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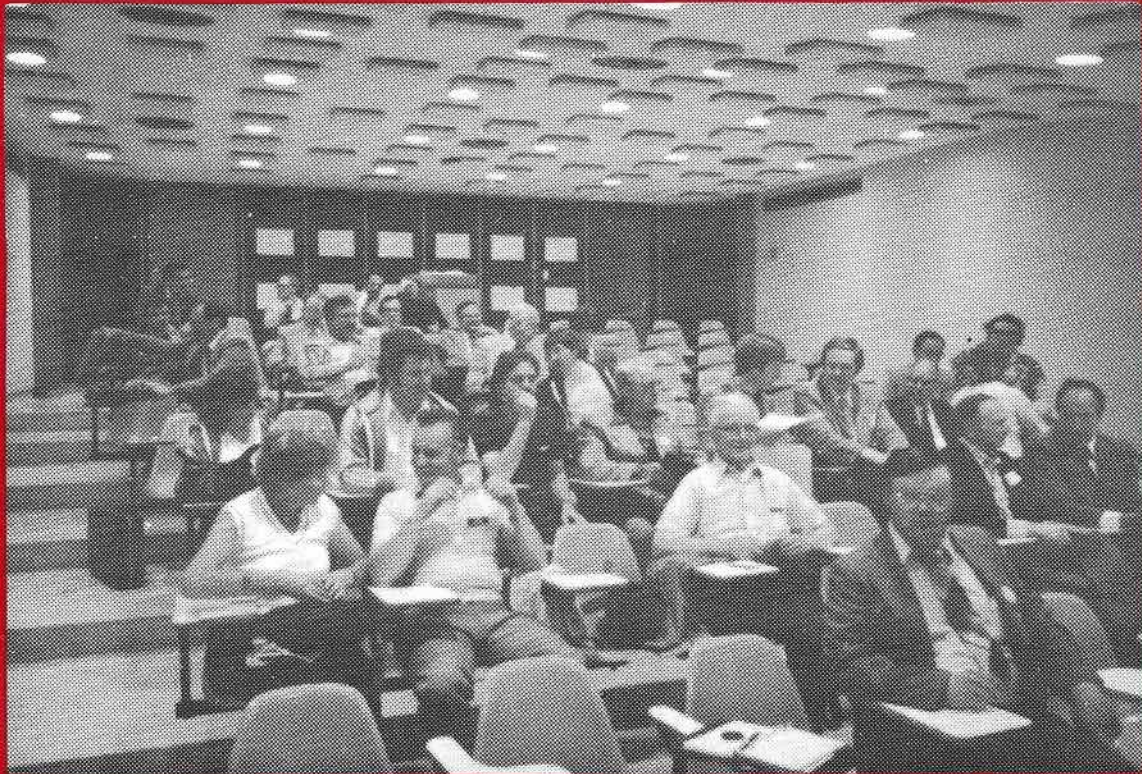
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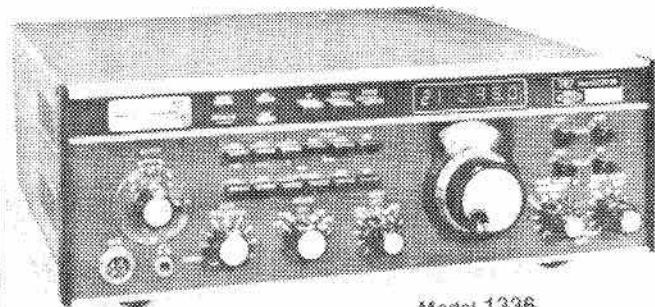
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SEPTEMBER 1981

The Canadian Amateur Radio Magazine



Winnipeg Symposium Report



Model 1336



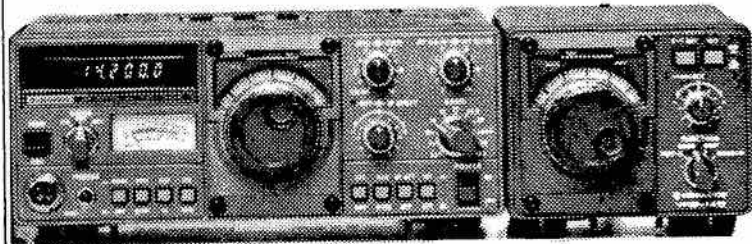
TR7 Solid State
Continuous Coverage
Synthesized HF System



