standard, fully solidstate broadbanded tuning automatic protection circuit for high SWR conditions, digital readout, and selectible AGC.

Options include up/down microphone, marker oscillator, LDA unit, CW audio filter, SSB filter, and CW narrow band filter. Accessories available are the IC-PS15 base power supply, the IC-2KL linear amplifier, the IC-AH1 mobile antenna, IC-SM5 base microphone, IC-HM10 scanning microphone, IC-SP3 external speaker, and IC-MB5 mobile mount.

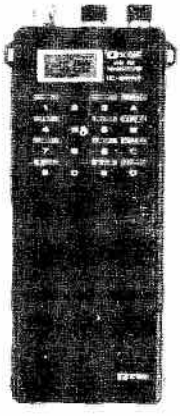
The **IC-730** is truly a superior grade transceiver at an affordable price.

Some Specifications:

■ **Frequency Coverage:** 3.5MHz — 4.0 MHz, 7.0MHz — 7.3MHz, 10.0MHz — 10.5MHz, 14.0MHz — 14.35MHz, 18.0MHz — 18.5MHz, 21.0MHz — 21.45MHz, 24.5MHz — 25.0MHz, 28.0MHz — 29.7MHz ■ **Power Supply Requirements:** DC 13.8V ± 15% Negative ground Current drain 20A ■ **Weight:** 6.4 Kg ■ **Dimensions:** 94mm (H) x 241mm (W) x 275mm (D) ■ **Transmitter RF Power:** SSB (A3J) 200 Watts PEP input, CW (A1) 200 Watts input, Continuously Adjustable Output power, 10 Watts—Max (SSB-CW), Am (A3) 40 Watts output, Continuously Adjustable Output power, 10 Watts—40 Watts (AM) ■ **Microphone:** Impedance 1300 ohms, Input Level 120 millivolts typical Dynamic or Electret Condenser Microphone with Preamplifier ■ **Receiver IF Frequencies:** 1st 39.7315MHz, 2nd 9.0115MHz, 3rd 455 KHz, 4th 9.0115 MHz with continuous IF shift control ■ **Receiver Sensitivity: (Pre-amp):** SSB, CW Less than 0.3 (0.15) microvolts for 10 dB S+N/N, AM Less than 0.6 (0.3) microvolts for 10dB S+N/N ■ **Receiver Selectivity:** SSB, CW 2.4KHz at -6dB, 4.8KHz at -60dB, 6.0KHz at -6dB, 18.0KHz at -60dB, CW-N (With optional crystal filter installed) 600Hz at -6dB, 1.5KHz at -60dB (With optional AF filter installed) 140Hz at -6dB, 800Hz at -40dB

WIN!

Special In-Store Drawing Each Hour!



GRAND PRIZE...

IC-02AT

2-meter Digital Readout Handheld

Suggested Retail Price C$409

Grand prize will be selected during one of the in-store hourly drawings!

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See This Exciting New Equipment From ICOM

Sug. Ret. C$1794

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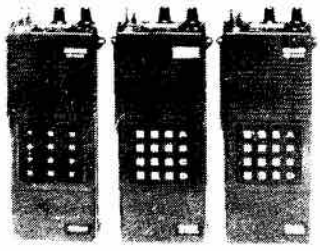
IC-751 Base

All Ham Band HF Transceiver with a General Coverage Receiver / 12 Volt Operation / 32 Memories / New Display / Full-Featured / QSK / Microphone included standard.



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The most popular handhelds ever/ Easy to use/ Affordable/ Digital PLL

IC-2AT 2-meter Sug. Ret. C$309

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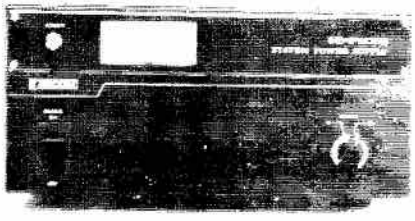

Sug. Ret. C$335

ICOM DAY PRICE???

IC-PS30 Power Supply

External 25 amp power supply supplies up to four pieces of ICOM equipment / ICOM styling / Full metering.

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IC-730 Mobile

ICOM's portable / affordable 80-10 meter HF ham band transceiver. IF Shift /AM/SSB/CW/8 Memories / Microphone included standard.

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IC-745 Base

9 Band HF Ham Transceiver / General Coverage Receiver / 16 Memories / 12 Volt Operation / Passband Tuning / Lithium Battery Backup / Microphone included standard.

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ICOM Day, October 6, 9a.m. to 5p.m.

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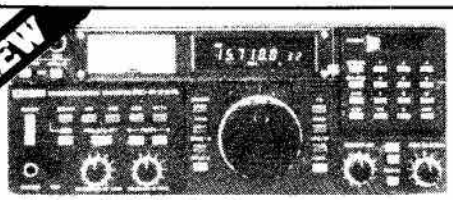
NEW



Sug. Ret.
C$959
ICOM DAY PRICE???

IC-R71A General Coverage Receiver

A superior-grade general coverage receiver for the Ham or SWL 100KHz to 30MHz / Keyboard Frequency Entry / 32 Memories / AM SSB CW RTTY/FM (opt).

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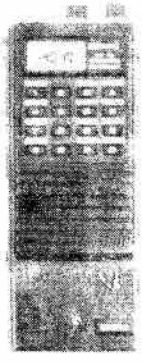

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C$419
ICOM DAY PRICE???

IC-04AT
440MHz Digital Readout Handheld

Direct Frequency Entry / 32 PL Tones Scanning / 10 Memories 3W Std 5W opt. DTMF

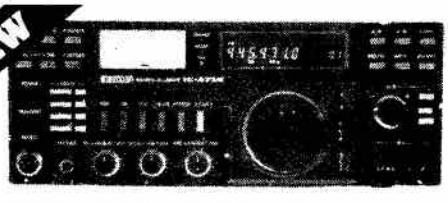
NEW

Sug. Ret.
C$603
ICOM DAY PRICE???

IC-47A 440MHz Mobile

Compact / Internal Speaker / 32 PL Frequencies / 9 Memories / 25 Watts / Scanning / Speech Synthesizer (opt.) / Touchtone® mic standard.

NEW



Sug. Ret.
471H C$1399
471A C$1025
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IC-471H(A) Base

Full coverage 430-450MHz Base Station / 75 or 25 Watts / 12 Volt / 32 Memories / Multimode / New Display / Microphone included standard.

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27A C$485
ICOM DAY PRICE???

IC-27H(A) 2-Meter Mobile

Compact / Internal Speaker / 32 PL Frequencies / 9 Memories / 45 or 25 Watts / Scanning / Speech Synthesizer (opt.) / Touchtone® mic standard.

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9:00a.m. til 5:00p.m.

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ICOM DAY PRICE???

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The latest in 2-meter Base Stations / 100 or 25 Watts Output / 12 Volt Operation / 32 Memories / New Display / Microphone included standard.

AND STILL MORE...

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Projection TV system, COLOUR, Electrohome Advent 750. All solid state, VHF/UHF. Main unit with all controls 16x27x26 high, built in speaker, push button channel change, three 5" projection lenses, complete with 4x6 ft screen $450.00

Hewlett Packard Model 5201L scaler/timers. Solid state, 6 digit in line readout. Preset time/count. Builtin single channel pulse height analyzer with digital (voltage) readout, HP printer output. Size 16x3x11 deep. Wt 18 lbs $75.00

Teletype machines, Baudot code, Model 15 ..... $15.00

Teletype tables, steel, 26 high, 18x21 top with lower shelf $15.00

Variacs, Powerstats. 0-130 volts at 2.25 amps, 3" diameter, 2" deep $8.00

Specific Gravity units, direct reading on 4.5" meter, 110v operation, 9x5x7 high. Fisher "Specgrav", calibrated 0.07 to 1.0 ..... $15.00

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Military CPP-2 power supplies. Continuous rating 12 VDC at 22 amps or 24VDC at 11 amps. With load control adjustment and output indicator lights. Input 90-130VAC 60 Hz. Size 11x16x10, Wt. 80 lbs. $50.00

Audio amplifiers, 20 watt made by Radio Shack Model MPA20. Operates on 110AC or 12 volt DC. 3 mixing controls plus master volume and tone. Size 4x10x7. ..... $23.00

8 track playback decks made by Radio Shack Model TR168. Size 7x10x4. ..... $10.00

Phase meter, Rohde & Schwarz Model PZN. Direct reading on 5" sq. meter. 0-225 degrees in 6 ranges. Cabinet size 21x8x12 deep. $45.00

Power amplifier, Rohde & Schwarz Model ATN. Cabinet size 21x9x12 deep. $25.00

Multiplex decoders, 24 channels made by Multivision Electronics Model ES24. Half or normal speed selectable, thumb wheels for selecting size and group, signal status lights. 19" rack size, installed in fancy steel cabinet, side handles, size 13x13x20. ..... $45.00

Military No. 2 Telephones, Loudspeaking. Consists of 4 weatherproof speakers/microphones for gun positions plus control unit for gun control officer. Control unit connects to 19 set installations. Complete with earphones and heavy weatherproof microphone. All units in wooden style cases, manufacturing date 1945 or earlier $50.00

Variable attenuator, Alfred E101, 1-2 GHz, 0-50 db, type N fittings. 6x6x6 ..... $40.00

Sierra carrier frequency voltmeter (tuneable voltmeter), 10-500 KHz. 4" square meter, size 17x8x11 deep..... $35.00

Taylor precision thermometers -30 to +120°F, 1 degree calibration, mercury filled yellow background, Brand New. Taylor No 21272G $1.50. Note these are 12" long.

Photographers... Robot 35 mm camera, motor drive, Xenar 2.8 45 mm lense $30.00

Hewlett Packard Frequency meter model 500B. 3Hz-100 KHz in 9 ranges, expanded scale option, self checking, 7x11x14 deep, wt 17 lbs. acc+ 2% $30.00

Hewlett Packard clip on DC milliam meter. 3 ma to 1 amp in 6 ranges. Size 7x11x14 deep. Wt 19 lbs. With manual and clip on probe $90.00

Hardware assortments, no two containers the same. Nuts, bolts, washers, fasteners etc from scrapped equipment. Stainless, brass, aluminum, etc. 2 lb. can $1.00 or larger containers of approx. 22 lbs. at $10.00

Military buffs... if you are redoing your rec room I have a limited quantity of display panels in excellent condition. These were prepared for Govt Expositions centre and are extremely well done. Crests, military surveying and mapping activities etc. all mounted in aluminum frames 6x3 and 6x4 ft- approx. May be removed from frames and directly mounted on walls. Panels are designed to interlock/hinge to form display booths or room dividers ..... $10.00 per panel.

Terms of payment: Postal money order or certified cheque or equivalent. Orders with personal cheques held four weeks to allow cheques to clear. Regret this inconvenience bu' can no longer absorb NSF or rubber cheques.

All items used surplus unless indicated otherwise. FOB Smith Falls. Ontario residents include 7% Sales Tax. Any queries phone or write (include stamp for reply). Save on calls, phone anytime before 8 a.m. or after 6 p.m.

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Match these Accessories to your rig.

FT-ONE GENERAL COVERAGE TRANSCEIVER
FT-ONE HF Transceiver for SSB, CW, AM, FM and General Coverage Receiver. (8P)
Accessories:

XF8.9KC 600 Hz 8 pole CW filter	33.00
XF8.9KCN 300 Hz 8 pole CW filter	33.00
XF8.9KA 6 kHz 8 pole AM filter	33.00
XF10.7KC 800 Hz 6 pole/3rd IF filter	29.00
FT-1RAM Memory Backup Board	23.00
FT-1KEY Curtis 8044A Keyer Unit	45.00
FT-1FM FM Unit	70.00
FT-1DC 13.5 volts DC cable for FT-ONE	15.00

FT-980 C.A.T. SYSTEM
FT-980 Computer Aided Transcever (8P)
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FIF-65 C.A.T. Interface for FT-980 and Apple II computer	99.00
FIF-80 C.A.T. Interface for NEC PL 8001 computer	179.00
FIF-23C C.A.T. Interface for RS-232C Standard bus.	99.00
SP-980 Speaker/Audio filter	90.00
SP-980P Speaker/Patch	125.00
XF8.2GA 6kHz AM filter	25.95
XF8.9HC 600 Hz pole CW filter	46.00
XF455.8MCN 300 Hz 8 pole CW filter	75.00

FT-757GX ALL MODE HF TRANSCEIVER
FT-757GX Compact All Mode HF Transceiver C.A.T./System and General Coverage Receiver (8P)
Accessories:

FC-757AT Automatic Antenna Coupler	419.00
FP-757GX AC Power Supply - Switching type	245.00
FP-757HD Heavy Duty Power Supply	265.00
FP-700 AC Power Supply	219.00
FTV-700 Monoband Transverter w/2 Module	189.00
FTV-6M 6 M for Transverter F.T.V. Series	135.00
FTV-2M 2 M for Transverter	135.00
FTV-70CM 70CM for Transverter	350.00
FRB-757 Accessory Interface Relay Box	12.50
FIF-65 C.A.T. Interface	99.00
FIF-232C C.A.T. Interface	99.00
SP-102 Speaker/Audio filter	85.00
SP-102P Speaker/patch	122.00

FT-77 COMPACT SERIES TRANSCEIVER
FT-77 80-10M w/MH-1B8 microphone (8P)
Accessories:

FP-700 AC Power Supply	219.00
FV-700DM Memory/Scan VFO Unit for FT-77	290.00
FC-700 Antenna Tuner	175.00
FT-7FM FM Unit for FT-77	48.00
FT-7MARK Marker Unit for FT-77	18.00
XF8.9KC 600 Hz 8 pole CW filter	46.00

FT-102 SERIES DELUXE
FT-102 HF All Mode Transceiver (8P)
Accessories:

FASI-4R Remote ANtenna Selector	76.95
FC-102 500 W Antenna Tuner	235.00
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SP-102 Speaker/Audio filter	85.00
SP-102P Speaker/Patch	122.00
XF8.2HSN 1.8 kHz SSB filter for FT-102	39.00
XF8.2HC 600 Hz CW filter for FT-102	46.00
XF8.2HCN 300 Hz CW filter for FT-102	46.00
XF455C 500 Hz CW filter for FT-102	75.00
XF455CN 600 Hz CW filter for FT-102	75.00
XF8.2GA 6 kHz AM filter for FT-102	25.95

FT-726R VHF/UHF ALL MODE TRIBANDER
FT-726R (8P)
Accessories:

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YMD1B8 Deluxe Desk Microphone	105.00
FTE-36 Tone Encoder for FT726R	72.00
FTS-32R CTCSS (Tone Squelch) for for FT726R	130.00
FT-726-50 50 MHz Unit for FT726R	295.00
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FT-726SAT Satellite Unit for FT726R	165.00
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FRG-7700 Digital Allband, Deluxe w/o memory, w/D.C. Adapter
FRG-7700MEM Memory Unit for FRG-7700
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FRA-7700 Active ANtenna	75.00
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FRV-7700D 70-80/118-150 MHz VHF Converter	149.00
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FF5 Low Pass Filter - Receivers (500 kHz)	11.95

LINEAR AMPLIFIERS
FL-2100z HF Linear Amplifier

6M/VHF/UHF MOBILE TRANSCEIVERS
FT-230R VHF Synthesized LCD Mobile (25w) - (7P)
FT-680R Synthesized 6m Allmode Mobile Transceiver (8P)

VHF/UHF MULTIMODE PORTABLE LINE
FT-290R 2m Multimode Portable Transceiver (7P)
FT-690R 6m Multimode Portable Transceiver (7P)
Accessories:

MMB-11 Mobile Mounting Bracket for FT290R	48.00
FCSC-1 Carrying Case for FT290R	7.50
NC-11B Nicad Wall Charger	9.00
BB 7120 C Nicad Battery C-size	1.50

FT-203R/209R/708R SERIES
FT-203R 2m VHF Hand-Held (6P)
FT-209R 2m Synthesized Hand-Held (6P)
FT-708R 70cm Synthesized Hand-Held (6P)

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Accessories:

Extra Nicad Battery Pack (FT-208/708/203R)	42.00
FBA-2 Battery pack Adapter for NC-7/NC-8	6.95
FBA-3 Charging Sleeve for FT-208R/708R w/NC-1A/NC-3A	9.95
FBA-5 Dry Cell Holder for FT-203R	11.95
FTS-7 CTCSS Unit (Tone Squelch) FT203R/FT209R	48.00
FTS-32R Programmable CTCSS Encoder/Decoder (FT-208R/708R)	130.00
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FYP-80 Power Supply 4 Amp.	110.00
FP-8 Power Supply 8 Amp. (FT-230R/680R/730R)	218.00
NMB Mobile Mounting Bracket (FT-208R/708R)	14.50
MMB-21 Mobile Mounting Bracket (FT-203R)	14.50
NC-7 15 Hour Desk Charger (FT-208R/708R)	45.00
NC-8 Quick Charger AC Power Supply (FT-208R/708R)	95.00
NC-9B Extra Wall Charger (All)	9.00
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SP-55 External Speaker (FT-230R/730R/680R)	25.95

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YS-200 SWR and Power Meter	105.00

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YM-35 Hand-Held Microphone - Scan Control (8P)	35.00
YM-36 Hand-Held Microphone - Noise Cancelling (8P)	34.00
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YM-49 Speaker Mircophone (7P)	29.95
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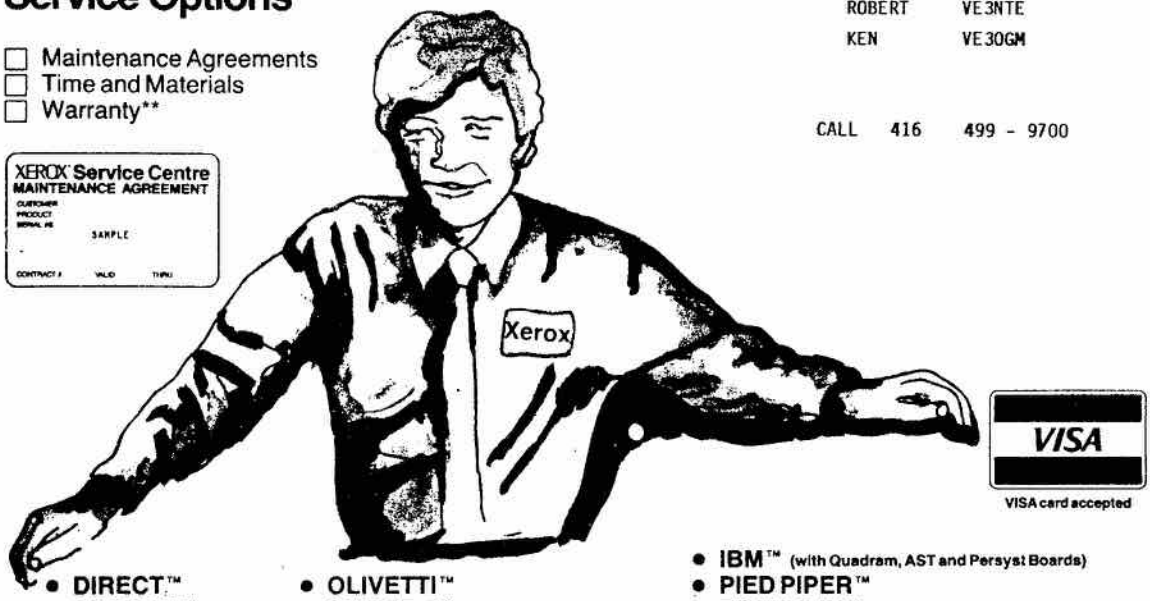