Model 1240

R7 Synthesized General
Coverage Receiver

Hygain



TS-130S

VFO-120

Kenwood

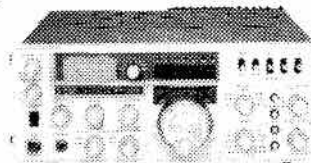
TS-130S/V

'Small wonder'... processor,
N/W switch. IF shift, DFC option



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107 SERIES



FT-107M



R-1000

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TCA

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

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

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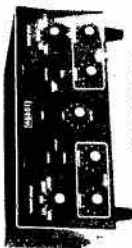


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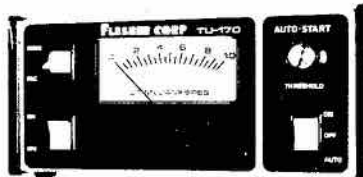


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FT-707 is shown with optional FV-707DM VFO & Scanning Microphone



THE FT-707 "WAYFARER"

The introduction of the "WAYFARER" by Yaesu is the beginning of a new era in compact solid state transceivers. The FT-707 "WAYFARER" offers you a full 100 watts output on 80-10 meters and operates SSB, CW, and AM modes. Don't let the small size fool you! Though it is not much larger than a book, this is a full-featured transceiver which is ideally suited for your home station or as a traveling companion for mobile or portable operation.

The receiver offers sensitivity of .25 μ V/10 dB SN as well as a degree of selectivity previously unavailable in a package this small. The "WAYFARER" comes equipped with 16 poles of IF filtering, variable bandwidth and optional crystal filters for 600 Hz or 350 Hz. Just look at these additional features:

FT-707 with Standard Features

- Fast/slow AGC selection
- Advanced noise blanker
- Built-in calibrator
- WWV/JJY Band
- Bright Digital Readout
- Fixed crystal position
- Factory-installed WARC bands
- Unique multi-color bar metering—monitors signal strength, power output, and ALC voltage.

FT-707 with Optional FV-707DM & Scanning Microphone

- Choice of 2 rates of scan
- Remote scanning from microphone
- Scans in 10 cycle steps
- Synthesized VFO
- Selection of receiver/transmitter functions from either front panel or external VFO
- "DMS" (Digital Memory Shift)

Impressive as the "WAYFARER" is its versatility can be greatly increased by the addition of the FV-707DM (optional). The FV-707DM, though only one inch high, allows the storage of 13 discrete frequencies and with the use of "DMS" (Digital Memory Shift) each memory can be band-spread 500 KHz. These 500 KHz bands may be remotely scanned from the microphone at the very smooth rate of 10 Hz per step.

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- BAND & MEMORY SCAN

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**144MHz C-MOS MICROPROCESSOR CONTROLLED DIGITAL PLL FM TRANSCEIVER
10 MEMORY CHANNELS, MEMORY AND BAND SCANNING**

FREQUENCY COVERAGE

A. 144 - 148 MHz, TX & RCV in 5KHz steps.

RECEIVER

Another SUPER RECEIVER from KDK! UHF (Not VHF) dual gate MOS-FETS with electronic auto tuning for RF amplifier and 1st mixer. VHF MOS-FET for 1st IF amplifier. One-chip multi-purpose LSI for all 2nd IF and detector related circuits plus squelch and audio pre-amplifier. Ultra sensitive squelch with wide range front panel control provides maximum flexibility to set squelch at optimum level for whatever type QSO is intended, ultra-DX or super local. New high output audio IC with internal protection against over-voltages and shorted output circuits.

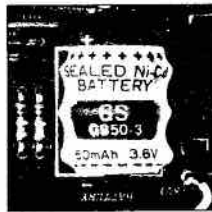
TRANSMITTER

New transmitter continuing in the KDK tradition. Direct VCO varicap modulation gives true FM, not phase modulation. VCO operates on final transmit frequency; eliminates mixers and multiplying stages. Use of newest high power gain transistors achieves 2-stage only exciter. New high power gain output power module will not break down even with infinite VSWR load. Heavy duty solid state antenna switching followed by 4 stage low pass filter. All these combine to provide exceptionally clean, spur free output. APC (auto power control) protects against accidental over power transmission and unintentional off-band transmission.

TEN CHANNELS OF COMPUTER MEMORY

Frequencies may be stored and recalled from memories at any time, by simple operation of rotary switch and the WRITE button. No need to watch knobs when turning them, again facilitating eyes on the road operations. For easy use, memories are split into two groups of 5 memories, A1 - 5 and B1 - 5.

INTERNAL MEMORY BACK-UP BATTERY



even if DIAL knob is accidentally moved while transceiver is turned off. No need to mess around with back-up cables, switches, plugs, etc.

**THE MORE MEMORY CHANNELS A TRANSCEIVER HAS,
THE MORE IMPORTANT THIS FEATURE IS!**

MEMORY SCANNING

Full auto-scan of each group of memory, A1 - A5, and B1 - B5. Scanning in two modes: CLOSED -- scanning stops at BUSY channel, OPEN -- scanning stops at vacant channel. HOLD -- permits instant operation on channel located by scanning.

PROGRAMMABLE BAND SCANNING

For band scanning, unit scans upwards in 5KHz (12.5KHz) increments. Starts at frequency stored in memory A5 until reaching frequency stored in memory B5. Upon reaching upper limit B5, returns and resumes scanning from lower limit, A5. Scanning in two modes, OPEN, CLOSED, and HOLD features same as for memory scanning. A zero-center detector is provided to prevent scanning from stopping prematurely before reaching true center of channel. Scanning increments may be changed by diode matrix changes. Scanning in larger increments will result in faster scanning.

DUPLX USING OFFSET SWITCH



SIMP position for sending and receiving on same frequency. + and - .6 positions give + and - 600KHz transmitter frequency offset for working with repeaters. Offset may be changed by simple diode changes in matrix.

Front panel LED's display both transmitting and receiving frequencies as switched by operation of P/T switch.

DUPLX USING MEMORY CHANNELS

MODE switch position Ax8 gives 5 pairs of duplex operation with any offset within frequency coverage of transceiver and dialing increments. Unit receives on A memory frequencies and transmits on corresponding B memory frequencies. For example, if memory A2 is 145.700 and B2 is 148.995MHz, unit will receive on 145.70 and transmit on 148.995MHz. Front panel LED's will switch automatically with P/T switch and always show actual frequency being received or transmitted.

INTERNAL MULTI-PURPOSE TONE OSCILLATOR

100Hz (1750Hz) sub audible tone (tone burst). Frequency may be retuned by adjusting internal trim-pot. For larger changes exceeding full range of trim-pot, change capacitor values.

180w x 60h x 195d mm.



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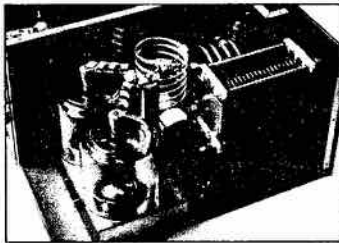
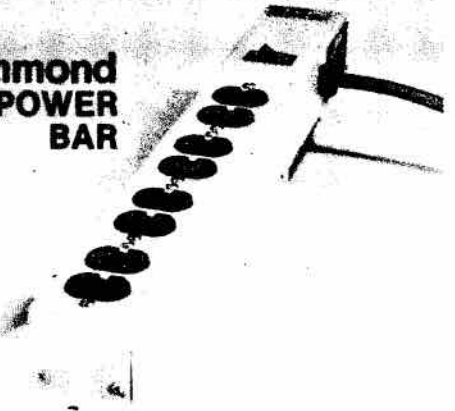
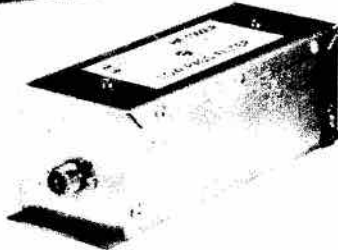
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HL-2000A LINEAR AMPLIFIER