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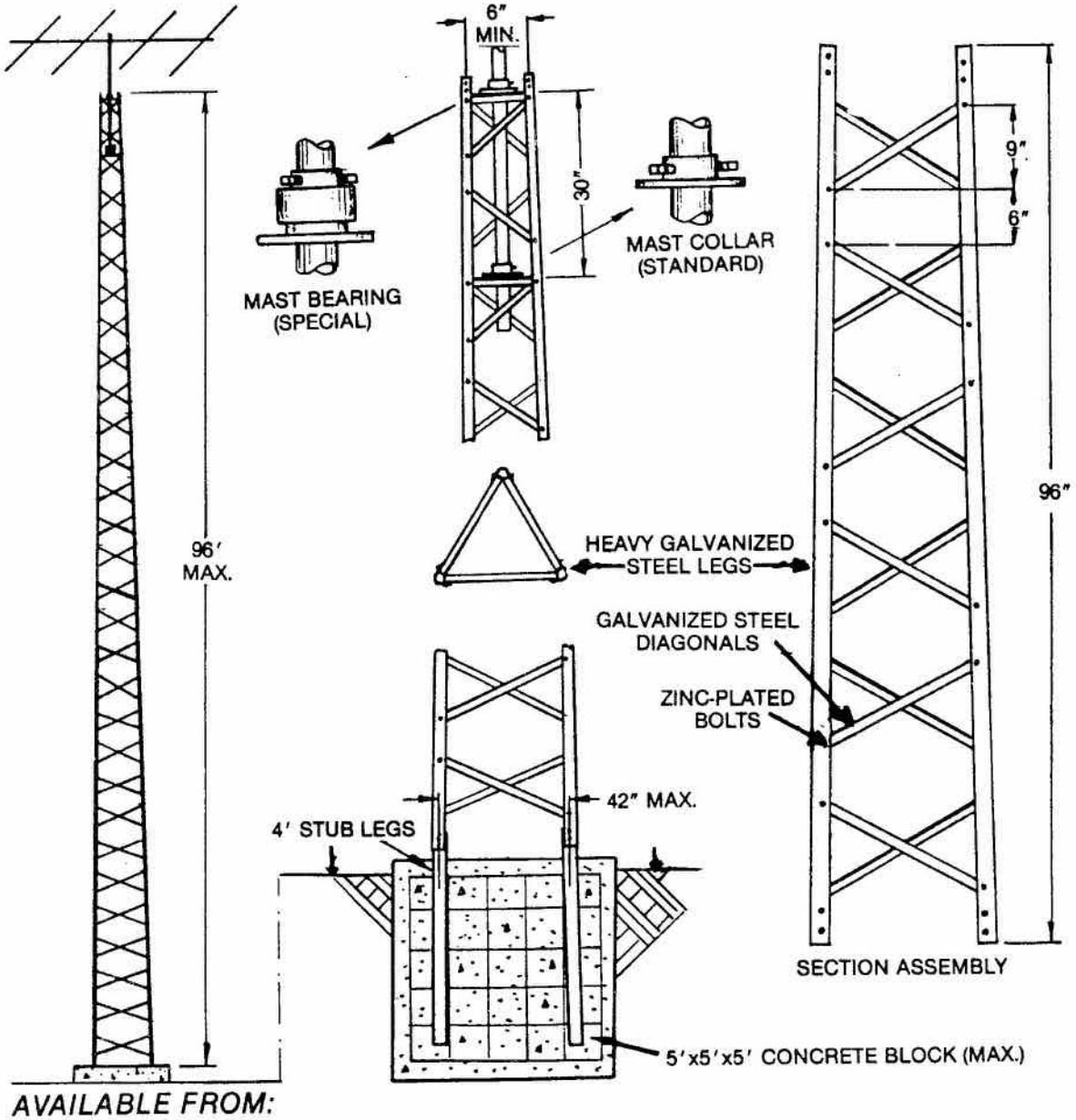

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FP-757GX Switching power supply **245.00**

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FT-230R **$399.00**

Includes 10 memories with priority and 2 VFOs. Microphone and all mounting hardware included.

FT-980

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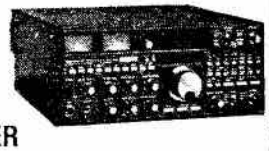
ALL MODE COMPUTER AIDED HF TRANSCEIVER



State of the art HF transceiver. Features include 12 memories, dual VFOs, notch and audio filters. 110/220 VAC Operation.

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Introductory Price $799.00

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- Dual trace
- 6" CRT
- 2 probes included

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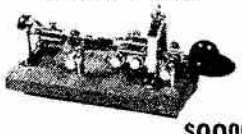

$99.00

- Chromium top parts
- Topaz base
- In stock now!

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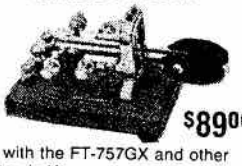

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Use with the FT-757GX and other electronic Keyers.

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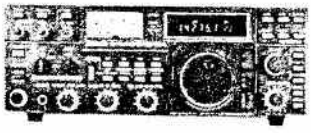

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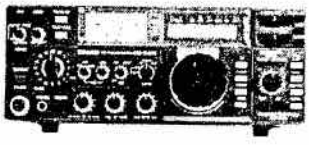

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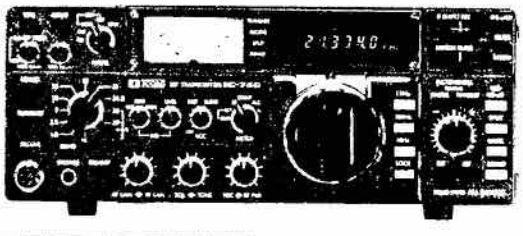

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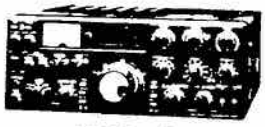

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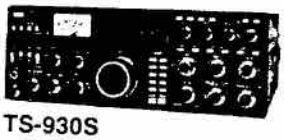

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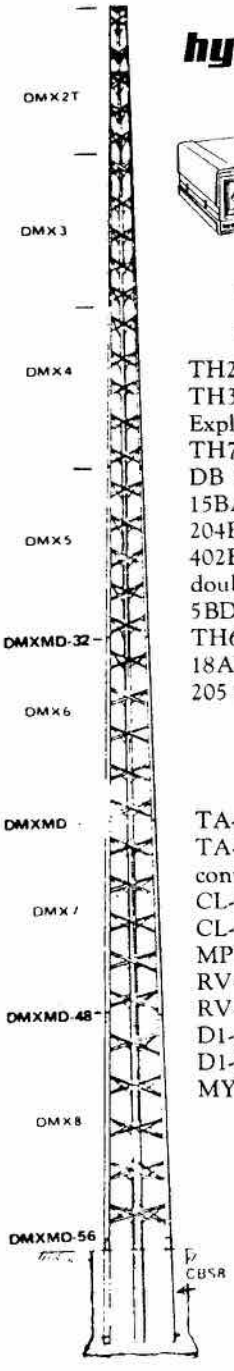

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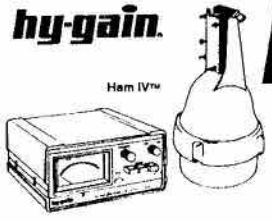

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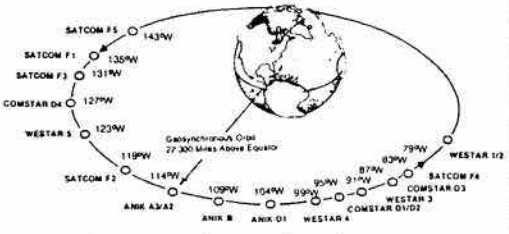

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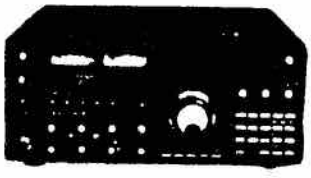

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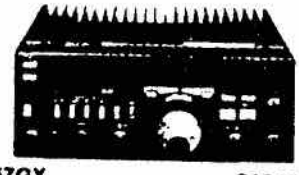

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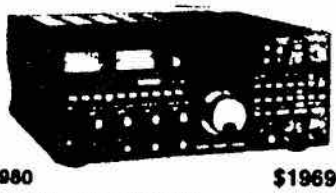

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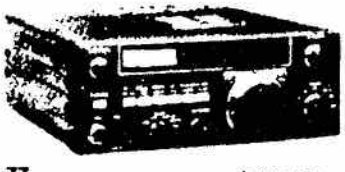

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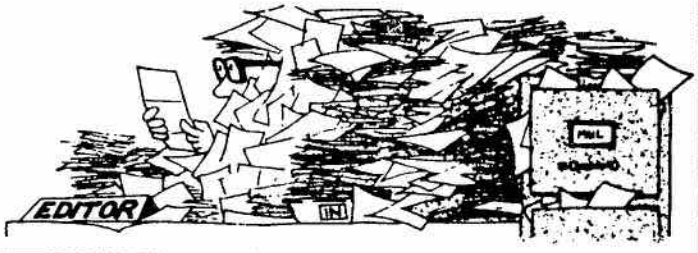


WIN SOME...

The latest issue of TCA is superb— my compliments.

Geoff Smith VE3KCE

When I was appointed to represent our club, I subscribed to TCA and I am finding it very interesting.

Lou Curtis VE4AEH

THE VE3 NORTH BAY/W5LFL INCIDENT

WA3NAN, the club station at NASA's Goddard Space Flight Centre in Greenbelt, Md. along with W5RRR, W6VIO and many others are part of AMSAT's World-wide launch information net. They provide line lift-off and post-launch information. Early acquisition of the bird on its initial earth orbit is vital. Telemetry provides input relative to its health in addition to ascertaining any deviations from calculated orbital parameters.

During the W5LFL flight, due to extremely high interest, service continued throughout the flight. Literally thousands were kept posted on useful data to facilitate a QSO.

WA3NAN, once the main Sunday international 15/20 metre net control for AMSAT has a potent signal on 14280-2. Needless to say, it attracted many listeners. It also attracted many who failed to listen carefully.

The station's main audio was linked line to Houston, keeping it constantly activated. Many, many stations persisted in calling WA3NAN to no avail. The resultant QRM and policeman rebuttals created a situation similar to that on W5LFL's own 2 metre transmit frequency.

We counted several "20 metre 5x9 W5LFL QSO's" handed out to alleviate some of the calling problem. A cruel hoax? Perhaps in some cases— yes. The ones I heard were self-engineered through non-compliance to standard operating practices and good operating manners.

For the next launch, why don't all you fellows join AMSAT. We need the money! Besides, this would surely fund the employment of suitable on-frequency 5 kW ERP Space Cops who could loudly shout during WA3NAN audio lulls: "Don't call us, we'll call you!"

Gordon Wightman VE5XU,
AMSAT LM 110,
Saskatchewan area coordinator.

DU FRANCAIS DANS LE TCA POURQUOI PAS?

CARF c'est aussi FRAC et, c'est avant tout les intérêts de tous les radioamateurs du Canada. A ce titre c'est une représentation bi-culturelle que la Fédération supporte.

Du français dans le TCA, mais certainement, avec la collaboration de tous les intéressés, nous voudrions que cela devienne une réalité dans chaque numéro de notre journal. Sous forme d'articles de fond, à caractère technique ou d'intérêt général et de bulletins de nouvelles provinciales, il y a là sûrement de quoi atteindre notre objectif. De fait, il serait très intéressant d'établir sous forme régulière une chronique destinée aux lecteurs francophones. Evidemment, le tout étant centré sur la radioamateur.

D'autre part, conscients que la majorité de ces lecteurs se situe au Québec, il serait fort probable que les nouvelles viennent de cette province. Cependant à la Fédération nous souhaitons vivement des échos de toutes les provinces, et c'est dans cette optique que nous encourageons le français dans le TCA.

Pour n'en citer que deux, le Nouveau Brunswick et l'Alberta comptent d'importants groupes de radioamateurs francophones avec lesquels nous souhaiterions beaucoup avoir des contacts.

La chance nous-en est offerte par le biais du TCA, profitons-en. Quelles que soient vos activités, projets, réalisations, écrivez-nous (en joignant si possible des photographies) il nous fera plaisir d'en faire part à travers tout le Canada.

Robert Sondack VE2ASL
Directeur, FRAC

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

LOSE SOME...

'Spud' Roscoe VE1BC is a very nice fellow, and an extremely competent commercial radio operator, but for the life of me I fail to see how more than two, at the most, out of 13 columns could relate to, or have very much interest for the average Amateur. A lot of what he wrote in his article published in the July/August issue of T.C.A. appeared to me to be very political and completely divorced from radio altogether.

Nat Cohen VE1CFT
Dartmouth, N.S.

From the President

Photo: Bob Baillargeon VE3MPG

The membership of CARF is composed of those of you who have held a licence for a number of years, through to many who have just obtained their Certificate of Proficiency, and along with the varied backgrounds and vocations one can easily see what a diversified and interesting group of individuals are Radio Amateur Operators. TCA, *The Canadian Amateur*, is diversified and interesting also; meeting some of the requirements of all of us somewhere in the pages of its 11 issues yearly.

Unique, I feel, is quite a suitable word to use when describing our hobby. This uniqueness is most evident when we're in the midst of a QSO with a fellow Amateur; using part of that very precious commodity known as frequency spectrum. Without it, Amateur Radio would not exist. As the world of technology grows more vast, so does the demand for frequency use. This is happening now like never before.

The uniqueness of our hobby also demands regulation. Ours is a hobby that cannot exist without constant attention being given to its very essential qualities.

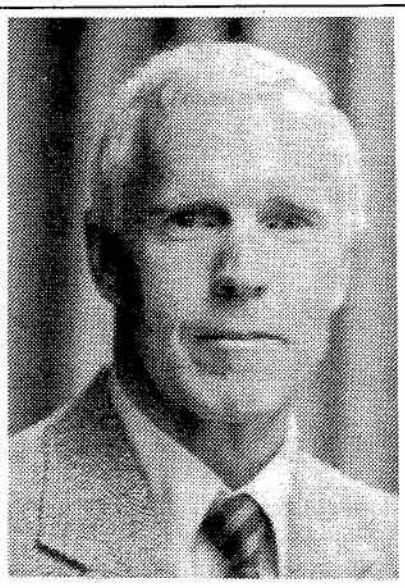
Your local Club is an important link in a network, so are you, so are the Provincial Societies, so is the national team— all working together— each playing an important part and in need of the other.

The national, completely Canadian, organization, CARF, is forever on the watch, working in the best interest of the Canadian Amateurs. We're volunteers, like many of you. We'd like you to work along with us. We'd like all of you to join the ever-increasing membership of CARF. Safety in numbers? Well, certainly the larger the percentage of Amateurs belonging, the larger and more attentive is the audience of authority. Another plus is our fraternity being more knowledgeable through the pages of TCA— *The Canadian Amateur.*

This issue of TCA is being received by all Radio Amateurs in Canada. Services offered by the Canadian Amateur Radio Federation are noted elsewhere in this publication.

Words of wisdom? Well, I'd say: "Protect your hobby, enjoy Amateur Radio and make sure you're a member of THE CANADIAN AMATEUR RADIO FEDERATION." △

Joan Powell VE3FVO
President



From the Outgoing President, VE3BID

I would like to start with the five most important words in my philosophy with CARF.

The One most important word— We
The Two most important words— Thank You
The Three most important words— If You Please
The Four most important words— What is Your Opinion
The Five most important words— You Did A Good Job

• Three short years ago I took over the gavel as your president; it seems like yesterday, and since then CARF has been busy.

CARF now has a full slate of new active directors— 21 Regional Directors across Canada— our volunteer field strength has grown

to over 50 Canadian Amateurs who give their time and expertise to CARF and their fellow Canadian Amateurs.

CARF has grown to over 5000 members, and CARF is going to keep growing.

- The next few years will be the most crucial to CARF; we cannot rest on our laurels. CARF as an all-Canadian Amateur Radio organization is first with membership, service and dedication.
- The duplication of many of our CARF services must mean we are doing the best and going in the right direction.

Flattery is great— but yesterday's home runs don't win tomorrow's ball games.

CARF has to keep building, with better service, with better representation— for our members and future members.

CARF members deserve the best; Canadian Amateurs deserve the best.

- The day is not too far away when Canadian Amateurs will be asking in mass, possibly demanding, for One Canadian Amateur Organization. CARF must promote this theme and build towards this goal.
- To all those Canadian Amateurs across this country who took the time to write and call me during my time as president— I thank them, their input kept CARF right up to date, and on top of various situations and problems.
- The CARF members— are CARF.
- To the Directors, Executive, Kingston Head Office staff, what can one say but "thank you, one and all".

As chairman of the board you all made it a pleasure. To my successor, welcome aboard, you have one terrific organization working with you.

- In closing, I step down but not out, and I leave you with this thought— Success is not a destination, but a continuous journey. Δ

Don Slater VE3BID

Letter from the DOC

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

300 Slater Street,
Ottawa, Ontario
K1A 0C8

Your file / Votre référence

Our file / Notre référence

AUG 14 1984
AOUT

Mr. D.R. Burrill, VE3CDC
Contributing Editor,
The Canadian Amateur Radio Magazine,
151 Fanshaw Avenue,
OTTAWA, Ontario
K1H 6C8

Dear Mr. Burrill:

Once again it is indeed a pleasure for me to extend, on behalf of the Department of Communications, my personal greetings to the readers of your October issue of TCA which I understand is being distributed to all radio amateurs in Canada.

I would like to take this opportunity to express my appreciation for the continuous and close working relationships between the Amateur Community and the Department. For instance, I am very grateful for the valuable input received from both individual amateurs and associations, such as CARF, during consultations over the past year to improve and upgrade both TRC-24 and the question banks from which the examinations for amateur certification are constructed.

As you may be aware, the Department is undertaking an extensive review of the Amateur Service. This review is studying many facets that affect the present structure e.g., the history and development of the amateur service in Canada, current structures in other administrations and observations of Canadian amateur practices. Although at the date of this letter there are no clear proposals, we hope to publish a discussion paper in the near future which may include proposals to modernize or change the examination procedures. I hope that Canadian amateurs and other interested parties will take the opportunity to read and discuss this paper and provide the department with their comments.

I would like to conclude by thanking you for this opportunity to address Canadian radio amateurs and I wish you and your association every success in the months and years ahead.

Sincerely,

R.W. Jones

R.W. Jones,
Director - Spectrum Management
Operations Branch.

75, 15 and 10 follow 20

American Phone Bands Expanded

The expansion of the American 75, 15, and 10 metre telephony allocations followed 20 metres on September 1. Hawaiian and Alaskan Amateurs got expanded 'phone allocations on 40 metres, too.

For some years now, American Amateurs have been requesting the FCC to permit additional voice frequencies in the HF bands. They pointed out that Amateur licences have doubled in number over the last 20 years and, as a consequence, the HF bands were badly congested.

The ARRL took a stand in the matter in 1981, proposing that the 20 metre phone band be expanded by 50 kHz. Naturally, 'foreign' Amateurs, including us Canadians, opposed this bitterly.

The FCC first responded to these proposals by suggesting that the 20 metre phone band be expanded 50 kHz for all licensees. However, they finally adopted the ARRL position, or near it— General class licensees got from 14.225 up, Advanced from 14.175, and Extra from 14.150 MHz.

ARRL did not at first petition for expansion of the phone sectors of the other HF bands. Other Americans did. The FCC acted on their initiative and Sept. 1 saw its implementation.

The ARRL Board of Directors did, as reported in TCA for July/August, request the FCC to expedite action on expanding the 75, 15, and 10 metre phone band. Naturally, there was no American opposition to the action.

The 40 metre change for Hawaii, nearby islands, and Alaska was justified by reference to the map. Hawaii is much closer to Region 3 than it is to the continental United States. Hawaiians experience extremely strong interference from Region 3 broadcasters, a unique situation, in ARRL's words.

The FCC pointed out that Alaska was even closer to Region 3 than Hawaii, and so included that state in the rulemaking.

Both CARF and CRRL made known to the FCC the opposition of Canadian Amateurs to these expanded American telephony allocations. Δ

On 75 metres, Extra class licensees are now permitted to operate 'phone from 3750-4000 kHz, Advanced licensees from 3775-4000, and General class, 3850-4000 kHz.

On 40 metres, Hawaiian and Alaskan Amateurs may now operate between 7075 and 7100 kHz.

On 15 metres, Extras now may operate from 21.200 to 21.450, Advanced from 21.225 to 21.450, and Generals from 21.300 to 21.450 MHz.

And on 10, all may operate from 28.300 to 29.700 on 'phone.

DOC Doings

BAHAMAS: RECIPROCITY

I am pleased to inform you that a reciprocal Amateur operating informal arrangement has been concluded with the government of the Bahamas, effective June 25, 1984.

John Fraser,
Chief, Radio Regulations,
Spectrum Management
Operations Division
Government of Canada

DOC EXAM DATES

Next DOC Examinations will be held on October 17. After that, February 13, 1985.