Hammond POWER BAR

HF-1000LP LOW PASS FILTER



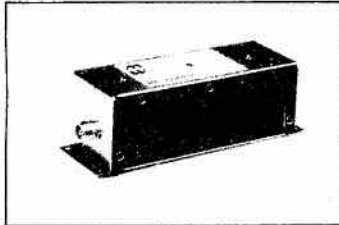
HL-2000A LINEAR AMPLIFIER

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

General specifications;

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

- Special Hammond power transformer designed for continuous duty operation. Rated 1100VA - 60Hz.
- Two 3-500Z Zero based triodes, air chimney cooled.
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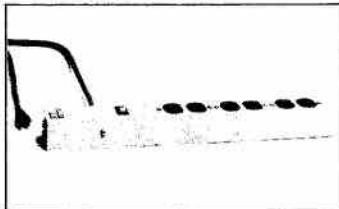


HF-1000LP LOW PASS FILTER

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

General specifications

- 0 to 30 MHz band pass.
- Cutoff frequency 32MHz \pm .5MHz.
- Power capacity 2000W PEP SSB.
- Impedance 52 ohms input and output.



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Power Bar is a multi receptacle device for connecting several pieces of equipment to a single outlet:

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HL-2000A LINEAR AMPLIFIER

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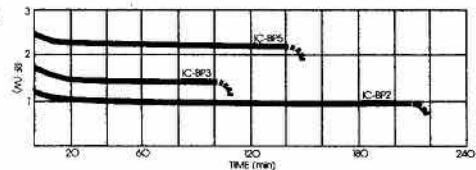
The result is an ultra compact unit (the rubber duck is longer than the set) with all of the channels, all of the power, and all of the convenience and performance that has made ICOM famous.

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

Standard Features

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

APPROXIMATE BATTERY LIFE vs POWER OUTPUT 3:1 Duty Cycle



BATTERY PACK MODEL	HEIGHT	CHARGER REQUIRED	BATTERIES	VOLTAGE	TYPICAL OUTPUT (IN WATTS)	REPLACE-ABLE BATTERIES	NOTES
IC-BP2	39mm	BC-30	N-425 AR (x6)	7.2	1.0	No	Low Power/Quick Charge (15h) Long Life/Overcharge protected
IC-BP3	39mm	BC-25 or BC-30	N-250 AA (x7)	8.4	1.5	No	Standard Power/Standard Charge (15h)
IC-BP4	49mm	..	UM-3 (x6)	9.0	1.5	Yes	Standard Power/No Recharge capability
		BC-30	NiCd AA (x6)	7.2	1.0	Yes	Low Power/Long Life Standard Charge (15h)
IC-BP5	60mm	BC-30	N-425 AR (x9)	10.8	2.3	No	High Power/Long Life Quick Charge (15h)/overcharge protected

*With .457 inch (1/4) dia. Between

**Do not attempt to recharge Poplar or Alkaline Batteries.

IC-2A: \$299 2AT:\$339
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- One memory per band, for storage of your favorite frequencies on each band.
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- Digital readout
- Receives WWV.
- Selectable AGC.
- Up/down tuning from optional microphone



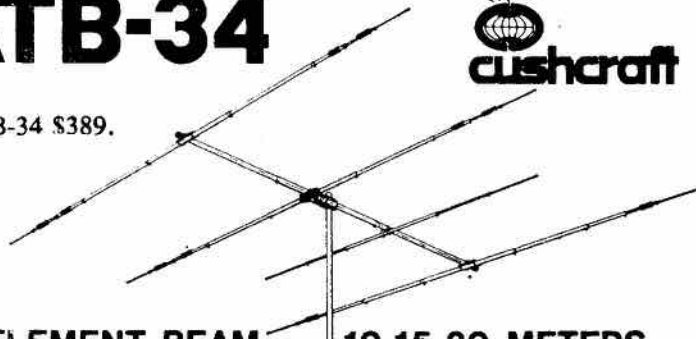
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ATB-34



ATB-34 \$389.



4 ELEMENT BEAM

10-15-20 METERS

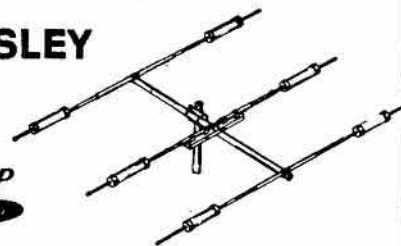
Cushcraft engineers have incorporated more than 30 years of design experience into the best 3 band HF beam available today. **ATB-34** has superb performance with three active elements on each band, the convenience of easy assembly and modest dimensions. Value through heavy duty all aluminum construction and a price complete with 1-1 balun.

SPECIFICATIONS		
FORWARD GAIN -	EXCELLENT	LONGEST ELEMENT - 32'8"
F/B RATIO -	30 dB	TURNING RADIUS - 18'9"
VSWR -	1.5:1	WIND SFC - 5.4 Sq.Ft
POWER -		WEIGHT - 42 Lbs.
HANDLING - 2000 WATTS PEP		WIND SURVIVAL - 90 MPH.
BOOM LENGTH/DIA - 18 x 2 1/8"		

UPS SHIPPABLE COMPLETE

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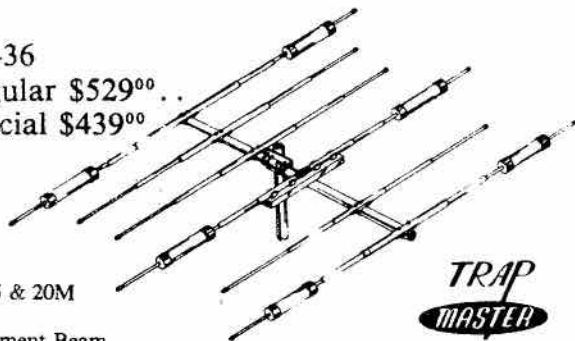
TA-33 \$349.

TA-33

The famous Mosley TA-33 3-el beam provides outstanding 10, 15 & 20M performance. Exceptionally broad band gives excellent results over full Ham bandwidth. Exclusive Mosley Trap design offers resonant frequency stability under all weather conditions. Element centre sections are double thickness aluminum to reduce sag. Boom requires no bracing. Heavy duty universal mounting plate fits mast up to 1 1/2" OD.

CL-36

Regular \$529⁰⁰ . .
Special \$439⁰⁰



10, 15 & 20M

6 Element Beam
10.1 dB Forward Gain (over isotropic source)
20 dB Front-to-Back Ratio



Mosley CL-36

Mosley CL-36
Another addition to the Trap-Master family of fine beams. The Classic 36, featuring the Mosley patented Classic Feed System for 'Capacitive Matching'. A sure formula for DX success! Six wide-spaced elements, four operating elements on 20M. Bandswitching is automatic by means of high-impedance, resonant 'Trap-Circuits'.

CL-33 \$389.

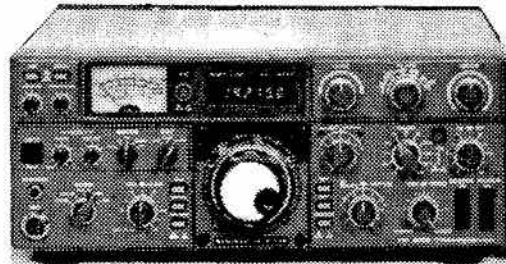
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TS-830S

TS-830S

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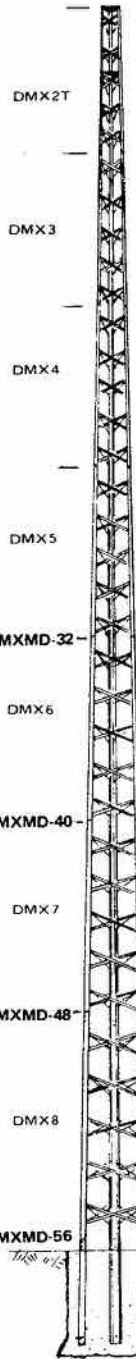


DELHI

SELF-SUPPORTING DMXHD, DMXMD CONCRETE-BASE TOWERS

Medium Duty and Heavy Duty Ham Towers

Sections



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

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

ANTENNA LOAD LIMITS

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

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

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



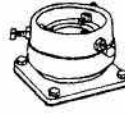
Top section of a Ham Tower with a rotator, mast and a Model BBMB installed.