WARC BANDS

ARRL has initiated an antenna design competition to promote interest in the new WARC bands. Generally, Canadians are not yet permitted to use them. However, DOC has authorized those who wish to take part in this competition to use four frequencies, viz: 18.073, 18.163, 24.895 and 24.985 MHz, maximum power 250 watts, A0 or A1. No QSO's are allowed— only the testing of antenna systems. The waiver expires Nov. 1, 1984.

Those wishing to take advantage of this waiver must first make application to a DOC district office.

ORDER OF CANADA

Jim Swail VE3KF will be presented with the Order of Canada by the Governor General on October 3.

Jim, nearly sightless himself, works at the National Research Council on aids for blind people, and is on the board of the Canadian National Institute for the Blind's ARC.

LOST HAM?

Does anyone know the whereabouts of Larry A. Toms VE4VX, last heard of at 1784 Jefferson Avenue, Winnipeg? Please let the editor know his new address.

KDK

FM MOBILE TRANSCEIVERS

FM-2033

2m 25W
Mobile Maxpack

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ATLANTIC HAM RADIO

- **Liquid Crystal Display with soft orange lighting for direct sunlight viewing plus night viewing.**
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- **Memories with valid data scanned, blanks are skipped.**
- **Repeater reverse switch for monitoring repeater's input frequency.**

$375.00 with
TM-2 TouchTone® Mike

The KDK FM-2033 represents a significant advance in user convenience and simplicity of operation for the user. The KDK '33' series provides excellent readability in any lighting condition for the operating frequency and the memory channel in use. Warm orange background LCD displays improve readability by providing easy-on-the-eyes contrast.

Simplicity of operation has always been the mark of the KDK design team and the FM-2033 is no exception. From the single knob frequency and memory selection to the automatic recall from memory of the desired repeater offset, the FM-2033 provides relaxed, comfortable mobile operation.

Once the 10 memory frequencies have been selected, a single knob is all that is required for operation on the standard simplex or repeater channels. Using the audible beep as the end-of-memory marker allows setting to a particular channel without even looking at the radio.

In the scan mode, scanning for a busy memory or pre-programmed band scan keeps you up to date on the happenings in the area. Very busy frequencies can be skipped by using the up key on the TM-2 microphone. If a full 10 memories are not used, the unused ones can be marked for scan skip so that no time is wasted checking them.

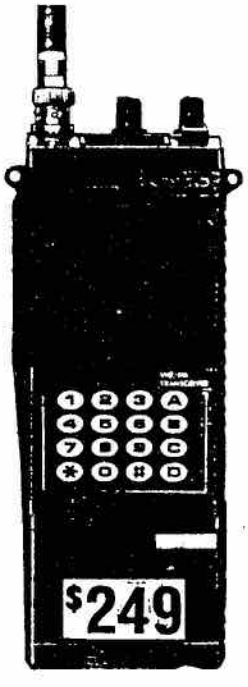
The FM-2033 provides a clean 25 watt output signal across 142-149.995 MHz to operate in balance with most repeaters and provide quieting for simplex operations. MARS (Navy too!) and CAP frequencies are also accommodated even with their unusual repeater splits.

You want convenience, reliability and easy operation for your mobile station and a tough-to-beat dollar value, right? Then check out the FM-2033

LOWEST PRICED 2M FM HANDY WITH TOUCHTONE® ON THE MARKET TODAY

KENPRO KT-200ET
HAND-HELD

NEW



Complete with: Nicad, AC Wall-charger, Rubber Duck
Earphone, Belt Clip, Manual & Wrist Strap.

Frequency Coverage :144.000 - 147.995 MHz (expandable to 142.000 - 149.995 with 10 min mod.)

Current Consumtion (rated at 9VDC):
approx. 18ma in standby
approx. 130ma RX max. audio
approx. 220ma TX Low Power
approx. 550ma TX High Power

Dimension: 60x40x170mm Weight: 490g incl Battery & Antenna

Power Output: @ 9VDC - Low 150mW; High 1.5W

Offsets: +/- 600Hz; Simplex Supply Voltage: 5.5-12VDC

KT-200ET & ACCESSORIES (Available ONLY from ATLANTIC HAM RADIO)

KT-200ET with TouchTone® Pad	$249
KT-BP Extra Nicad Pack	$ 35
KT-SMC Speaker Microphone	$ 39
KT-PA DC-DC Adapter	$ 19
KT-BMC DC Charge Cord	$ 8
KT-BA Alkaline Battery Case	$ 13
KT-BC Extra AC Wall Charger	$ 11
KT-RD Extra Rubber Duck	$ 12

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KT-200ET ACCESSORIES AND IC-2AT ACCESSORIES ARE INTERCHANGEABLE EXCEPT KENPRO IS VERY DARK BROWN COLOUR.

ALSO AVAILABLE:
DAIWA LA-2035 Linear Amplifier - OVER 20 Watts out with KT-200ET.....$109.95
A.E.A. HR-1 HOT-ROD ½ Wave telescoping antenna $29 5/8 Wave $15 ¼ Wave $10
KURANISHI POWER METER 2M & 440MHz $49.95 With 'S' meter $79.95.....

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AVAILABLE IN ATTRACTIVE GIFT ENVELOPES. Minimum $10.00 NO Maximum, let him make the choice on the accessory he needs...

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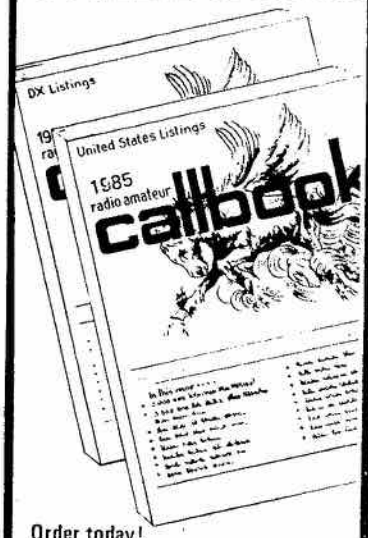

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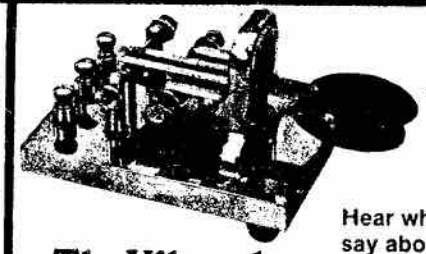

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Now that you have their word on it, take our word. Vibroplex guarantees satisfaction.

Also available Vibrokeyer Deluxe $109, Standard $85
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Is CW important to you? If so, there's no better investment in operating pleasure than a Bencher paddle. Offered in both single and dual lever models, quality built Bencher paddles are world famous for flawless keying and response; unmatched at any price.

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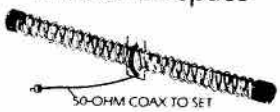

4-inch diameter coil for optimum performance

Main Features:
- Covers ALL HF ham & WARC bands
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- BALUN kit included, needs no transmatch
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- Great for apartments, condominiums, vacations, DXpeditions and emergency use
- Used by U.S. State Dept.

Without Coax:	$79
50'RG58+PL259	$11
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LAST CHANCE FOR FT-208/708 ACCESSORIES

NC-8A Desk Charger---	$99/$109
NC-7 Std desk charger	$65/$69
PA-3 DC-DC Adapter---	$29/$32
YM-24A Speaker-Mike--	$39/$42
FNB-2 Nicad Pack-----	$42/$45
FNB-2LC Nicad NO Case	$30/$30
FBA-2 Sleeve----------	$10/$10
MMB-10 Mobile hanger---	$16/$16
LC-208 Leather Case----	$45/$49
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RS-20M$199
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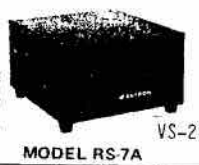


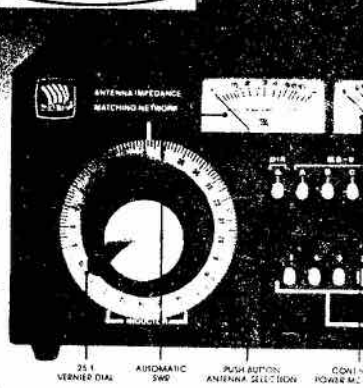
VS-20M$239

MODEL RS-7A

	MODEL	Continuous Duty (Amps)	ICS* (Amps)	Size (IN) H x W x D	Shipping Wt (lbs)	S&H
$ 69	RS-4A	3	4	3¾ x 6½ x 9	5	$4
$ 95	RS-7A	5	7	3¾ x 6½ x 9	9	$5
$119	RS-10A	7.5	10	4 x 7½ x 10¾	11	$6
$129	RS-12A	9	12	4½ x 8 x 9	13	$6
$169	RS-20A	16	20	5 x 9 x 10½	18	$7
$249	RS-35A	25	35	5 x 11 x 11	27	$9
$369	RS-50A	37	50	6 x 13¾ x 11	46	ask

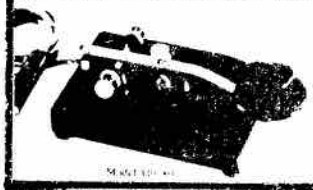
Nye Viking

THE C
PROFI
Rugged Dependab



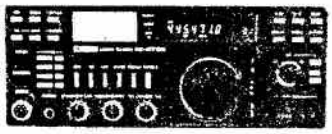
3kW MB-V Antenna Tuner –

NYE VIKING 'MAST



$47

ICOM



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All mode, 430-450MHz coverage.
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IC-471A ..... Sug. Ret. $102
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NEW ICOM IC-271A 25 Watts $849/$899 2M All Mode
IC-271H 100 Watts $1159/$1229

IC-471A 25 Watts $979/$1025 430-450MHz
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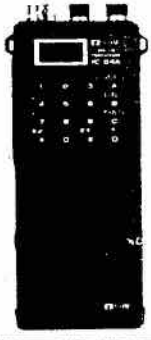
PS-25 8 amp internal P.S. $130/$135
PS-35 20 amp internal P.S. $200/$215.
EX-338 AG20 Preamp for 271 $79
EX-310 Voice synthesizer 271/471 $55



NEW ICOM IC-02AT $399/$419
140.000-149.995MHz

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3 Watts output with standard BP-3 nicad pack. Optional BP-7 gives 5 Watts output. With 13.8VDC supplied to top of rig you have 5W.

KT-SMC Speaker-Mike at half price with purchase of IC-02AT ($20.00)

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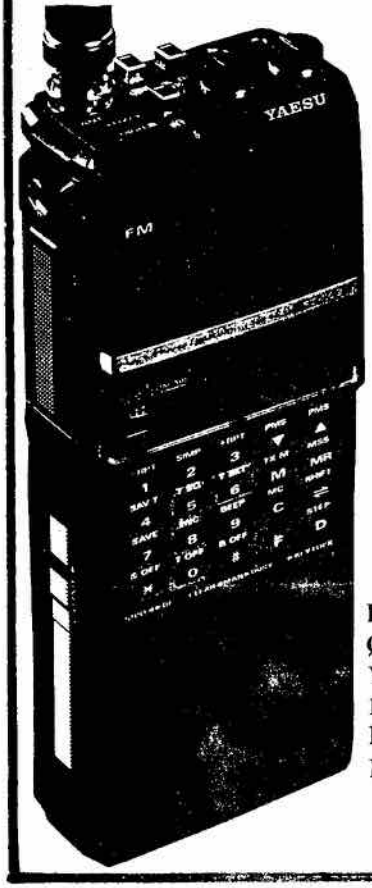
IC-37A 220MHz FM 25 Watts...$ /$

IC-47A 440MHz FM 25 Watts...$575/$599

All of the 27/37/47 series feature 9 Memories, 32 PL Frequencies, Memoriy Scan, Programmable band scan, T.T.® mike, and are super small 5½"x1½"x7" H model is longer.

IC-27A/H covers 140.000-149.995MHz.



Limited Quantity Yaesu FV 102 DM Digital Memory VFO

NEW YAESU FT-209R(H)

After very successful FT-207R and FT-208R models YAESU is now introducing the new FT-209RH. The H model has 5 Watts output and comes with the high capacity FNB-4 battery pack. The FT-209 will operate on VOX with the YH-2 Headset. The meter not only functiones as an S/RF meter but also shows battery strength. The memory channels also remember the offset so you are immediately ready to transmit. The new FT-209R uses the same options as the previously announced FT-203R. Call NOW to get one of the first 209R's in Canada.....

OPTIONS:
MH-12ab Speaker Microphone.....$39
YH-2 Headset - operates on VOX without switch box.....$30
FNB-3 extra standard nicad pack - 425 ma.....$
FNB-4 extra high capacity nicad pack - 500ma.....$
FBA-5 battery case - holds 6 AA alkaline batteries.....$
NC-15 quick charge desk charger.....$
PA-3 DC-DC adapter and charger.....$29
MMB-21 car hanger.....$19

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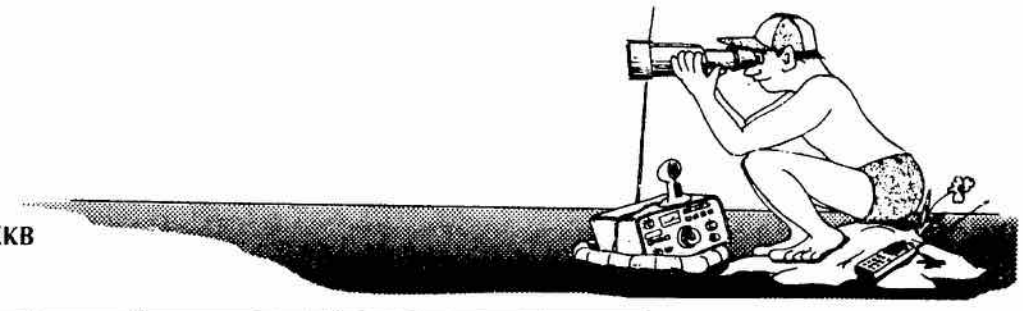
DX

D.W. Griffith, VE3KKB



I sure don't know where the Summer has gone, but here it is Fall again. That means an active antenna month for those of you who did not do any work during the heat of the Summer, and of course heralds the return of much better DX conditions on most of the bands. Twenty meters will be much more consistent, and with lower noise levels, and less D-layer absorption, the lower frequency bands will offter a greater number of DX openings.

October is traditionally a very busy month for Amateurs, with numerous auctions and flea markets sponsored by local clubs across the nation. The RSO Convention is being held at the Westin Hotel in Ottawa this year, on Oct. 5, 6, 7, and an interesting and entertaining DX/Contest Forum has been organized by VE2ZP/3, the details of which were outlined in the September TCA.

The ever-popular CQWW Phone Contest, an excellent watering-hole for DX, will be held this year on Oct. 27-28. For those of you not familiar with this 48-hour event, it is the setting for many DXpeditions to semi-rare, and occasionally even rare DX spots, around the globe, and provides relatively easy access to many DXCC countries on 160-10 metres. You do not have to have a power-house station, or be a dyed-in-the-wool contester to get on the air and partake in the fun. The exchange is simply a signal report (generally 59 for the sake of brevity), and the CQ Zone number which applies to your QTH. For example, in Ontario, which lies in CQ Zone 04, the total exchange would be DX1DX, you are 59 04, and so on. Try it!

By the time you read this, you will be hearing very strong signals from our neighbours to the South on portions of three bands where you have never heard them before (at least not legitimately anyway). Effective Sept. 1, 1984, the latest in the U.S. phone subband expansion becomes official. The breakdown of the new privileges is as follows:

Extra
3750-3775
21200-21250
28300-28500 (All Classes)
Advanced
3775-3800
21225-21270
General
3850-3890
21300-21350

In addition to the above, stations in Hawaii (and adjacent areas) and Alaska will be authorized to use phone in the 7075-7100 KHz portion of 40 metres. It should be interesting to see what the effect will be on the well-established nets on 80 metres!

For those of you new to DXing, or perhaps those who have been away from it for a few years, and particularly for those Amateurs who have accumulated an impressive country total, a good source of DX information is invaluable. Amateurs in the latter category probably are already aware of how important 'DX Intelligence' is in the pursuit of their hobby, but for the others, I will outline a few sources. The Canadian DX Association, CANAD-X, offers its members the monthly newsletter *Long Skip*, edited by Gary Hammond VE3GCO, included in the annual membership fee of $20. An excellent compendium of QSL information, as well as many interesting articles and photos from around the DX world, it is well worth the price. Requests for membership should be directed to: CANAD-X, P.O. Box 717, Station 'Q', Toronto, Ontario M4T 2N7.

For those who prefer something a little more timely, Al Leith's bi-weekly *DX Report* would be an excellent choice. The current annual subscription fee (I believe) is in the order of $20 Can., but further information may be obtained by writing to: Alan Leith VE3FRA, 10 Fairington Cres., St. Catharines, Ont. L2N 5W3.

Another DX Newsletter which I use and find particularly useful is the weekly *QRZ DX News Bulletin*. Published by Bob Winn W5KNE and air-mailed to Canadians, this provides extremely timely information on what's going on in the DX world. (I must confess however, there is little in it that *DX Report* does not cover, it merely comes more often.) The annual subscription rate for QRZ DX is $28 U.S.

Some time back I started to list the DX countries which enjoy holidays during the month of the current issue of TCA. This is useful if you happen to need that particular country, because Amateurs worldwide tend to enjoy their hobby when they have an extra day off. For the month of October, nations celebrating holidays are as follows:

Continued on next page ▷

Date(s)	Country
1	5B, 5N, BV
2	3X
4	7P
7	Y22
9	5X
10	3D2
12	EA
21	T5
24	9J
26	OE
29	TA

Bits & Pieces

VP8, Falkland Is.— VP8AXJ has been reported daily around 21.235 from about 1830 Z. He will QSY to CW. QSL via G4NFT.

VQ9, Chagos— VQ9AC has been worked on 14.172 around 0000Z.

9V1, Singapore— 9V1UC has been reported on 14220 at 1500. QSL to P.O. Box 232, Singapore 9115.

4K1, South Shetland Is.— 4K1GAG has been very active particularly on 40 M. He is located at the Soviet Base, and may often be heard between 0200-0800 Z around 7001-7010 on CW, and 7065 on SSB (listening up 7180, and his own frequency) On 80 M, try 3508 around 0400 Z, and listening on 3790 around 0500 Z on SSB. QSL to UQ2OC via Box 88, Moscow.

KH2, Guam— KH2BB, AH2G, KD7P/KH2 continues to be active. Note the following times and frequencies: 1230 Z/14026; 0800 Z/3798; 0900 Z/7081-90 (listening 7255 KHz).

VK9Z, Mellish Reef— The VK Down Under DXers Contest Club will be mounting a contest expedition to this rare spot from Oct. 25-Nov. 6 for the CQWW Phone Contest. A good opportunity to bag this one on five bands. QSL route will be published in the Nov. issue.

JT, Mongolia— JT1BR is often reported on 14025-14040 around 1200 Z.

ZB, Gibraltar— Gordon ZB2J often at 21044 around 2000 Z. Also daily at 1800 Z on 14132.

QSL Information

CALLSIGN	QSL Manager
3D2BD	ZL2BD
3D2FR	NE4S
3D6AJ	WB3CQN
3D6AL	3D6AT
3D6ER	W5RBO
3V8AI	IN3RZY
3V8PS	IN3RZY
3X4EX	N4CID
4K1GAG	UQ2OC
4N3E	YU3HAM
4N7W	YU7JDE
4S7EF	JE2RDO
4S7NMR	KZ8Y
4T8CP	N4CQ
4U9ITU	W1RR
5H3OJ	5Z4DP
5H3QM	VE7QM
5N3RTF	DK2IF
5W1EJ	WOWP
5Z4DR	YU3TU
5Z4MX	SM3CXS
6W2EX	F6HRI
8J1ITU	JA1RL
9H1EL	LA2TO
9J2BO	W6ORD
9M2HB	N4FFN
9M6MO	KO2A
9Q5MA	K1VSK
9V1VM	WB0TEC
9V4GX	W7PHO
9X5WB	WB6VKD
9X5WP	WB6VKD
9Y4VU	W3EVW
A22ME	AK1E
A35SA	JM1MGP
A4XJV	WD8RKT
A4XJW	N4WF
A71BK	G4HNP
A92DQ	K2IJL
A92DY	W8LU
A92NH	W8LU
AH8A	K6DDV
AP2ZA	W6NLG
AX9ITU	VK9XI
BV0AA	OH2BH
BV0AB	JH6SOR
C30BAN	F6BII
C30LAC	EA5AQX
C30LBO	EA5AQX
C30LDO	EA5AQX
C31BD	F9JS
C31LBL	EA3DDP
C31NP	EA3BNX
CE0GBL	WB3CQN
CE0ZIA	KA1ILA
CE3DNP	WB6WOD
CN8AD	F8JL
CN8CC	F6FNU
CN8EL	W2PD
CT2CB	N2DUR
CX7BY	WO1JN
DU1/G4DUW	G-BURO
DU2/KK7K	WB7NOB
DU6/KD7QU	W7HPI
DU6/N7ET	N7ET
DU7XX	BURO
EL2AV	N6FL
EN4L	UA4LM
FB8WJ	W4FRU
FG0HAS	F2VX
FG0IIK	K2KTT
FG7BP	KA3DSW
FM4DJ	W5JLU
FM7/FY7YE	W5JLU
FM7WD	W3HNK
FO0DCW	W6AM
FO0FB	W7AM
FO0KI	KA6LAF
FO0SIW	W6MI
FO8KP	F6GXB
FP0HWT	AA6D
FP0HXD	WA4BXQ
FR7BP	W0AX
FY9IS	FY7AN
GB0GMT	N2DAN
GJ4/PA0KHS	PA-BURO
GJ5AGA	K4II
H44SH	AD1S
H5AYB	ZS6BCR
HB0/DL8GB	DL8GB
HC8/W0MLY	W0MLY
HH5JS	KC8JH
HI8/K2QA	K8DHK
HK0BKX	WB4QFH
HK0HEU	HK0FBF
HL1CG	BURO
HL9AH	N5CAH
HL9RC	KC0LG
HP1XEK	DL1HH
HS4AMS	W7PHO
HZ1AB	K8PYD
IA5/I1DFS	I1FNX
ID7UDB	I8UDB
IZ9A	W7PHO
J28DX	F1CFD
J8/K7RLS	K7RLS
J88AQ	W2MIG
JT0APE	UK3ABO
JT0DJT	I8YGZ
JW6BAA	LA7JO
JY3ZH	DJ9ZB
JY4MB	WA4HNL
KC6DX	KS7L
KC6HA	K6EDV
KG4AW	KA4TAY
KG4DX	WB2CPV
KH0AC	K7ZA
KH2/K0AX	W4FLA
KH4/WH6O	KH6VR
KH7/KH6JEB	KH6JEB
KH7/KH6LW	KH6JEB
KH9/AH3AA	W1ISD
LX/DL8YR	DL8YR
NH2/KD7P	KS7L
OA6EL	KC8JH
OD5FB	WA2QAU
OH0/K5KG	K5TU
OH0/YV5AMH	OH2BAD
OH0AP	OH1PA
OX/IK0CAK	I0JAJ
OX3GH	WA2TTI
OX3LV	W3HNK
OX5RJ	WA1FSV
OY7A	LA9PCA
OY8R	WO1IM
P29KY	JR1EMT
PJ4CR	WB2LCH
ROK	UK0IAA
RJ6R	UJ8JJ
SU/KA4SBE	WB1GGQ
SV9/DF4RD	DF2RG
SV9/KA0CYR	WB4TDB
SV9/W4MAT	W4MAT
T30RN	JH1RNZ
T31AT	G4GED
T32AB	N7YL
T32AF	KH6UR
TA8CN	N8CQ
TE5DX	T12CF
TF/KC2TU	K2SDD
TF/KD5YG	W5SOD
TF/OY1MJ	HB9CJX
TF3CW	K1RH
TG9VT	W3HNK
TG9XHQ	JA4FGD
TI2BEV	W4ZD
TJ1QS	F6DZU
TK5VN	FC9VN
TN8EE	F6ECX
TR8DR	W2PD
TU2NA	K2IBW
TU72	AK3F
TU7I	AK3F
TZ2XN	DK2XN
TZ6CY	N8US
TZ6FIC	F6CRS
U1NV	UZ1NWD
U2ANM	UC1AWW
U2H	UC1AWB
U9Z	UA9YEW
UC1AWC	UK2ABC
V2A/KA2DIV	WB4OSN
V85HG	VS5HG
V85MS	N2OO
VK9LL	W6REC
VK9ZA	VK6YL
VQ9AC	KA3EDN
VQ9AD	N6HMB
VQ9BC	WB6WUH
VR6TC	W6HS
VS6DO	K4CIA
VU2YOU	K4YT
XJ3SAS	VE3FOI
XT2EB	DF5EO
YB0ARA	K6DLV
YB2ARH	K2ROR
YK/OE8AJK	OE8AJK
YZ2NFJ	YU2NFJ
ZD7CW	N4CID
ZD8RC	W3HNK
ZD8TM	ZD8AR
ZD9BU	ZS1RP
ZD9BV	W4FRU
ZL7AMO	ZL1AMO
ZS3E	W8EFS
ZS4PB	N7RO
ZV2BW	PT2BW

TU, Ivory Coast— TU2MY every Sunday at 2200 Z on 14325.

9M2, West Malaysia— NN6U will be active as 9M2RT until July '85, emphasis on 160-40 metres. QSL to KB6UF. Also, 9M2CO on 14189 at 1600 Z, sometimes with 9M2CW.

PY0T, Trinidade— PV1BVY hopes to operate from this Island in Dec. More information in Nov. issue.

5U7, Niger— 5U7LD, Lucio, in a list opn. on 14236 at 2300 Z. QSL to IN3RZY. Still nothing regarding DXCC status for this stn.

VY0V was a spl call from Quebec City to commemorate the 450th anniversary of the landing of Jacques Cartier in Canada.

The ARRL Awards Committee, in conjunction with the DX Advisory Committee, has approved an ENDORSABLE DXCC award for 160 metres. There will no 160 M 'Honour Roll' however. This becomes effective on Nov. 1, 1984, and contacts from Nov. 15, 1945 may be used. Also recently announced is an endorsable RTTY DXCC.

That's everything this month. I would like to thank *Long Skip, CQ Magazine, QST, QRZ, DX, DX Report* and *Westlink Report* for much of the material appearing here. Δ

QSL via Robot

VE3FFW and XL3GPR may be the first Amateurs to exchange QSL cards by robot. They work for the same Company, in the same building.

The Company uses a robot named NT-D2 to deliver mail to its employees. So the two Amateurs put their cards in the mail, and so made this entertaining 'first'.

XL3 was the special prefix assigned to Manotick, Ontario from June 1 to 10, 1984 to celebrate the town's 125th anniversary.

Bill Cousins VE3GPR

Shuswap Amateur Radio Club holds wind-up dinner

Story & Photo by Ruth Keskinen

The Shuswap Amateur Radio Club held a wind-up dinner at Mr. Mike's restaurant to celebrate the conclusion of a 26-week ham radio course they participated in.

The course consisted of learning electronic theory, Morse Code, and receiving and transmitting by Amateur Radio. The regulations enforced by the federal government are strict: three in-depth examinations dealing with the Morse Code, regulations and theory must be passed before a licence may be held.

Four members of the club, out of 21 who started the course, passed all three portions of the exam and are now qualified operators. Another 12 have passed two and should be licensed in a few weeks when they pass the last test.

The club was started in Salmon Arm in 1977 and now has 35 members, with an additional 15 associate members. They are encouraging new members to join. The club has won the distinction of being the best in the 2-A category at the B.C Field Day competition.

Al Marr, chief instructor of the course, stated, "This is essentially a hobby, but it does prepare one for emergency communications should they become necessary." For more information regarding memberships, contact Hans Berls at 835-8324 or Collin Sturrock at 832-7796.

—from the Salmon Arm Shopper's Guide

Four instructors of the Amateur radio course are, from left, Al Marr VE7CAL, Blaine Ready, Tosh Miyagawa VE7DLA, Dwight Morrow VE7BCV, along with Vera Leslie VE7EJV and Terry Leslie VE7EJX, who passed the course and are now licensed Amateurs. Blaine Ready taught theory, and is studying the code for his licence.

Summary of

CARF DIRECTORS' REPORTS

The CARF Annual General Meeting took place in Ottawa on June 23 and 24. Here are summaries of CARF activities over the past months.

MANAGER'S GENERAL REPORT

Membership has risen by over 6%. On Jan. 1, 1983, CARF had 4937 members, on Dec. 31, 5427.

Publications sold well. New editions of the Study Guides will be needed to cope with changes in the regulations. A Publications Committee, chaired by VE3CES, will review all CARF publications and propose new titles for production.

VE3BID

ATLANTIC DIRECTOR'S REPORT

A successful symposium made CARF more visible, as did the establishment of a monthly Regional net (first Sunday of the month, 3.740 MHz). During one session, complaints about a station with an excessively broad signal resulted in DOC action. The Callsign VE1TCA has been allocated and is regularly used on the net.

CARF assisted a would-be Amateur in getting his licence. He had passed all the examination elements, but not at one sitting. CARF took the matter up, and intervention at the Ottawa level resulted in the local D.O.C. office issuing the certificate.

A Pictou, N.S. newspaper referred to some bootlegging types as 'Amateur Radio Operators'. CARF explained the facts of life to the editor in a letter subsequently published, and as a bonus a follow-up feature story on Amateur Radio appeared.

VE1ZN

ONTARIO DIRECTOR'S REPORT

Ontario Directors waved the CARF banner at seven major get-togethers (Hamfests, fleamarkets), and made presentations to clubs in Midland, Scarborough, Oakville and Orillia. They sold or renewed memberships, marketed publications and collected complaints—and followed them up.

One Director attended meetings of North York Planning Commission to enlighten them on the legal position of federally licensed communications towers, resulting in a modified by-law being enacted.

VE3KCE

MIDWEST DIRECTOR'S REPORT

(A full report was published as 'The Midwest Connection' in the 1984 January edition of TCA, *and is well worth reading...Ed.)*

All VE4's were presented with a free copy of the 1984 Manitoba Bluebook, listing all Amateurs in the province complete with names, addresses and phone numbers; all repeaters in Manitoba, N.W. Ontario, Eastern Sask. and North Dakota, a 12-month sked calendar, DXCC list and rules; and a list of all Amateur clubs in Manitoba, all courtesy of the Winnipeg ARC.

VE6VW

DIRECTOR'S QUEBEC REPORT

CARF was present at nine Amateur meetings in Quebec, including a meeting with RAQI (Radio Amateurs de Quebec, Inc.) to study modes of cooperation with them.

Local nets and repeaters carry the CARF news bulletin, and the Bulletins are translated into French for further publicity.

VE2ASL

PACIFIC DIRECTOR'S REPORT

The Kelowna club— the Orchard City Amateur Radio Club— assisted by other B.C. clubs, will host the CARF National Amateur Radio Symposium October 26-27, 1984.

Dr. John Warnica's campaign to collect old eyeglasses for a medical mission in Central/South America is supported by CARF members coast to coast. B.C. has collected 170 pairs so far.

VE7EGR

RECIPROCAL LICENSING

Bruno Molino VE2FLB, Quebec Assistant Director, has received correspondence from Amateur societies in over 20 different countries responding favourably to CARF's reciprocal licensing service. This makes it easier for foreign Amateurs to get their licence when they prepare to visit Canada. As a mirror image of this, all countries for which Canada has reciprocal licensing agreements have been requested to supply CARF with information about their regulations.

EMERGENCY COMMITTEE REPORT

The salient item in this report is the need to educate the government officials charged with emergency communications about Amateur Radio.

Additionally, the government's plans and manual are woefully out-of-date, perhaps understandably in our fast-moving field.

A forum on the use of Amateur Radio in emergencies will be held at the RSO Convention in October. The result of this should be to allow us to establish a proper game plan for emergency communications, complete with a list of operators.

Ontario's Bill 2 is now enacted. This bill authorizes the Emergency plans of governments across the province and establishes the planning responsibility.

VE3IHX

CANADAWARD

About 270 applications for this award have been filled in all categories. Opening the award to SWL's would give a much broader base to the enterprise and spread the word about CARF far and wide with manifest advantages to us.

VE3JDO

CARF/DOC LIASON COMMITTEE

This committee recommended that the DOC discontinue the legislation of sub-bands and to delete the governing schedules from the Regulations. Action is unlikely before 1986.

A working group of CARF, CRRL and DOC has been struck to consider action required by the Cable TVI problem. This is now known as the Advisory Committee on Cable Television Ingress/Egress. A strong and effective force can be brought to bear on cable operators to clean up their act. VE3NR

CARF NEWS SERVICE

The CARF News Service Radio Bulletin is produced bi-weekly, except during the summer months. It is circulated to 50 radio stations and to about 200 affiliated clubs.

VE3CDC

PUBLICATIONS COMMITTEE

More sections of the Canadian Amateur Reference Files have been solicited. Eight sections are under consideration now.

A test advertisement was run in the July/August issue of *TCA* to see if there was a demand for the book "CW into Foreign Languages."

The committee feels that directors should be allowed to give away a specified number of publications as door prizes at hamfest and flea markets.

VE3CES

NATIONAL QSL BUREAU

Box 66 handles about 100 pounds (45 kilograms to you) of cards a month. Cards are mailed twice monthly. CARF's QSL Bureau handles flyers, publicity slips and award notices for clubs. Bureau workers visit clubs, flea markets and hamfests. Remember to put your membership number in with your cards for dispatch.

Mastercharge & Visa Service now offered by CARF

It is now more convenient than ever to join CARF and to order CARF Publications. When ordering, simply send your Name, address, Card Number and Expiry Date, with your signature.

YL NEWS & VIEWS

By Cathy Hrischenko VE3GJH

After the inquiry from Mary VE3LFJ about other stamp collectors, I went through my YL files and I also did some asking around. I found that many of you have a collection or two and decided to tell you about some of them.

Other YL's interested in stamps are Susan VO1OI, Susan VE3BEC, Jean VE3BVJ, Jeanne VE2JZ, Mildred VE3GTI,Vin VE3HGA, Marion VE7BQV, Sheila VE7DAX, Diana VE7DTO and Shirley VE7FME.

While asking a group whether they collected anything as a hobby, I was asked, how many of something do you have to have to be a collector? Good question, eh?

I looked 'collector' up in the *Funk and Wagnalls* College edition and here's what it says: 1— One who or that collects. hm! 2— One who collects taxes, duties, debts, etc. Ugh! 3— one who collects coins, stamps, etc., as a hobby. No mention as to how many.

Most people don't say, "I'm going to start collecting so and so" and then do it. It appears that most collections start as an innocent gift from someone or a tourist remembrance. Once you have one of something and you like it, your mind starts thinking 'two' and so a collection is started.

Owls

Mary VE3COH has several collections. Her main one is owls. She has owls in every room, even a bathroom deodorizer in the shape of an owl. Her OM Tom VE3GZV is always on the lookout for owl shapes for her collection.

One day in a store he spotted one and decided to buy it. The sales-girl said to him, "Do you know what this is?" He said, "Sure. It's an owl!" She smiled and told him it was a pierced ear-ring holder.

Well, to make a long story short, I'll tell you that Mary now has pierced ears. Mary has several other collections such as those small antique-looking objects that are actually pencil sharpeners.

Her Mom and Dad left her a collection of old post cards. Some date back to 1895 and are mostly from England. She's in the process of cataloguing these and they will be a family treasure. Also collecting post cards is Margaret VE7BCT.

Thelma VE3CLT, I'm told, collects bells and plates. Jeanne VE2JZ and Jean VE3BVJ collect coins as well as stamps.

My files tell me Louise VE1ZV collects early American glass. Peggy VE5ACT collects recipes. Now, that's one most of us collect and don't realize we have a collection. One of my daughters said that's true. Only one problem. The biggest part of the collection would probably be filed under, "When I get around to it!"

Viv VE3HGA collects elephants and has about 100 of them around her home. No real ones! She also collects post cards and has over 3,000 of them. Her post card collection started through an interest in her uncle's collection when she was a child. Viv also has several smaller collections including stamps, poodles (she has two real ones, too) and roosters and chickens.

Pauline VE3LQA collects pigs. My daughter Dot VE3HUO also collects pigs and has over 200 of them. Guess these two are real hams. I've made quite a few of the ones Dot has and Bernice, XYL of Les VE3CCP, made a cookie jar and a large pitcher in the shape of pigs out of ceramic ware.

The most unusual pig Dot had was given to her by her brother when he was a driver for a meat company a few years ago. He gave her a real pig head. Not knowing what to do with it, she put it in the freezer. Later when she broke up with a fellow she left it for him. I guess no further comment is needed on that one. Dot's wedding day is Oct. 6. Dot was born in the Year of the Pig; maybe that influenced her collection.

One of my biggest collections is of metal buttons and pins. The kind that advertise political, radio, whatever. I have them from several countries and languages. I have almost 800 on the rec room wall on a six by six foot piece of felt. It's a real conversation piece. Always looking for new ones and I have traders if anyone is interested. I bring them to most of the Hamfests. I also have a collection on the wall of jacket crests. I also collect pennants, movie posters, music boxes, masks and more. I'm a collector from way back.

DX YL's

Some of the DX YL's have some different collections such as paper dolls, Coca Cola objects and 'Royal' stuff.

Of course we can't overlook such things as collecting certificates. At one time the 'wall-paper' Jan VE3BEI had was really unusual. She had a real collection of YL certificates.

Then there is the CHC queen, Margaret VE7BNU, and I read that she has over 2200 certificates.

I've saved the most unusual for the last. Louise W3WRE, who is widely .known for her CW and traffic handling and many radio honours, has a fantastic collection of telegraph keys. She has 320-plus spanning 134 years of telegraphic history. It all started in 1955. She has her whole collection catalogued down to the type, year, when she received it and by whom or how.

I hope we've awakened you to the thought, of possibly starting a collection. Let me know if you do, OK?

Since the fall season is upon us, I thought I would reprint a poem I wrote around 1961. I'm sure it will hit home to many of you— past, present and future.

We kissed and said Good-bye

Well it finally happened this morning
He left with only the clothes he was wearing
He kissed and hugged me and then said good-bye
He turned once and looked back at me. I hope he didn't see my tears.
This separation came as no surprise. The first signs that this would happen, became apparent about five years ago.
His charm was irresistible and such a handsome guy
With his good looks, sense of humour and self assurance, he'd have no problem making his new life a success.
During the past years I noticed his stubborn independence.
His struggle to be free and on his own.
He became resistant to my suggestions and his protests became more vocal.
I knew this summer that a change would be made.
We had counselling and even a trial separation.
I'll always remember the good and happy times we had together, especially those late at night.
These memories will help me through what they call the adjustment period.
I've told myself, I will not let myself be abused or unappreciated.
What I did for him in the past, was done because I loved him and he needed me.
I hope this new woman in his life will notice all his good features and help him improve on his weaker ones.
Now it's up to me to look beyond today, with the knowledge that what has happened, is best for both of us.
It's happened to many others. They've managed and so will I.
You see, my son started school today! Δ

Canadian Ladies' Amateur Radio Association

1984 CLARA AC/DC Contest

Sponsored by the Canadian Ladies Amateur Radio Association
Starts: 1800Z Sat. Oct. 20, 1984
Ends: 1800Z Sun. Oct. 21, 1984

The AC/DC Contest is open to all YL and OM Amateurs. Each station may be worked twice, once on CW and once on phone, or on different bands. Exchange signal reports, QTH and name. Bonus stations will be operating and will identify as such. Each Bonus station may be worked twice, once on CW and once on phone, but MUST be on different bands.

Suggested frequencies: Phone— 28.488, 28.588, 21.300, 14.160, 14.280, 7.150, 3.775, 3.900

Suggested frequencies: CW — 28.035, 21.035, 14.035, 7.035, 3.690

CLARA MEMBERS: Score one point per contact with non-members, two points per contact with CLARA members, three points per Bonus station. Multiply total of the above by the number of Canadian provinces/territories worked for total score.

NON-MEMBERS: Score points the same EXCEPT only CLARA member contacts are to be counted.

AWARDS: CLARA members: 1st place— 'CLARA CUP' and certificate; 2nd and 3rd place— Certificates. Non-Members: 1st place— Plaque and certificate; 2nd and 3rd place— Certificates.

All logs submitted are eligible for the Mini prize draw.