Unique beaded channel leg resists bending



244A Cast Alum. Mast Clamp



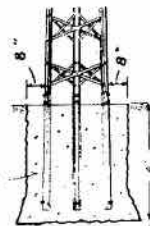
BBMB Ball Bearing Mast Bearing

NOTE: DMXMD and DMXHD towers are shipped complete with the following: 8 ft. tower sections, top plate with cast aluminum mast clamp, rotor plate, three 4 ft. concrete base stubs, special nuts, bolts and washers. (No mast is included in package).

Compact Tower Package



Hinge-Up Base
HUB3-6
HUB7-8

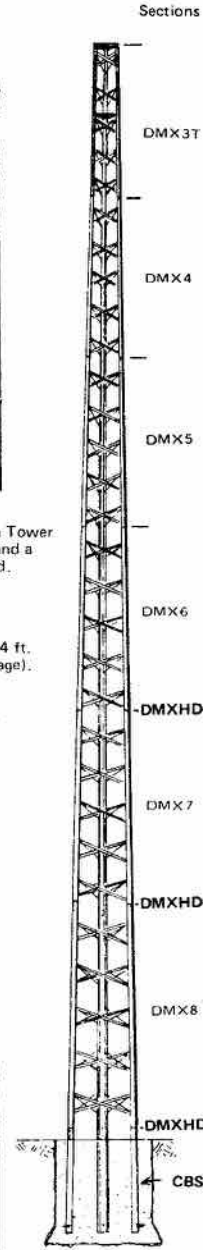


CBS8

Specifications:

Model No.	Height without mast	Tower Sections Supplied	Weight in lbs.
DMXMD Medium Duty Towers			
DMXMD-32	32 ft.	DMX2T, DMX3, DMX4, DMX5	152
DMXMD-40	40 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6	200
DMXMD-48	48 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6, DMX7	272
DMXMD-56	56 ft.	DMX2T, DMX3, DMX4, DMX5, DMX6, DMX7, DMX8	351
DMXHD Heavy Duty Towers			
DMXHD-32	32 ft.	DMX3T, DMX4, DMX5, DMX6	170
DMXHD-40	40 ft.	DMX3T, DMX4, DMX5, DMX6, DMX7	241
DMXHD-48	48 ft.	DMX3T, DMX4, DMX5, DMX6, DMX7, DMX8	314

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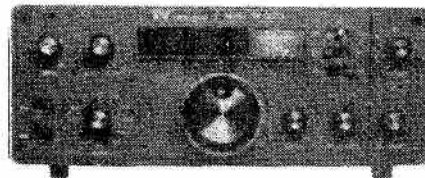


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The best of TEN-TEC. OMNI-C—with all 9 hf bands, new 3-mode offset tuning, new optimized bandwidth with 7 response curves, new built-in noise blanker, new "hang" AGC and all the features that have made this impressive series famous throughout the amateur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

Another TEN-TEC "first" is in OMNI-C—3-mode offset tuning: offset Receiver tuning, offset Transmitter tuning, and offset Transceiver tuning—and in 2 ranges: ± 500 Hz or ± 4 kHz—for complete tuning flexibility in any situation.