Mail all logs and scores, with your name, call, address and postal code, before Dec. 15, 1984, to: Muriel Foisy VE7LQH, RR1 Pender Island, B.C., Canada V0N 2M0.

The Ontario Trilliums Amateur Radio Club

Trillium Weekend Contest

Tentatively scheduled for Fri. Nov. 2nd at 7.30 p.m. until Sat. Nov. 3rd at 7.30 p.m. THAT IS 0030 GMT Nov. 3rd until 0030 GMT Nov. 4th 1984.

Each Trillium station may be contacted twice, on a different band or mode and Trillium stations may contact each other.

Exchange: Signal report, name, QTH, and the Trillium station will give her club Trillium number.

LOGS: DATE, TIME in GMT. RS or RST. band, mode and TOT number, as well as NAME, CALL and ADDRESS and claimed SCORE. *All logs must be signed by the operator.*

All contacts are counted as one point. No bonuses nor multipliers, just contacts. Send logs to: Audrey Cuthbert VE3ILT, 87 Unit #2 Parma Ct., Toronto M4A 1A5.

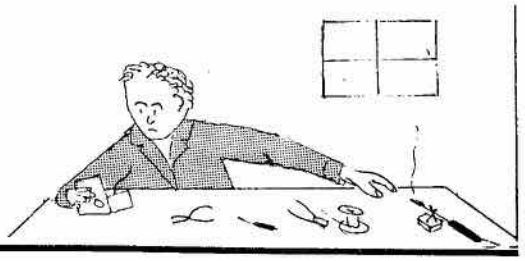
Logs must be postmarked not later than Dec. 31, 1984 and received no later than Jan. 15, 1985.

The Trillium with the highest score will receive a Trillium Certificate. 2nd and 3rd place will receive certificate.

The non-member with the highest score will receive a Trillium Certificate. The TOT's will operate on CW and phone on 80, 40, 20 and 2 metres for the duration.

TYRO

By Frank Hughes VE3DQB



I was walking home in no happy mood. Reg had told me that, at a local garage sale, there would be a box of radio goodies. I had got there quite early, but of goodies there were none.

As I was about to turn up Skid Avenue, I heard a voice call my name. It was young Space, and he had an air of subdued excitement about him.

"Frank," he called, "I've got something I'd like to show you. Could you come in?"

Mastering an urge to snarl "Be off with you!" I smiled at him and said: "Why, certainly, Mark. I can spare a little time."

He led me up his driveway and into the kitchen. Here he offered me a choice of Coke or 7-Up, and took out the ice cube tray from the refrigerator to cool the drinks.

Observing that the tray was empty, Mark went to the sink to wash it, and refilled it with water. This was accompanied by a distant scream of pain from inside the house.

"Mum must be in, that's her in the shower," he muttered casually as he returned the tray to the refrigerator, spilling scarce a drop.

Mark led me into what I presume was his bedroom, though it was difficult to see a bed under the hockey equipment, the football outfit, schoolbooks, clothes, records, and odds and ends unidentifiable by one of an older generation.

"Here's what I want to show you," he said struggling to fish a large, somewhat dirty, cardboard box into view. "I got to the garage sale real early this morning. Reg said there was quite a few people after this."

I ground my teeth. The selfishness of this younger generation! No thought for anyone else. I wanted that box of junk. But it's no use. All they think of is self, self, self, all the time.

Nevertheless, I smiled and said: "What's that?"

"Radio stuff," he replied. "I paid a dollar for it. Do you think I did right?"

"I'll take it off your hands," I said casually. "Give you a dollar for it."

Unfortunately Mark has a suspicious mind. "It was worth the money, then?" he asked.

By now I was delving into the box. "Judge for yourself," I said. I held up a banana plug in a vivid yellow. "Whoever bought this probably paid a few cents for it. I priced them recently at a dollar five.

"Tubes. List them by their numbers, and post it in the clubhouse. No use to you, unless you intend to be an antiquarian, but they might be a life-saver to someone with old equipment when the price of new ones runs at 20 bucks a throw."

I needed two hands now. Mark spotted that I was looking for somewhere to park my drink, so he obligingly cleared a corner of his dressing table to accommodate me.

"And here's an old tube radio. That's the power transformer. That'll give you a 12-volt power supply with a handful of parts.

"Oh, boy! A pair of high-resistance phones. Are you in luck!" I slipped the ancient Ericcsons on, took a penny and a ten-cent out of my pocket, and made the circuit through them. The crackle told me the phones worked.

"What are you doing?"

"Checking them. The copper penny and the nickel dime, with a trace of moisture from my fingers, make a tiny Voltaic cell (remember Alessandro?) and the phones will work from such a tiny power source." I offered him the phones, and touched the dissimilar metals for him. His face glowed with joy.

I was deep in the box now. "Here's another transformer. Burnt, by the smell of it."

Mark took it from my hand and smelt the burnt phenolic. He was just about to pitch it away when I stopped him. "No, Mark! That's a treasure." I took it back, pulled out my knife and selected the screwdriver to take off the shield. "The black wires are the 110 volt winding. The red ones, high voltage, the yellow and black, the centre tap. These are 6.3, and these yellow ones, 5 volts. Now we can see what's inside..." I pried off the shield.

"If nothing else, these low-voltage windings are useful wire. If you don't think it's worth while taking it apart, go check the price of copper."

"Yeh," said Mark, "but what's it do? It breaks down the power, but how?"

"By electromagnetic induction. Hand me down that Scout's compass, please, Mark. Now if I can rob that calculator of its battery for a moment..." I put the compass on the dressing table, taking a sip of my drink as I did so, and then connected an odd piece of wire from the treasure chest across the battery, and put in N-S across the compass. Naturally, it deflected.

"See? Electricity affects a compass. This we knew from about

1800 on. Now, how do you convert magnetism into electricity? You can put a magnet by a wire till the cows come home, but you'll not find any electricity.

"Michael Faraday wound a coil on a tube, and pushed a magnet into it. He showed that, while the magnet was moving, current flowed in the wire. So electricity moving down a wire caused magnetism: magnetism moving past a wire caused electricity.

"Then he made a ring of iron— his father was a blacksmith, so it was probably duck soup to him to weld the join— and wound wire on it. Now he couldn't nip down to Radio Shack and buy some insulated wire. Instead, he had to wind string round the iron first, then put on a layer of wire with a layer of string between the copper, so that the wires wouldn't touch. Then another layer of string over the copper-plus string, then another layer of wire as before. He made two windings like that.

"Then he put a galvanometer across one winding, and connected the other across a battery, like this," I put the phones across the power winding of the old transformer, and touched the battery across the 6.3 winding. The phones crackled.

"The electricity magnetized the iron, and as the magnetism in the iron changed, it INDUCED an electric current in the second winding, and this flowed through the galvanometer. It only flows when the battery contact is made or broken." The phones responded as I touched the battery across the winding.

"Hey, hey, what's this *across* and *through* bit?"

"Sorry, Mark. Too easy to slip into jargon. Here's the battery. We know it is trying to push electrons from its negative terminal to its positive one. It's not succeeding because there's no circuit for the electrons to flow through. It's always there, though." I touched the battery terminals to my tongue, and handed him the battery.

Mark followed my action, and made a face.

"The current doesn't flow; though, with a circuit, it could. The terminals have a potential flow of electrons from minus to plus. It isn't flowing, but it could. It's a *potential* flow. We say there's a POTENTIAL across the terminals, and measure it in Volts— hats off to Alessandro.

"Now if we complete the circuit between the terminals"— I pulled a 47 bulb from the old radio— "current flows *through* the circuit," I completed the circuit from the battery through the bulb, which lit with unnatural brilliance. "As you see.

"So a voltage appears ACROSS the terminals of the battery or other source of electrons, and a current of electrons will flow THROUGH a load connected to them."

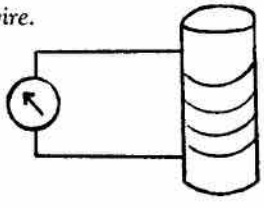
"Now the word *galvanometer...*"

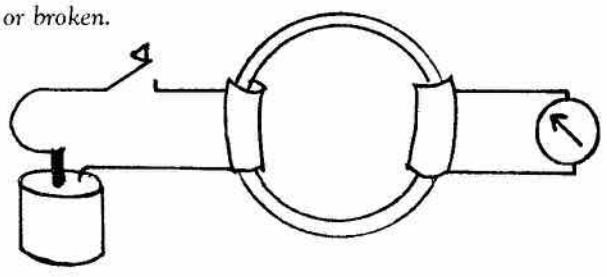
"Next time, Mark, next time. It's nearly ten, and I want to check into the net this morning." Δ

Thanks to VE3KSD. By an astonishing coincidence, the same terminology puzzled him and Mark.

ELECTROMAGNETIC INDUCTION
When a magnet is moved into a coil of wire, a galvanometer shows a current INDUCED in the wire.

FARADAY'S RING
A ring of iron carries two separate windings of wire. When one wire is connected to a galvanometer, and the other winding is connected through a switch to a battery, the galvanometer flicks whenever the circuit is made or broken.





A New Winnipeg Club

By Lou Curtis VE4AEM

We of the Winnipeg Senior Citizen Radio Club decided to hold our Grand Opening on June 28, 1984. It was not without some apprehension that we decided on that date as it was the beginning of the holiday season.

Another reason for concern was that we were behind in getting our station set up the way we had planned. This was due mainly to delays in receiving our equipment from suppliers.

Nevertheless, despite all obstacles and difficulties, our opening went well; and during the day we had some 60 visitors and close to 50 attended the opening ceremony. The program began 2:30 p.m.

Program

1. O Canada.

Played on the violin by a member of the Board of Directors. Everyone is asked to join in the singing.

2. Master of Ceremonies— Joe Ozero.

Introducing Members of the Board of Directors of Winnipeg Senior Citizens Radio Club.

3. President's message— Albert Diamond.

4. Introducing V.I.P.'s— Ross Cavey (Hospital Admin); Esther Korchynski (New Horizons); Brian J. Johnstone (Department of Communications).

5. Special honor awards— Lou Curtis, Bert Anderson, George Reynolds.

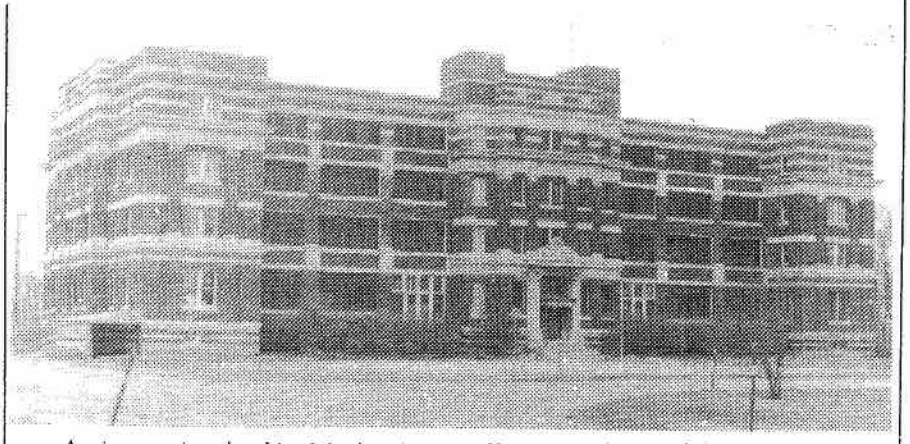
6. Invocation.

7. Closing remarks.

8. 'Coffee and' Service.

9. Tour and Demonstrations— 3:45 p.m. V.H.F. Manitoba Repeater Contacts; 4:00 p.m. H.F. Trans-Canada check-ins; 4:30 p.m. RTTY Demonstration.

Albert Diamond VE4AIO, the president, kept his message short and to the point. The program was conducted with dignity and decorum.



An impressive shack! 1 Morley Avenue, Winnipeg, home of the Winnipeg Senior Citizens Radio Club, and of their rig, VE4WSC.

Keith McConnell VE4BC was the mainspring in getting the spacious hall set up with interesting QSL Cards and other ham gear— mostly home-brew. The interesting display of QSL Cards were selected from his own, Bill Kinash VE4MZ and Bert Anderson VE4AP's collections and arranged on an easel.

Keith brought a large TV set and ran a tape supplied by Gil Frederick VE4AG. The tape was in colour and gave a comprehensive picture of the activities that went on aboard the space shuttle Columbia, when Owen Garriott W5FL made history by being the first Radio Amateur to operate in outer space.

Charlie Harvey VE4FG captured all of the main events with his camera, and Joe Ozero VE4IO arranged the pictures in a neat, orderly, fashion in a ring binder for a permanent record.

Charlie Precious VE4GB manned the HF rig and 14 contacts were logged from Vancouver to Halifax and numerous calls were made on two metres also.

Ross Cavey made us welcome as a group and looked forward to working with us in future. We thank him for his help in setting up our station.

Esther Korchynski emphasized that the purpose of New Horizon grants was not only to enable Senior Citizens to make the best use of their skills and expertise to the best of their ability, but, above all, to share those skills with others.

There are many thousands of Senior Citizens involved in a wide variety of programs in Manitoba and across Canada. It has been proven over and over again that prevention is less costly than cure. And a busy, happy, future-oriented Senior is less apt to get bored with life and end up in the hospital or care home. If there is still something that he is anxious to complete or accomplish, he will take more care of his health.

Brian J. Johnstone, from the Department of Communications, gave us a talk on communications. He was very generous with his time and brought along a number books and other information on Amateur Radio.

All members of the club played an important role in preparing for our Grand Opening. John Mack VE4AF is a faithful member of the club and is always ready to help where he can— Thanks fellows!

And last but not least, we are greatly indebted to our XYL's who pitched in and helped with the preparation of the food and seeing that it was served properly. Δ

New Antenna

Richard Snyder of California has devised a new wideband antenna system, reports *Communications News* for July.

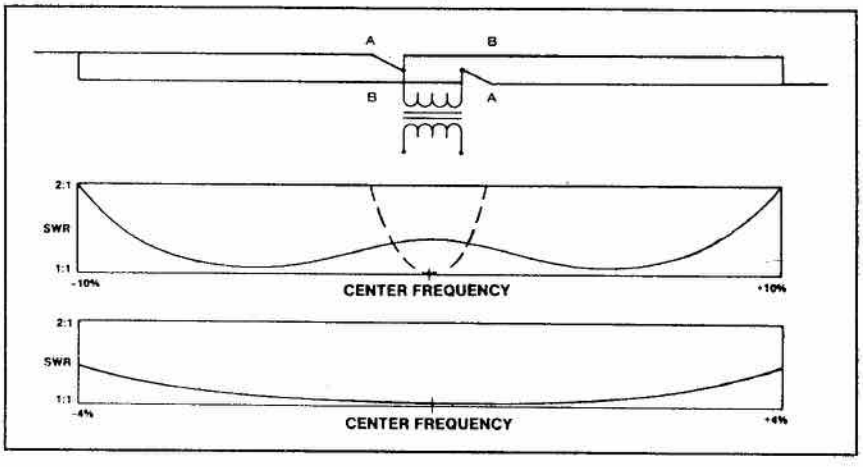
The Snyder antenna is fed by a balun. The balanced side of the balun feeds both sides of the dipole, as shown in the diagram. Each arm of the dipole is composed of two insulated lines- either coaxial or parallel; these lines are shorted at the far end (See the top graph).

The response of the Snyder antenna is shown in the centre graph, where the dotted line represents the response of a normal dipole, the SWR of which climbs to 2:1 when 2% off the centre frequency. The Snyder antenna's performance is illustrated by the solid line: it can span from -10 to +10% of centre frequency before the SWR rises to 2:1.

The third graph shows that, over a smaller frequency span, the Snyder antenna holds a very low SWR.

These antennas are in use around the world for high power two-way communications. They do not seem to be of immediate use to Amateurs, except perhaps to span the new WARC bands and 15 metres. Thus one for 18 to 21 MHz, or for 21 to 25 MHz, might be of interest.

The article in *Communications News* gives few technical details, undoubtedly because the patent application is still under consideration. Δ



Youngest Canadian Amateur

Steve Bekker of Islington, near Toronto, has been unable to play active sports since he was three. However, he has been able to master code, theory and regs well enough to become the youngest Canadian Amateur at age 13. He is VE3OOS now, and studying for his advanced certificate.

Steve got a writeup in *The Toronto Star* of August 12, in which his skill at cartooning was displayed. Steve— can *TCA* have a few more cartoons from you?

Social Events

1984 October 6
HAMILTON ARC FLEA MARKET

At the Marritt Hall, Ancaster Fairgrounds, 625 Highway 53 East. Admission $2. Vendors: $4/8 ft. table plus admission. Commercial vendors: $10/8ft. table (Admission included). All tables supplied by HARC. All space inside. Over 7,000 square feet— room for 150 vendors.

Door prizes drawn hourly from 0900 to 1300. Coffee, soft drinks and sandwiches available. 50-50 cash draw.

Order space early from H.A.R.C Flea Market Committee, P.O. Box 253, Hamilton, Ont. L8N 3C8

Talk-in VE3NCF 146.16 in, 146.76 out.

1984 October 5-6-7
RSO CONVENTION

Host club: Ottawa A.R.C., Westin Hotel, Ottawa.

A varied program is planned, with items to interest all, licensed or not. Valuable prizes offered. Commercial displays. RSO Member $8, Non-member $9, Non-Amateur $4.50, Saturday banquet and dance $27. Hotel rates $63 per day.

More from: RSO Convention/84, Box 15806, Station F, Ottawa, Ont. K2C 3S7

CALENDAR

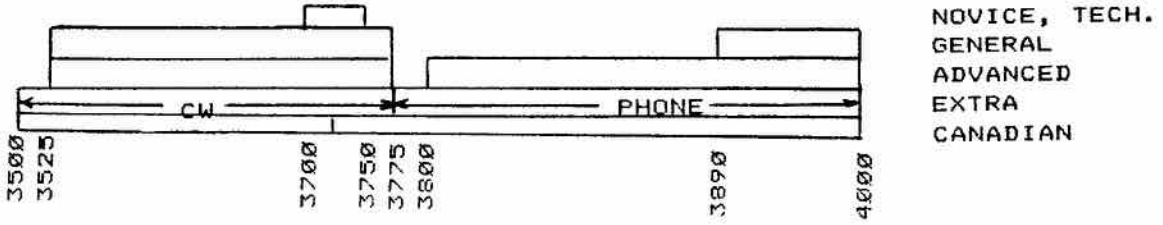
October 5-6-7 RSO Convention. Details above.

October 6 Hamilton Flea Market, Merritt Hall, Ancaster Fairgrounds. Details September *TCA*.

October 27 Fred Hammond Appreciation Dinner. San Giovanni Banquet Hall, Mitchener Road, Guelph. Details September *TCA*.

November 10 York Region ARC's Flea Market. Newmarket Community Centre. Details September *TCA*.

Eighty Metres



By Wally E. Clarke VE3CBE

Compared to 220 MHz discussed in a recent issue of the *Groundwave* by Brett, 80 metres is a D.C. band— not exciting, but useful to have around! However, there is something here for everyone: high speed CW vs. novices; RTTY, FAX, SSTV and other experimental modes vs. AM (ancient modulation); nets; round tables, ragchews and even some rare DX, or even rarer whistlers and long delayed echoes if one takes the trouble to look below the QRN and local signals.

80/75 is a local band during the daylight hours. DX signals come up out of the atmospheric noise toward dusk and fade after dawn, but not quite so suddenly as on the higher frequencies. Signals peak along daylight-darkness paths so South America will be heard almost any time during the evening. In the winter, loud signals from Europe will often appear at dusk and again around 0600 UTC or a bit later (European dawn) with a greater chance of contact during the latter opening due to reduced local activity at both ends. It is not unusual to hear the Eastern Europe prefixes peaking first: LZ, HA, HB, YU and UK are common, followed by I, D, F, SM, SP and G over the course of one to two hours. Similarily, west coast stations appear before midnight, followed by KH6, VK, ZL and (rare) JA. High antennas are an asset, not only to hear them through the power line hash and TV birdies, but also to poke through their noise at the other end.

Where does activity centre on this band? Well, the U.S. allocation, the restriction prohibiting operation above 3.8 MHz in many countries and a few "gentlemen's agreements" decide this issue.

We note immediately the 'DX windows' below 3525 kHz for CW and between 3775 and 3800 kHz for phone. Notice that the latter window is close to the "Canadian phone preserve", which makes for many stimulating conversations around 3775 kHz during DX contests. The action occurs as follows:

3500-3525 CW DX. The big guns crowd to the lower 10 kHz with signals designed to discourage all but the 5BDXCC nuts. Above this, the situation becomes more relaxed, with good DX to be worked up to 3550 by dodging the European commercials. (Even if you cannot copy at their speed, the Russians can be recognized by those T1 notes.)

3530-3600 General CW except for occasional South American SSB (the South American phone bands must extend everywhere!) Many area traffic nets operate here, with an occasional early morning European round table found near 3570 kHz. W1AW operates on or about 3580 kHz.

3590-3650 RTTY and similar machine services operate in this region, by consensus. 3590 kHz is maintained for RTTY DX (meaning that if rare stuff comes along, CW in the area will be blown away!)

3650-3700 The American Novice band is fun and interesting, too. VE3 can be rare DX to a W6 novice. When operating here, be careful to separate the 'V' from the 'E' to avoid becoming 'F3XXX'. All Americans seem to spell Ottawa with two "O's". The real tyro is not necessarily the slowest operator (although it would appear that a passing grade down there is around two words per minute), but will identify himself by giving out an honest signal report! The upper portion of the novice band is also used for Canadian phone patches and spill-over from local SSB nets. The region is swamped by CW QRM as the evening advances until the early morning hours, when occasionally European SSB ragchews or other DX can be heard.

3725-3775 The 'Canajun' Phone Band. ONTARS may be worked during the day on 3755, followed by too many nets, patches and general bedlam between suppertime and 2100 hours local time. Only the uninitiated call CQ. Those in the know join round tables. Clearing the frequency by parking ten carriers prior to net time is custom. For every American who strays below 3777, there will be four Canadians to tell him. On the other hand, for every rare DX station that appears, there will be four anonymous Americans breaking in to request that he listen up-band.

3775-3800 The DX phone window and happy hunting ground for both VE and W. The

practice of DX lists is not so prevalent as it was a few years ago. In contrast to the CW window, rare DX occupies the top 10 kHz.

Above 3800 The (predominantly) USA phone band. There are a few loosely held conventions. State or local nets are usually found above 3900 kHz to encourage the General Class Licencee. SSTV is attempted on 3845 kHz. AM diehards cluster below 3900 kHz and compliment each other on the fidelity of their 10 kHz plus signals or trade insults with "silly sidebanders".

There you have it. Here are a couple of concluding observations:

1. The 80 metre band is underutilized. There are segments below 3700 kHz where hardly a signal can be found or a contact made, even during the peak evening period. Often this entire portion is quiet during the day. Let's hope when the U.S. phone band expands downwards, it will liven things up a bit.

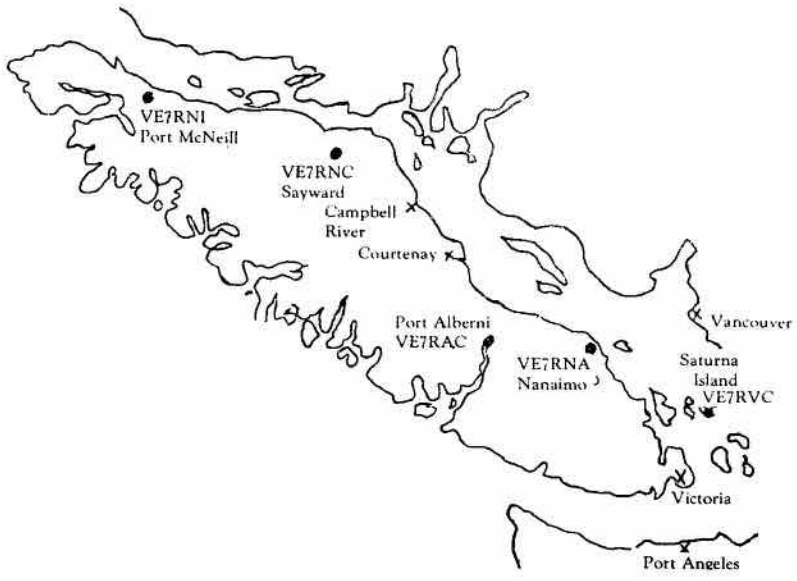
2. The number of nets seems to exceed their usefulness and may be one reason why the above situation exists. Some stations will check into several nets over the course of a few minutes with no apparent purposes other than to add to the QRM and to the confusion as to who went where and when.

Why not spread it out a little, fellows, and call CQ after 9 p.m.? My concern is that, as Amateur traffic tapers off after the net, there is a noticeable encroachment by commercial and foreign stations. AM broadcasting on 3995, XFG-2 on 3700, CTP on 3718, RTTY on 3755 and most recently, the young lady at 3767 are examples to remind us what has happened to 40 metres, and what could happen to 80 unless Amateurs themselves take action to protect the band. Δ

From Ottawa's ARC's Groundwave

(Since this article was written, the U.S. Extra Class as of Sept. 1 has been allowed to go down to 3750 kHz...Ed.)

Linked Repeaters in B.C.



CALL	QTH	FREQ.	CODE UP	CODE DOWN
VE7RNI	Shelly Mountain	146.94 -600	96*	97*
VE7RNC	Newcastle Ridge	146.68 -600	ALWAYS ON	
VE7RAC	Port Alberni	147.24 +600	81*	82*
VE7RNA	Nanaimo	145.43 -600	86*	87*
VE7RVC	Saturna Island	146.68 -600	ALWAYS ON	

This is a sketch map of the linked repeater system through VE7RNC (Newcastle Ridge) and VE7RNA (Nanaimo). VE7RNC has a 220 MHz repeater and Nanaimo has a 450 MHz repeater through which all linking is done.

To access any of the repeaters through the link, first enter the 'on' code of the repeater that you are using. That connects you to Newcastle Ridge, and then enter the code of the other repeater(s) you wish. Nanaimo and Saturna are 'hard linked' and therefore act as one repeater. So if you are on Saturna and wish to activate any links, just proceed as if you were on Nanaimo.

When bringing VE7RNI or VE7RAC up or down, you will hear a CW ID. Plans are in the works to install a similar circuit at Nanaimo.

It is an open system and all Amateurs are most welcome to use and enjoy it. If you have any questions or need assistance, don't hesitate to ask, there is usually someone listening who can help.

We hope this information is of some help to those who wish to use the system. All the codes are public, so feel free to pass them along to any interested parties. Δ

de Roger Stacey VE7AHV
Nanaimo Amateur Radio Repeater Group (NARRG)
c/o 551 Weber Street,
Nanaimo, B.C. V9R 5S1

Microwaves

By Michael Ross VE2DUB
2285 St. Mathieu
Apt. 1401
Montreal, Quebec H3H 2S7

A quick review of TRC 25 reveals that our Amateur bands are composed of only 3.75 MHz bandwidth from 1.8 to 29.7 MHz, 59 MHz of spectrum from 50 to 928 MHz and an astounding 1,460 MHz from 1215 to 24250 MHz as illustrated in Table I. Surely this much of what we call the Amateur bands should be of interest to Canadian Amateurs.

Traditionally, new Amateurs got started on HF, lived and died on HF, with little attention being paid to the higher frequencies. With the advent of commercially available transceivers and Amateur repeaters, the VHF bands have enjoyed increasing popularity with two metres leading the way. Multimode transceivers for satellite and terrestrial communication are becoming more popular, on what were once considered useless frequencies. It was not that long ago that all HF frequencies were considered useless until experimenters proved their worth and they were gobbled up by commercial, government and other services leaving the small slices of HF bands we occupy today.

Use it or...

We are now experiencing a similar situation with the Amateur VHF bands. Remember when the 70 cm band was from 420-450 MHz? That's 10 MHz gone forever! The Americans have just lost 80 MHz from 2310-2390 MHz to the aeronautical flight test telemetry service and there is once again a proposal from the commercial land mobile service in the U.S. to take over the entire 220-225 MHz band. Where would you be today if the two metre band had been given away years ago? About in the same place as Amateurs of the future who would surely be envious of todays microwave allocations. You've heard it before, "Use it or lose it".

In Europe

The Europeans are far ahead of North America on the UHF and microwave bands. Thousands of VHF and up licencees set new records and stretch the bands past old limits. With nowhere to go but up, they keep on going. Activity breeds activity as more Amateurs populate the bands. What would it take to get you involved? Perhaps the influx of a new wave of technically competent Amateurs would provide the needed boost to Canadian activity. There is certainly more than enough spectrum above two metres for future widespread voice, spread spectrum, cellular radio, television, satellite and high speed data transmission. This increased activity would have to be considered as one of the best possible defences against the encroachment of commercial interests in their quest for our precious, profitable Amateur bands.

Getting Started

How do you, the average Canadian Amateur, get started in microwaves? Watch this column for reports of Canadian microwave activity. Get in touch with the Amateurs involved, they would welcome your participation. If you are already operational on any microwave band please let me know. A brief description of your station equipment, photographs and details of contacts made as well as a list of other operators in your area would me most welcome. A listing of Canadian microwave distance records will also be compiled. Please give date, both callsigns, band, distance and locations to report your records, then get out and break them!

Table I

Frequencies	Bandwidth
1215-1300	85 MHz
2300-2450	150 MHz
3300-3500	200 MHz
5650-5925	275 MHz
10000-10500	500 MHz
24000-24250	250 MHz
Total	1460 MHz

A two week vacation in Vancouver presented the opportunity to seek out any possible microwave activity on the West Coast. Upon arrival in Vancouver I attempted to find Frank Merritt VE7AFJ, author of the 10 GHz X-Pro article which appeared in June '84 *TCA*. A few calls on the Nanaimo repeater brought the news that Frank was away in New Zealand but that I might try Robert Skegg VE7AII, a known microwave operator. An evening on the telephone with Robert netted a summary of the local activity and a meeting that weekend at Robert's with Peter Talbot VE7CVJ to take a look at their equipment.

Record-Breaking Equipment

Sunday afternoon was spent sharing our experiences on 10 GHz and listening to Robert describe his participation in early 10 GHz record breaking contacts in England, complete with tape recordings of the actual contacts. His 10 GHz equipment consists of a Gunnplexer transceiver with a foot-long horn antenna, micrometer type wavemeter and homebrew 107 MHz IF receiver. The receiver is also set up for radar operation, with a changing audio tone as object movement is detected. The radar effect was clearly demonstrated on

passing cars, several hundred feet away. Other equipment included a two-foot parabolic dish antenna fed with a small horn to a plane before the availability of Gunnplexers. A most unexpected scaled-down version of the dish and transceiver with an operating frequency of 24 GHz were admired. Robert is still waiting to make his first contact with that system; any takers?

Peter VE7CVJ arrived with boxes full of his completely home-brew 10 GHz transceivers still on the original breadboards. Also a 10.7 MHz IF system; Peter has been experimenting with high gain IF amplifiers for the front end. The system was built while Peter was a student and had been demonstrated in a lab display with several days of continuous operation, using only the open end of the waveguides as antennas. He had fabricated a copy of Robert's foot-long horn antennas from cardboard, lined with aluminum foil for greater distance.

Over the River

The two Vancouver Amateurs had made one test contact from Robert's highrise balcony near the UBC campus to Peter, parked by the side of the highway on the opposite side of the Fraser River. Signals were reported to be strong at VE7AII but reception was marginal at VE7CVJ/7, soon to be remedied by the improvements to the preamp and antenna.

As we left Robert's, Peter set up one of his stations on the sidewalk across from the apartment and proceeded to be amazed by the high quality of the full duplex conversation, "Much better than the telephone". As Peter makes further improvements to his system, longer paths will surely be attempted. With the 3000 foot drive-up mountains they are blessed with, and the increased activity to be generated by the Nanaimo group, it may be hard to beat those guys out West.

Other Vancouver area Amateurs reported to have equipment for the 10 GHz band include VE7AUZ, with a two-dish arrrangement and VE7MQ with a Gunnplexer. Any more? I'd like to hear from Calgary, Edmonton, Winnipeg, Toronto, Ottawa, Halifax, St. John and anywhere else in between. Next month watch for news from the Montreal group and plans for a 10 GHz Gunnplexer kit that anyone can build and get working on the first try! Δ

AMSAT/ OSCAR-10 Schedule Change

Beginning in August, the OSCAR 10 145.81 MHz general beacon will be changed to a round-robin operating program of CW, RTTY and PSK telemetry. This plan was "designed to provide virtually all key system operating conditions that are consistent with listeners' station sophistication." According to AMSAT, the more sophisticated your station, the more information that will be available to you. The new schedule is as follows:

00-05	min. past the hour CW
05-15	PSK
15-20	RTTY
20-30	PSK

At the half hour mark, the cycle begins to repeat. CW speed is about the same as previously, as is PSK telemetry (400 baud). The new RTTY format is 50 baud, 170 cycle shift. Theoretically, a 60 wpm (45.45 baud) baudot machine should copy the RTTY all right. Tnx *Amateur Satellite Report*. Radio Amateurs interested in the Amateur space program are urged to subscribe to this excellent publication. Information is available by writing to: *Satellite Report*, 221 Long Swamp Rd., Wolcott, CT 06716.

from Westlink report

The Drunkard's Walk

Does your computer have LOGO capability? If so, try this:

```
TO DW
FORWARD 5 * RANDOM
LEFT 17 * RANDOM
WAIT 10 * RANDOM
END
```

Wait for a victim to pass. Then

```
TELLTURTLE and:
REPEAT 100  DW
ENTER
```

Wait five seconds, then say: "Good heavens! The turtle's drunk."

(This is a simulation of the "drunkard's walk" of statistical theory. A pollen grain, under the microscope, shows a similar motion, the "Brownian movement." Einstein cut his teeth on the problem.)

CORRECTION:

Door Bell Helper

(TCA January 1984)

Better late than never! After racking my brain for a simple 'remote' door bell signal I ran across the one by Bill Cousins in TCA. Radio Shack did not have the oscillator in stock, so I ordered one by the part number in the schematic— 20-1084. I got the call that it had come in and behold! I was presented with a morse key, Part No. 1084!

The correct stock number for the code practice oscillator is 20-1155. (If you find this easy to remember, it dates you. The R-1155 Air Force receiver, surplus, graced many a shack 30 years ago!)

The circuit works well, and operates at voltages from 1 to 9. The note varies with the impedance of the speaker and with the voltage.

Doug Burrill VE3CDC

Have you been Malled?

By Francis Salter VE3MGY

In 1983 the London Amateur Radio Club made an effort to make the public more aware of the existence of Amateur Radio in general and the local club in particular. The club received coverage of its participation in Field Day and a one-month portable operation in the London Centennial Museum during the Marconi display.

Club meetings were announced on cable TV and all radio stations which give free-time announcements to non-profit clubs.

These 'media events' were useful in raising public awareness, but the most efficient way of meeting and talking Amateur Radio with the public has been the shopping mall demonstration station.

Permission

Obtaining permission to set up and operate a club station in a shopping mall is not a complicated task. When contacting shopping malls, the usual day of operation chosen was a Saturday, when there is a high volume of traffic in the mall.

Permission to use the mall's name in our media announcements is a courtesy that lets the mall manager know that you are acknowledging his mall's existence and their rights to publicity.

Cooperation from the mall's maintenance staff to install antennas on the roof is needed and has been freely given, with one exception where it was impossible to install an antenna on the roof.

Usually a 40 metre dipole is used with a tuner, but we have set up ATV, 2 metres and 20 metres, with varying degrees of success, ranging from a 40 metre contact with Europe to crashing an ATV beam in high winds. Contacts have ranged from local chats on 2 metres to phone contacts with YU land.

It is best to remember that the station is there to interest the public and not to work fantastic DX, however. A contact with Nova Scotia may not sound too potent to a seasoned Amateur, but to a person who is looking on, it may seem like it's near the end of the world.

Equipment

The local radio club owns a TS13OE, tuner, a Yaesu 2800, 200 ft. and 150 ft. sections of coax, tripods to set up for antenna installation, mikes, keys, banner and is in the process of acquiring a sturdy table and chairs. In addition, the club has literature about Amateur Radio which can be obtained from the DOC, CARF and ARRL-CRRL.

A computer program which answers common questions about Amateur Radio was developed and Radio Shack, a ubiquitous inhabitant in malls, graciously agreed to provide the TRS 80 computer to run the program. The program was time-looped to continually go through the questions and answers. Many persons who were too shy to ask questions watched the program and then began a conversation about Amateur radio, and some conversations were climaxed with a request for information about club meetings, the Amateur Radio course at the local community college, and the equipment present.

Finally, there are some pleasant success stories. One young man's first contact with Amateur radio in Canada occurred at a demonstration station. This was last July— today he has only to pass his Morse code receiving to join the VE3 ranks— and the ranks of those who put on demonstration stations.

And after

When the display is over (usually the display is run from opening time to 1700 hours), the station is dismantled and the equipment returned to the club or the owners. A letter was sent to the mall managers, thanking them and their staff for the use of the mall and the courtesy that was extended to the club. Assuredly, this is not flattery, especially when one considers that the space is free and the cooperation of the maintenance staff has been magnificent.

Get it in writing!

So much, then, for the overview of a mall demonstration station. The object of this short discourse on the subject is the nitty-gritty of mall displays, and that takes a bit of organizational skill. First of all, a written agreement with the mall is the only guarantee that you will have a place.

Verbal agreements can be (and have been) forgotten, resulting in some last minute scrambles. The person in charge of the display should visit the site and make certain that installation of antennas, lead-in coax and other items are not only permitted, but that they are possible.

A computer checklist is used which gives the site, contact person, date, time, person in charge, volunteers and the equipment required and has been found to be very helpful for those of us whose memories are being eroded by Father Time. If a computer and printer is not available, a photocopy list will suffice to keep the person in charge updated.

Lead-in time for the mall display ranged from six weeks to four months, and cooperation from club members who contribute their time and equipment has been, to

put it mildly, generous. Fantastic would be a more accurate description, when you consider that we manned a demonstration on the Dayton Hamfest weekend!

Message Handling

It has been found convenient for the person in charge to bring the club station equipment, a QSL card display, and the literature, all kept in the club station. At one display we experimented with handling messages, but difficulty was encountered in message traffic because of the limited time and antenna facilities.

Unless someone is willing to handle the remaining traffic after the display, it is best not to attempt message handling. This is a decision that the club can make, however, depending on the persons involved.

If message traffic is possible, it is certainly an attractive feature for the demonstration station, and the trans-Canada net has also done phone patches for us.

Extension cords may be necessary in some mall locations. Any cords, wires, coax or other impediments to pedestrian traffic must be taped down to prevent possible injury to the public and damage to the equipment.

Generally malls prefer that wires of any sort be kept above the public, and will provide the hooks to elevate them. A supply of tape, wire and cord is necessary to keep the coax and wires up.

Most malls require that equipment be set up before opening time, and this deadline should be respected. Keep in mind that you are a goodwill ambassador not only to the public, but to the mall as well.

Multimode

Our station equipment list includes an antenna tuner which makes up for a lot of sins committed against the commandments of antenna radiation. Although it is fun to talk to Europe on 40 metres and tell them that you are operating from a shopping mall, it is better to expect local traffic and enjoy a leisurely chat.

Although phone is fast and fun, one of the things that distinguish us from the GRS is the multimode facet of Amateur radio, and when you got it, flaunt it! And one of the modes that can be flaunted effectively is ATV, another crowd pleaser.

Split time between phone and CW... not everyone is interested in one or the other exclusively, and a lot of CW types come out of the woodwork during these outings. One of the most attractive items here was a VIC 20 and interface that decoded CW, and RTTY also gathered a crowd.

Who's interested?

What type of people are attracted to the display? First of all, there are the Amateurs who come in to say hello because they heard you on two metres and were taking the XYL out shopping.

There are those who were very interested in getting their ticket and this personal contact was the final impetus that was needed. The order then descends to those who ask, "You speak CB?" Politeness is the rule, and instead of answering, "I speak Russian, Polish, Bulgarian, French, German and English fluently, so if you will give me a minute, I'll learn CB", the answer is that this is the local Amateur Radio Club display and if there are any questions about local Amateur radio, you will be glad to answer them.

Be prepared to answer questions about frequencies, modes, price of equipment, regulations, etc., and don't be afraid to send people to other agencies for information when the answer is beyond your competency. Remember that this is your hobby and you are not consulting engineers... not hard to do if you keep in mind what the remuneration is!

Perhaps the best rule to remember is not to tell people how to make a clock when they want to know what time it is. And most of all, have written information available, TR24 and TR25, W1AW skeds and local information are offered to those who are really interested.

During an average day in the mall, about ten to 15 people expressed enough interest that they wanted to either contact the DOC about exams or wanted to take the Amateur Radio course at the community college. In the future, we hope to ask the community college about the impact of the mall displays on their enrollment in the Amateur radio course.

Shutting down

Finally, we shut the display down at 1700 hours. There is a safety factor involved in taking down antennas at that time as opposed to later, and experience has shown that the Saturday evening mall visitors are not as inclined to browse as the day visitors. It goes without saying that leaving the area tidy will assist generally in securing a return invitation to the mall.

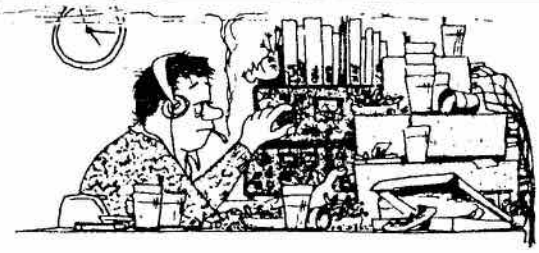
I would not like to leave the impression that mall displays which the local club has conducted have been all fun. They are hard work, they require coordination, and putting up antennas in January on a roof can be a chilling experience. Antennas have been broken, tables have fallen apart, and one mall display resulted in one HF contact (with a local Amateur, at that).

Dealing with members of the public who are determined to show you how little you know is sometimes tedious. However, mall demonstrations do put Amateur radio out in the public instead of inside our shacks, and the public does have questions about our fascinating hobby. Who could better answer those questions that the practicioners of that avocation?

Δ

Don't forget AC-DC, Oct. 20-21 Clara Contest and Trillium Weekend Nov. 3-4. Both are open to OM and YL and DX.

CONTEST SCENE



By John Connor VE1BHA

September
8/9— WAE DC Phone Contest
15/16— CAN-AM Phone Contest
22/23— CAN-AM CW Contest

October
27/28— CQ WW DX Phone Contest

November
3/4— CW Sweepstakes
17/18— Phone Sweepstakes
24/25— CQ WW DX CW Contest

Ginwol, chief radio astronomer of the planet Zargnak looked puzzled as he stared at the graph in front of him. He frowned at his assistant, and asked, "Why? Why is it, that every year at this time, the radio brightness of Earth increases so much? I cannot find a reason for it."

"It certainly is puzzling," agreed his assistant.

Well, Ginwol and his assistant may find it puzzling, but you and I know what the answer is. It's contest season, that time of year when hams around the world happily spend their weekends generating copious amounts of RF, the time of year when sales of headache pills and throat lozenges peak, the time of year when electric meters whirl madly and the profits of the electrical companies soar...

The first and third weekends of November are the times for the ARRL Sweepstakes Contest, otherwise known as SS. CW is held on the first weekend of the month, with phone on the third. This is one of the oldest contests around, this year being the 51st annual Sweepstakes.

Sweepstakes is a little bit different from most other contests. It was devised to help familiarize people with the proper format for handling formal message traffic, such as you would find on the National Traffic System. The exchange used in the contest resembles the preamble of such a message. The format of the exchange is shown in Figure 1.

The first item is a serial number. The next item is the 'precedence', which is used to indicate the output power of your transmitter— A for less than 150W DC, and B for more than 150W DC. Next comes your callsign, and then the 'check' which is simply the last two digits of the year that you were first licensed. The final item in the exchange is your section, which in most cases is just your province. VE1/VO1 are in the Maritime-Newfoundland section, abbreviated MAR, while VY1/VE8 use NWT for NWT-Yukon section.

There are two categories of entry in SS, single operator and multi-operator. Furthermore, the single operator awards are given in both low and high power categories. So if you want to go barefoot, you can, without worrying about the guy across town with his nuclear-powered, water-cooled Ether Blaster. The contest lasts for 30 hours, beginning at 21Z Saturday and ending at 03Z Monday. Single operators may only operate for 24 hours, and off periods must be at least 30 minutes.

Scoring

The multiplier for SS is the number of sections worked on all bands, not the sum of each band. QSO's are worth 2 points, and you may only work people once, regardless of band. Final score is QSO points times sections.

One unique feature of SS is the possibility of working all the multipliers. There are a total of 74 sections, and working all of them is referred to as a 'clean sweep'. Many people go into the SS just to get a clean sweep, without worrying about their score. It sounds like an easy thing to do, but it isn't, especially on CW.

Sweepstakes is a fun contest. It is also addictive. People come back to this contest year after year. Many of the people you could work this year would have been in the contest 20 or 30 years ago. There must be some reason that they keep coming back. Why not give this year's SS a try yourself? You may like it.

CQ WW DX CW Contest

November winds up with a bang, in the form of the CQ WW DX CW Contest. We covered the rules for the phone contest last month, and of course the CW rules are the same. A list of the current Canadian records for CW is included below.

One important point regarding the CQ Contests this year. The Contest Chairmen, N6AR and K3EST, are presently playing musical QTH's. So send your logs to CQ *Magazine* in New York, and they will forward them along for you. Don't forget to indicate Phone

EXCHANGE	NUMBER	PRECEDENCE	CALLSIGN	CHECK	SECTION
EXAMPLE	175	A	VE1BHA	76	MAR

Figure 1
Sweepstakes Exchange

CQ WW CW CONTEST
CANADIAN RECORDS

CATEGORY	CALL	SCORE	YEAR
ALL BAND	VE3IY	2,607,795	1981
10M	VE3BMV	504,063	1980
15M	VE3BMV	653,856	1981
20M	VE3BMV	662,454	1982
40M*	CY3IXE	180,978	1977
80M	CY3BMV	102,828	1977
160M	VE3BMV	30,258	1976
M/S	VE3PCA	3,711,956	1981
M/M*	VE3DU	1,335,928	1976

*SEE ALSO HIGH CLAIMED SCORES IN SEPT. TCA

or CW on the envelope.

Above you will find a list of the Canadian winners of the CQ Contest, single operator category, Phone and CW, for the past 12 years. You may notice that certain calls tend to keep showing up over the years. There could be little doubt that these are representative of the top operators/stations in Canada over the past decade or so. At the same time, it can be seen that no one person or station has really dominated from year to year. So it is hard to know who will win in any given year. There are any number of reasons for this, ranging from people not participating in the contest every year, to equipment failure (the ever present Mr. Murphy), to propagation, which is often a great leveller. (As in, "I was doing well until the propagation levelled me!")

The moral of the story is that anyone can win in any given year, at least up to a point. It's tough to win with an HW8 and dipoles, although that can be a lot of fun.

Team Contesting

In closing, I see in the August issue of *CQ Magazine* that they have introduced a new category for the World Wide Contest. Beginning this year, there will be Team Contesting. According to the rules in that issue, a team consists of any five operators in the single operator category. Also, a team must operate from two continents. (I wonder if that shouldn't be *at least* two continents.) SSB and CW scores are totally separate. A list of the team members must be received by Oct. 15 for Phone and by Nov. 15 for CW by CQ. And finally, a list of the scores for the team must be submitted to CQ by the usual contest deadlines.

This sounds like an interesting idea, and it will be interesting to see how it develops. It opens up whole new possibilities. Like sitting around drawing up ideal teams on paper. Drafting of operators. Trades. I can see it now. "The Twenty Metre Tornadoes announced today the signing of YU3EY for an undisclosed sum of money, a remote VFO, and an operator to be named later." I wonder if *ABC Sports* has heard about this? Gad, I think I'd better go lie down for a bit. Have fun in the contests, and may the multipliers be plentiful and exotic. See you next month.

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It is now more convenient than ever to join CARF and to order CARF Publications. When ordering, simply send your Name, address, Card Number and Expiry Date, with your signature.

Snake Bites Contest Committee

Results here at last

By Norm Waltho VE6VW

Well here are the long-awaited results of the past three contests which have been tabulated, perused, scrutinized, looked over and finally printed in TCA. I have assumed the job of Contest Chairman from VE2ZP and will continue for awhile to give you the results of these contests in the future. These long-awaited results are better late than never, and it may show you an overall picture of the contests in the past.

After tabulating the past three tests, I have come up with a couple of changes to the rules. This should make the Canada contests a little more favourable in the future. It has been stated at the AGM this past June, that the CARF official stations will not be eligible for any awards in these contests. I hope this will not scare anyone away from using the calls TCA or VCA. Some of the changes in the rules are an extra 20 points for the TCA/VCA suffix, the implementation of 4 points to the stations in other countries, and a couple of frequency changes suggested on 160 and 40.

The CANADA CONTEST this year will be on Dec. 30, 1984. This should provide a good date between the holidays to sit back and rest in front of the radio after all of that turkey. Let's hope that conditions are in our favour and a lot of Amateurs enter this one.

RAMBLINGS FROM THE PAST #3

VE3LHS— needs a point change to get more participation. WA3JXW— nice contest, see you next year. VE3NPY— what's a dupe sheet? can someone help. VE3KQI— a bad storm on the Sunday morning, had to shut down.

Continued on next page ▷

CANADA DAY CONTEST 1 July 83

Class	Call	Total	QSOs	Multi	
A	VE5GF	348264	625	72	T
A	VE3LMN	118508	248	52	C
A	VE7VX	109417	230	49	C
A	VE3LQJ	103296	187	64	
A	CY1BWP	94794	352	37	C
A	VP2KBZ	89056	412	46	C
A	VE1CEG M.S.	76498	230	46	C
A	VE7EWW	44928	143	32	
A	VE3LHS	38984	203	22	
A	VE6CAW	35122	194	34	C
A	VE3MQI	25260	68	60	
A	VE5VCA (VE5AE)	14640	103	16	
A	VE3MFT	13816	141	22	
A	VE2GFN	12580	74	17	C
A	VE7EGD	11934	72	17	
A	VY1CW	10716	59	19	C
A	VE3KQI	6120	36	20	
A	VE7BAG	5328	36	16	
A	VE3KHE	4900	34	14	
A	VE3NFY	2100	22	12	
A	WA3JJW	1728	20	9	C
A	JA1YWX	1498	41	7	C
A	LU1EWL	1377	18	9	C
A	VE4ZH	960	16	6	C
A	VE1BEI NS	952	19	7	C
A	VE3GWM	707	11	7	
A	VE4IN	5	5	0	
1.8	VE3INQ	12	3	1	C
7	VY1CCM	13266	116	18	C
7	VE3NVO	438	10	6	
14	VE8MA	26729	307	12	C
14	VE2ZP	20812	106	22	C
14	VE3HPT	18000	96	18	C
14	VE3NOS	16321	98	19	
14	VE7DLM	13300	86	19	C
14	VE8PZ	8955	62	15	
14	JH3DPB	8289	128	9	C
14	VE3CEY	6936	61	12	
14	JA0VHI	1505	25	7	
14	V01QD	1414	22	7	C
14	VY1DV	1384	20	8	C
14	JH3WKE	200	5	4	
14	JA1OYB	40	2	2	
21	YU7ORQ	10	1	1	C
M	VE6CAW	140556	380	53	T
M	VE3GSQ	7008	78	16	C
M	JA9YBA	19708	334	13	C
M	DA2CF	4272	59	12	C

Check Logs VE1CEG, VE3LHS, VE3INQ, VE8PZ, VY1DV, JH3WKE VE3GSQ

Multi Stns

VE6CAW - VE6CGQ, VE6CCO

DA2CF - DA2ZS (VE3MNQ)(VE3LYJ)(VE3IVQ)DA2GH(VE3JSY)

VE3GSQ - VE3FAS

JA9YBA , OTX, QWJ, VBW, VDA, JHoCAZ

CANADA CONTEST 18 DEC 83

Class	Call	Total	QSOs	Multi	Trophy/Cert
A	VE4QST (VE4MG)	32305	103	35 -	T
A	VE5VCA (VE5AE)	22761	96	27	C
A	VE3NBE	9158	76	19	C
A	VY1CW	7480	33	22	C
A	V01QST (V01AW)	570	34	5	C
A	LU1EWL	96	5	3	C
7	VE7EHH	4334	41	11	C
7	VE7BS	2016	35	8	
14	VE3LQJ	11823	64	21	C
14	VE3NOS	6069	38	17	
14	VE3CRD	5460	45	14	
14	VE3DWE	4345	43	11	
14	VE7FOK	1750	23	7	C
14	VE1TCA (VE12N)	1372	24	7	C
14	VE3PQ	910	10	7	C
14	VE2AEJ/3	485	16	5	C
14	VE3ECH	153	6	3	
M	VE2FSM	35594	104	37	T
M	VE3YRC	5680	38	16	C

Multi Stns
VE2FSM-VE2GFN
VE3YRC -VE3CES,VE3NZQ,VE3AZO plus the code class.

Check Logs:

VY1CW VE1TCA

CANADA DAY CONTEST 84

CLASS	CALL	TOTAL	QSOs	Mult	TROPHY/CERT
A	VG1EWP NB	47250	165	30	T
A	VO1VCA	29680	122	28	X
A	WJGM	29400	236	25	C
A	YU3AZC	24449	108	23	C
A	VE3KHE	18910	78	31	C
A	VE6CB	10602	106	19	C
A	WJARK	9360	84	24	
A	W5WG	8876	61	14	
A	NOCLV/O	6097	84	13	
A	NC2V	5222	49	14	
A	VE7BAG	4575	35	15	C
A	NBCQA/QRP	4560	52	15	
A	K8CW	3352	128	8	
A	AG5C	7824	65	16	
A	VY1TCA	3110	32	10	
A	N4JHN	2380	49	10	
A	XO3OMU	1183	25	7	
A	VE1BNN NS	1971	32	9	
A	N2ETF	1127	25	7	
A	N3CZB	980	14	7	
A	LU1EWL	938	25	7	C
A	WA8MLV	924	67	12	
A	VK2BQQ	720	12	6	C
A	W5NR	548	20	4	
A	WA6AGD	244	7	4	
A	KH6CP	126	9	2	C
A	N1CRD	120	4	3	
7	CZ1CCM NS	8918	123	14	C
7	CZ1CBF NS	8778	83	14	
7	VE2FUP	4220	97	10	C
7	VE7BS	2696	67	8	C
7	N4NX	2448	53	8	C
7	YU7SF	444	21	4	C
7	VE3MCN	230	50	7	C
14	XO3NBE	38320	400	20	C
14	VY7EIK	12628	190	14	C
14	CZ1TX	10440	192	15	C
14	HB9CSA	3500	34	10	C
14	VY7DRI	2884	160	7	
14	YV5JEA	880	24	5	C
14	W1IMD	760	19	10	C
14	VE3NYT	630	11	7	
M	VE6CAW	69615	339	35	T
M	DA2CF	8810	106	10	C
M	JA9YBA	3402	108	9	C

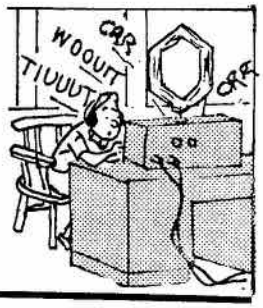
Mult Stns: JA9YBA, JH7UJR, JA9LNJ, JA9DDA
DA2CF, DA2ZS, DA2GN, VE1AHB
VE6CAW, VE6CQG
Check Logs:HB9CSA, VE6CB, AG5C, VY1TCA, XO3OMU

VE3GWM— good contest for working off Canadian awards. VE7BAG— an enjoyable Contest. JA1YWX— thanks Mike (CY7-ZZZ) for the QSY to 40. VE3LQJ— nice surprise, worked VE8SB on last QSO. CY1 BWP— nice log keeping, cc. VE7VX— needs changes to revitalize. VE4IN— worked all St. Kitts. VE1BEI— thanks for suggestions, cc. VE4ZH— there were no VE1's anywhere. VE3INQ— who else would listen to that racket. VY1DV— mobile. CY1CCM see you in Dec. VE8PZ— thanks for good contest. VE3NVO— a calculus exam kept me away from the rig. V01AW— lacks interest. VE3LQJ— where's all the Canadians, glad I didn't stay up all night. VE3YRC— 2nd place in the multi class even though the heater broke down. VE7BS— results should be better. VE3DWE— disappointed in the lack of participation. Δ

RAQI

Radio Amateur du Québec Inc.

By Robert Sondack VE2ASL



Nos apologies à Hergé

Des structures provinciales

Radio Amateur du Québec Inc; depuis maintenant 33 années, c'est l'association qui représente les radioamateurs à l'échelle de la province du Québec. Près de la moitié de ceux-ci en sont membres. Comme toute association ayant débuté modestement, c'est avant tout par la bonne volonté et le bénévolat de plusiers de ses membres que RAQI, non seulement, existe toujours, mais progresse constamment. Dotée d'une permanence ainsi que d'un siège social, les radioamateurs peuvent en tout temps appleler pour y demander des conseils, recquérier des services, ou tout simplement informer de leurs projects et réalisations.

RAQI est dirigée par un conseil d'administration, secondé d'un comité exécutif, et dessert le Québec dans les onzes régions administratives suivantes: Bas-St-Laurent et Gaspésie, Saguenay et Lac St-Jean, Québec, Trois Rivières, Estrie, Montréal, Outaouais, Nord Ouest, Côte-Nord, Montérégie et Laval-Laurentides.

Des relations avec différents ministères

Une association provinciale entretien forcément des relations avec d'autres organismes provinciaux. C'est aussi le cas de RAQI, qui reçoit depuis 1977 un certain montant de subventions du Ministère des loisirs de la chasse et de la pêche (MLCP), du Québec. D'autres contacts existent avec le Ministère des Transports, pour permettre à l'association de délivrer les plaques d'automobiles VE2. De plus faisant partie du regroupement des organismes nationaux de loisirs du Québec (RONLQ), RAQI bénéficie de services de soutien regroupés, tels que: imprimerie et graphisme, communications, traduction, ressources humaines et conseils juridiques.

Enfin, de très bons contacts existent entre l'association et les représentants régionaux du Ministère Fédéral des Communications.

Des relations nationales et internationales

Conscient de l'existence de deux associations nationales de radioamateurs au Canada (CARF-CRRL), RAQI voit à l'intérêt de ses membres à travers chacune d'elles. Ainsi, par exemple, la diffusion d'articles ou de bulletins de nouvelles en français dans les revues TCA et QST pour permettre aux francophones hors-Québec un accès à de l'information dans leur langue maternelle. D'autre part, les droits de traduction en français des articles publiés dans le QST ont aussi été acquis par l'association.

Sur le plan de la francophonie internationale, des échanges réguliers sont entretenus avec le Réseau des Emetteurs Français (R.E.F.).

Des services aux membres et aux non membres

Les radioamateurs du Québec sont avant tout des radioamateurs, qu'ils soient membres ou non de RAQI. Aussi, toute une gamme de services leur est-elle offerte, avec cependant, une distinction de statut. Enfin, RAQI compte aussi sur l'image projetée dans le grand public, car c'est après tout, de ce côté que se recrutent les nouveaux radioamateurs. Il suffit de penser au programme des grands voiliers 1984, par le biais duquel actuellement, l'association est littéralement submergée de demandes d'informations concernant les modalités d'obtention des licences de radio-amateur.

Dans les services offerts on distingue deux types de clientèles: les individus et les clubs.

Aux clubs sont offerts:

- des services à caractères légaux, tels que: incorporation, règlements généraux et conseils juridiques.
- des services d'information, tels qu'un journal publié cinq fois par année, des bulletins de nouvelles "expresses," des dépliants sur la radioamateur et un répertoire provincial avec mises à jour périodiques.
- des services de soutien technique, tels que conception graphique, affiches, logos, diplômes, diaporamas sur la radioamateur et des listes informatisées d'amateur par ville ou région.

Pour les individus, la plupart des services énumérés précédemment sont aussi accessibles, avec de plus, les plaques d'immatriculation VE2, le bureau QSL, des manuels en français sur la radioamateur, des exemplaires des examens du Ministère des Communications et des cours de Morse. Mentionnons de plus le soutien apporté aux handicapés, entre autre, en reproduisant le journal de RAQI sur cassettes audio et, très récemment, en produisant le répertoire provincial du Québec en Braille.

Une présence sur les ondes

Il serait paradoxal pour une association de radioamateurs de ne

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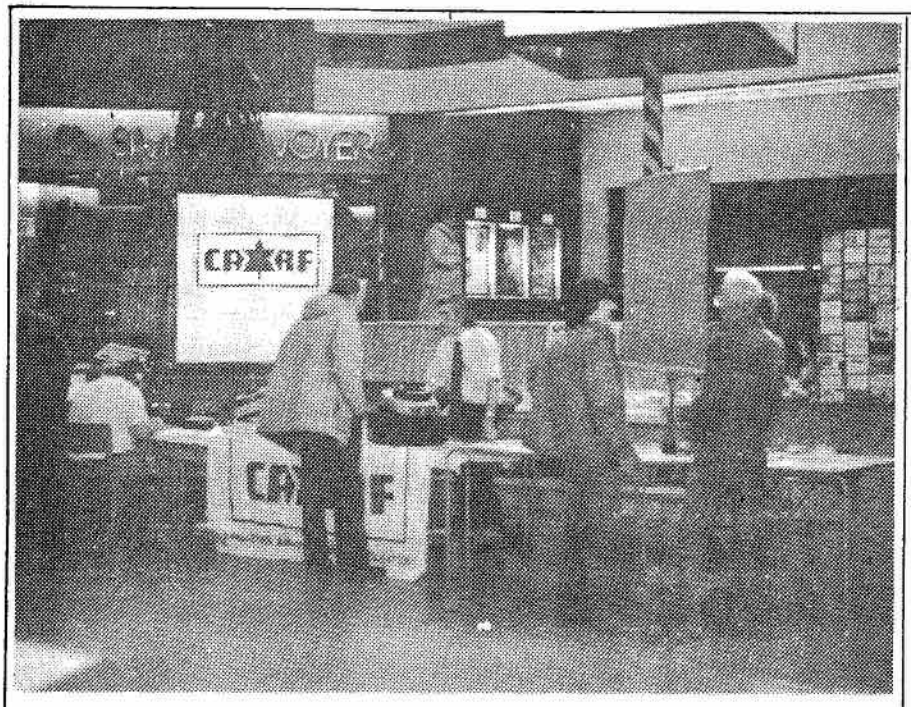

Robert Sondack VE2ASL, Directeur pour le Québec lors d'une exposition organisée par le radioclub SHERHAM de Sherbrooke.
Robert Sondack VE2ASL, Quebec Director, answers a question during display put on by the SHERHAM radio club of Sherbrooke.

pas communiquer avec ceux-ci par radio!

RAQI assure donc sa présence sur les ondes par l'intermédiaire de réseaux provinciaux HF (VE2AQC sur 80 metres) et VHF-UHF (VE2RTQ sur 144/440 MHz). Ce dernier étant un modèle en son genre en Amérique du nord. Des communiqués d'intérêt général y sont acheminés quotidiennement et repris aussi avec la collaboration d'individus, en RTTY sur d'autres réseaux.

Un protocole particulier était signé en 1978 avec le bureau de la protection civile du Québec dans le but de seconder officiellement des opérations d'urgence. Ce protocole a aussi conduit à la mise sur pied du réseau d'urgence, VE2RUA, qui fonctionne à travers toutes les régions une fois par mois.

Et pour le futur?

Tout d'abord, maintenir les ressources actuelles afin de garantir une base solide à l'association. Ensuite avec le concours de tous, RAQI veut en 1984-85 accentuer sa vocation de services. En incluant ici, non seulement ses membres mais tous les radioamateurs du Québec ainsi que le grand public.

Des efforts particuliers seront aussi consacrés à la promotion de l'association auprès des municipalites, et, à titre de support aux futurs radioamateurs, du matérial didactique, entre autres, sous forme de cours auto-programmés, sera produit sous peu.

Tous ceux qui désireraient avoir des informations sur l'association, peuvent le faire en communiquant avec le bureau permanent à l'adresse suivante:
Radio Amateur Du Québec Inc., 1415 est, rue Jarry, suite 182, Montréal, Québec H2E 2Z7; tél: 514-374-4700 ou 728-2119, poste 310.

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A

Parmi plusieurs des dossiers importants menés par la Fédération, celui de la législation sur les structures d'antennes reste toujours d'actualité. En 1983, de nombreux cas étaient à nouveau réferes à FRAC. Voiçi a ce sujet, un point de vue légal et quelques conseils de bon aloi.

Structures d'antennes

Dans une lettre datée du 25 avril 1983 et recue par le president, Don Slater, le Département de la Justice agissant à titre de conseillé légal pour le Ministère des Communications Federal rapportait une décision du Conseil privé, datant de 1932, sans equivoque en ce qui a trait au pouvoir législatif fédéral sur les communications radio. Cette déçision était la suivante: "une province ou une municipalité n'a aucune juridiction pour décréter des lois ou adopter des règlements relatifs directement aux communications radio". Elle fut ensuite mise en place lors de l'adoption de la loi sur la radio et des règlements qui en découlèrent. En référence au paragraphe 7(1)e de la loi, le ministère des communications se voit attribuer le pouvoir de règlementer les systèmes d'antennes compris comme partie intégrale des appareils nécessaires au fonctionnement d'une station de radio.

Le ministère des transports, par le paragraphe 6(1) de la loi sur l'aéronautique se voit attribuer également le pouvoir de règlementation sur les structures en général et celles des antennes en

Propos de Tours

particulier, situées à proximité d'un aéroport et pouvant, de ce fait, s'avérer dangereuses à la circulation aérienne.

Cette juridiction reste cependant controversée; municipalités et provinces tendent régulièrement à empiéter dans ce domaine par des lois de zonage imposant soit, des restrictions ou interdisant tout simplement l'érection de structures de différents types en y incluant, bien sûr, les structures destinées aux communications par radio.

Il en découlera alor tout le problème de la validité de ces lois et règlements qui risqueront d'affecter sérieusement le fonctionnement d'une station de radioamateur.

S'il est surprenant de voir agir ainsi ces différents niveaux de gouvernements, 51 ans après la déçision du Conseil privé, c'est probablement, soit, par ignorance totale de la juridiction fédérale dans ce domaine, soit par désir, au moyen de certains règlements de zonage, de se protéger contre des développements anarchiques et inesthétiques de structures en tout genres; malheureusement, la tendance est alors façile d'y inclure les structures de radio.

Les contrats

S'il est toujours possible que des règlements de zonage puissent être rédigés en respectant la législature fédérale, il reste un secteur ou cette législation n'aura pas prise: celui des contrats individuels incluant des conventions particulières ou des servitudes restrictives. Ces deux types de restrictions peuvent faire partie aussi bien d'un contrat de vente que d'achat, et, en autant qu'elles soient clairement signifiées aux acquéreurs éventuels, feront partie intégrante de ce contrat. En ce qui regarde la juridiction des domaines privés, cela revient à la législation provinciale.

En conséquence, comme dans toutes sortes de contrats, le radioamateur devra être très attentif à ce qu-il signera. Les clauses rédigées "en petits caractères" pourront l'obliger au respect de certains règlements municipaux, sans recours et, malheureusement sans possibilité de pratiquer son passe-temps favori.

Mieux vaut prévenir que quérir

Dans le cas d'érection de tours de communications radio, c'est aussi vrai!

Surtout par rapport à nos voisins immédiats.

De nos jours où les préoccupations écologiques dominent et où l'on se rappelle encore la période pendant laquelle la distribution par câble n'existait pas, c'est à-dire, chaque hiver lorsque plusieurs tours et antennes de télévision s'effondraient, il n'en faut pas plus pour qu'un groupe de voisins effarouchés ou anxieux, ne face tout ce qui est en ses pouvoirs pour faire démonter une tour qu'un radioamateur aura érigée à grands frais et dont il sera fier.

Alors pourquoi ne pas prévenir? Voiçi quelques conseils à ce sujet:

- Entretenez de bonnes relations avec vos voisins.
- Expliquex-leur ce qu'est la radioamateur et les services qu'elle peut rendre en cas d'urgence.
- Montrez-leur votre station at expliquez-en le fonctionnement.
- Effectuez-leur des démonstrations, de préférence en DX et profitez-en pour expliquer le rôle d'une tour et d'une antenne bien située. (beaucoup de diplomatie à cette étape.)
- Ayez de quoi prouver à vos voisins dont les terrains sont adjacents au vôtre, que la structure érigée est suffisamment robuste pour ne pas s'écrouler chez eux!
- Limitez volontairement la hauteur de la structure que vous érigez, quitte à la prolonger graduellement. (les tour rétractables constituent un excellent compromis à ce sujet.)
- Préparez vos voisins, en cas d'interférences radio, expliquez-leur comment vous-en informer et comment vous vous y prendrez pour résoudre cet éventuel problème.
- Parlez de vos projects de tours avec d'autres amateurs ou à vos assemblées de radioclubs, vous bénéficierez sans aucun doutes de conseils et expertise appropriés.

Il vous en coûtera peut être quelques tasses de café, barbecues ou blés d'inde, mais, en partant du bon pied, vous aurez être la surprise de voir vos voisins vous apporter leur collaboration pour ériger votre prochaine tour!

Robert Sondack VE2ASL

Références

1. Municipal tower by-laws invalid-Justice department. Doug Burrill VE3CDC, *TCA*, July-August, 1983, p. 26.

2 A Tall Tale of a Tall Tower. Bill Wilson VE3NR, *TCA*, March 1984, p. 34.

TECHNICAL SECTION

Section Editor
Ed Hartlin

Getting it up, the Easy Way

By Bert Viney VE3AZX
20 Abington Drive
Nepean, Ont. K2H 7M6

In our numerous moves around the country, we have gradually acquired a stock of pipe of various kinds, the residue of countless antenna experiments. Now we were once again in a temporary couple-of-years location.

How to get my brand new Cushcraft ARX 2B up in the air? A tower was out— too expensive. Then I thought of the Roman Fasces— which to me means if one stick isn't strong enough, tie a couple more beside it. In one bold stroke I could get the pipe out of the way and the antenna up.

Step 1:

First thing is to dig a hole in the ground with a post hole auger. Make it as deep as the augur will go— about four feet.

Step 2:

Choose the longest good-looking wooden 4"x4" you have. It should extend at least five feet above the ground. So, depending on the height you want to reach, either eight or ten feet of 4"x4" is required. Get the kind that is already impregnated with anti-rot. But if you are using what is available, put a coat of automobile undercoating on it. Make it a heavy coat. It is not necessary to apply above ground level. Put the 4"x4" in the hole, but don't fill the hole, not yet.

Step 3:

Choose a heavy piece of pipe. I would prefer galvanized water pipe. The pipe in the pictures is 1-5/8" outside diameter. Second choice would be thick-walled aluminum, about the same diameter. In a pinch I would use 1½" galvanized TV masting. You need at least ten feet.

Step 4:

Erect the pipe beside the 4"x4", being careful to put the pipe near the corner of the 4"x4". Drive the pipe into the bottom of the hole— even though it may be only a couple of inches. Support the 4"x4" and pipe as nearly vertical as possible, then fill in the hole with earth, tossing in any loose rock or stones you may have. Tamp every couple of shovelfuls down hard with the end of a 2"x4". By the time you get to the surface, the pole and pipe should be fairly rigid in the ground.

Step 5:

Clamp the pipe to the pole very solidly using U-shaped galvanized pipe straps. Bend one leg so that the pipe is attached to two faces of the 4"x4". See Figure 1.

Step 6:

Decide whether you want the coax cable inside the vertical pipe, or outside. Note that if you put the cable inside the pipe the coax will have to support its own weight. I have no problem with RG8, but RG8X is not strong enough. It will stretch and foul up the SWR. If you intend to put the coax on the outside of the pipe, use cable ties to hold the cable to the pipe. Tape, even glass tape will weather off.

Step 7:

Lay out the remainder of the tubing with the butt near the 4"x4". 1½" galvanized TV masting is ideal. A coat of aluminum anti-rust paint will make it look better a little longer. Double up the lower section of the mast, leaving not more than one single section projecting at the top. Offset the lower ends of the pieces by a foot or so to offset the telescoped joints.

Step 8:

About one foot up from ground level, put a heavy wood screw into the 4"x4". A lag screw would be better, a block of wood better still. This is to support the lower end of the pipes when they are swung into place.

Step 9:

Using compression-type clamps, join the two pieces of pipe to each other. One clamp every five feet is plenty. Do not put any clamps on the part of the pipes which will overlap the in-ground pole. These go on later.

Step 10:

Use a step-ladder to support what will be the upper end of the mast. Assemble the antenna and mount it on the mast. In the case of the ARX 2B, the maximum pipe

diameter is 1¼". In addition, the coax feed must be outside the support pipe if you telescope the 1¼" pipe inside the 1½". If you want the coax inside the vertical pipe, the 1¼" pipe on the antenna must be attached to the side of the 1½" pipe. Use three compression clamps. Lubricate the clamps; grease is best. Better yet, use the all-stainless clamps.

Step 11:

Connect the coax to the antenna and adjust the SWR as per instructions with the antenna. Move the antenna around to make sure that nearby objects are not upsetting the SWR. Now you are ready to hoist.

Step 12:

The guy wires are galvanized clothesline wire. Attach the guys about five feet below the antenna by putting a couple of turns around the mast and twisting the end around the wire. Put a clamp below all three wires to prevent them from sliding down the pole. Before raising the pole, untangle the guy wires and tie the ground ends to weights. Otherwise they will be too high to reach and when pulled will cause a sharp bend and a permanent weak spot in the wire.

Step 13:

Spray the antenna screw with WD-40 or similar anti-rust evaporating fluid.

Step 14:

With the end of the lowest pole butted against the 4"x4" in such a way that it cannot slip off, hoist the pole by lifting the antenna off the step ladder. Walk toward the 4"x4", lifting the pipes above you as you walk. Although one hearty man could do it, I recommend two. Above an overall height of 50 feet I would recommend a mechanical aid, such as a bipod, gin pole or similar.

Step 15:

While one person holds the mast vertical, the other loosely slips a compression clamp around all three pipes at the upper end of the in-ground pipe.

Step 16:

With both people lifting, lift the entire mast and set the end of the pipe nearest the 4"x4" on the top of the screw previously installed. Place additional clamps around all three pipes and the 4"x4".

Step 17:

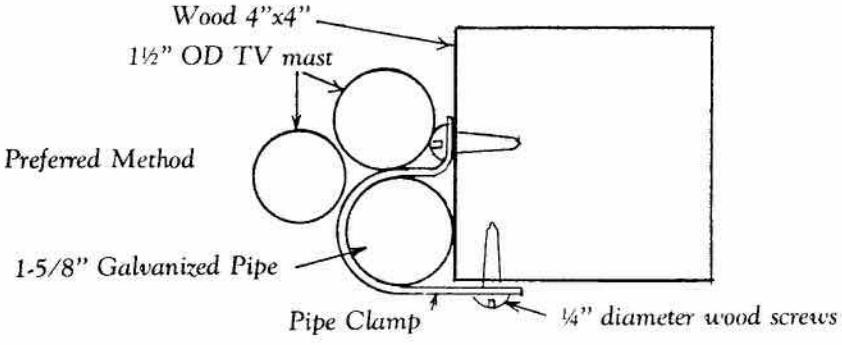
Attach the lower ends of the guys to tree trunks or fence posts or house, with as close to 120 degree spacing as you can get— as far from the base of the pole as you can get. Note that with the lowest pipe already buried, the mast is grounded. Just the same I would ground as many guy wires as possible. Can't be too careful with lightning.

As for performance, I have had masts of this type withstand 60 m.p.h. winds that blew commercial CB type antennas apart.

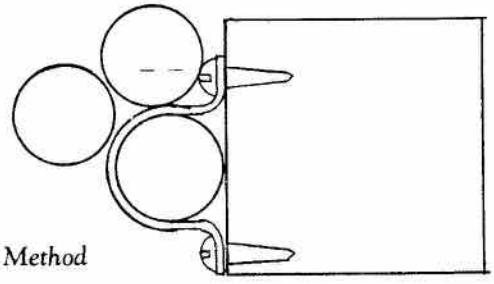
For higher antennas, it might be wise to use three pipes instead of two.

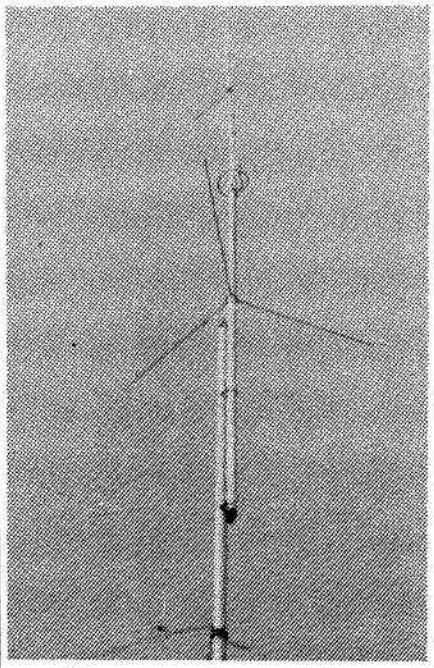
With this system, two people can get the mast down, antenna adjusted, and back up in two hours— and with no climbing.

Incidentally, the ARX 2 seems like an excellent antenna. Performance is very satisfactory. Δ



Compression clamps around pipes and around pole omitted for clarity.





The mast in the pictures consists of one 10-foot section of swaged TV masting support using a similar 20-foot section. At the top of the 20-foot section, a 10-foot section of 1¼" TV masting is clamped parallel to the top of the 20-foot section. The AR2B mounts on the 1¼" mast giving an overall height of just under 50 feet.

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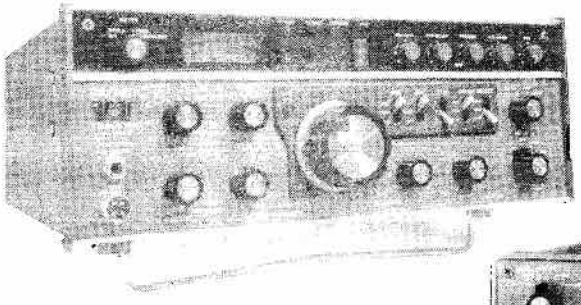

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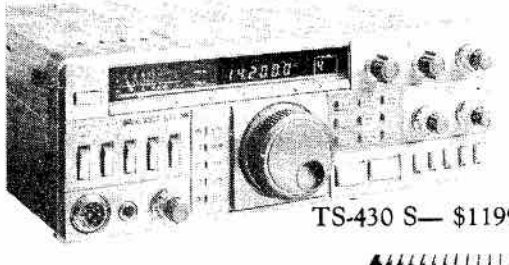

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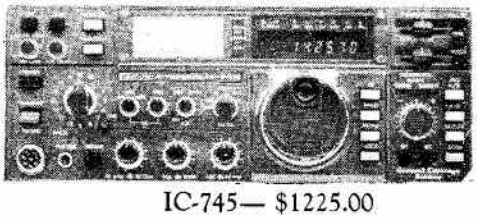

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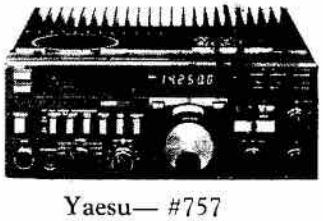

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The HW-9 eliminates the necessity to fine tune each band. Its wide-band front end uses a double balanced mixer and 4-pole crystal filter to pull in wide dynamic range signals. Solid state T-R switching provides for full break-in on any band. And the automatic AGC provides superior receiver performance and audio response.

The unit features single conversion in the main signal path, greatly reducing spurious responses while attaining outstanding image rejection. A full four watts of RF output power (three watts on 10 meters) is available on transmit RIT (Receiver Incremental Tuning) permits tuning the receiver 1 kHz above or below the transmit frequency. And the tuning dial is calibrated in 5 kHz increments for easy identification of frequency.

Rugged and lightweight, the HW-9 is ideal for portable operation. Transceiver can be powered from batteries, a lighter socket, solar power units or 120 240 VAC with the HWA-9 compatible power supply.

MORE DETAILS IN CATALOG

FREE! For complete details and specifications get a copy of the latest Heathkit Catalogue. **WRITE:** Heath Company, 1020 Islington Ave., Toronto, Ontario M8Z 5Z3. Visit your nearest Heathkit Electronic and Computer Centre, listed below left, for an exciting hands-on try-out.

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