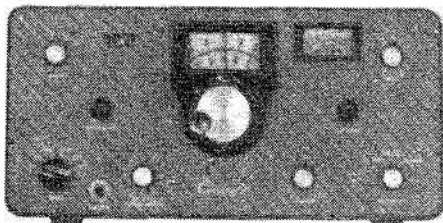
And OMNI-C offers 7 response curves, four for SSB, three for CW, with new easy switching of all i-f and audio filters. See the new OMNI-Series C at HAM TRADERS. **Only \$1739.**



THE NEW DELTA

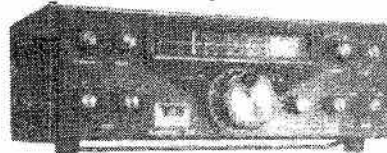
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All solid-state, all broadbanded (not even a resonate control), all 9 hf bands including the new 10, 18 and 24.5 MHz bands (even the crystals for all except 18 and 24.5 MHz), new low-noise double-conversion receiver with $0.3 \mu\text{V}$ sensitivity, high 85 dB dynamic range, 8-pole 2.4 kHz SSB filter plus optional 500 and 250 Hz 6-pole filters that cascade for up to 14 poles of selectivity, plus 4 stages of active audio filtering, built-in notch filter, offset tuning, "hang" AGC for smoother operation, digital readout with six 0.3" red LEDs, 200 watts input on all bands including 10 meters, 100% duty cycle, QSK full break-in, built-in VOX and PTT, adjustable ALC and drive, adjustable sidetone, super stability, vernier tuning, low distortion audio, super new-look styling that's panelized for easy use and small enough to go anywhere (4 $\frac{1}{4}$ "h x 11 $\frac{3}{8}$ "w x 15"d), new modular/mass-termination construction for easy board removal, plus a full accessory line. Check the super DELTA price at HAM TRADERS! **Only \$1179. Amateur Net**



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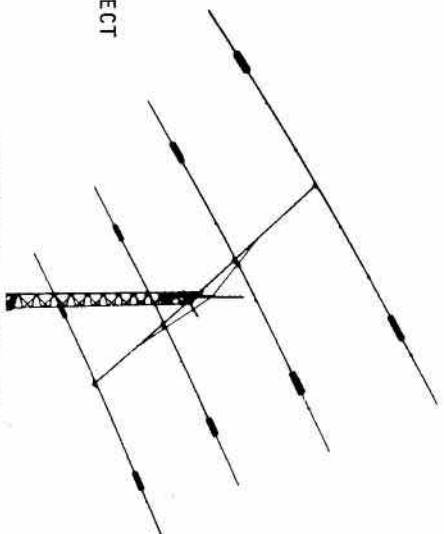
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**MODEL 370-16
HEAVY DUTY 4 ELEMENT TRI-BAND BEAM**

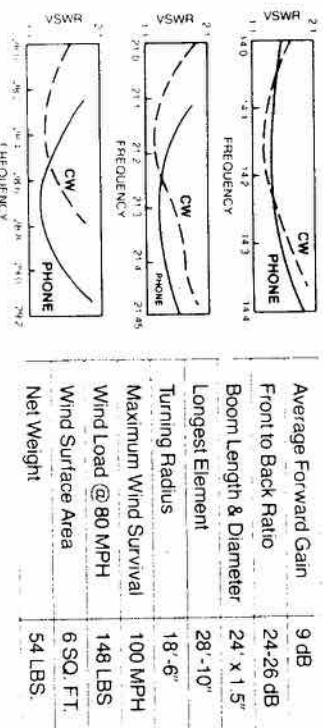
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Feature
• All four elements active on all three bands.

General Specifications
Four working elements on each band in 10, 15 and 20 meters. The 24 foot boom permits optimum spacing for maximum forward gain and front-to-back ratio. All traps are precision tuned. Rugged reliability assures ability to withstand winds up to hurricane strength.

Shipping Weight: 80 lbs. **Power Rating:** 1 KW-2 KW PEP

TYPICAL VSWR CURVES—MODEL 370-16—SPECIFICATIONS



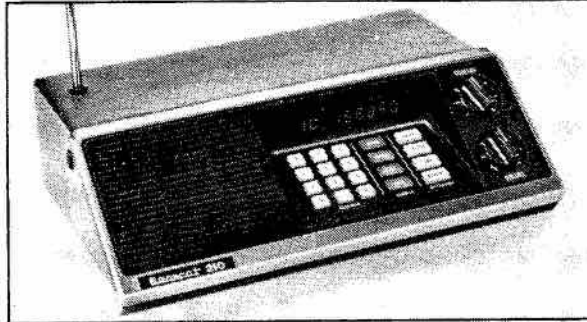
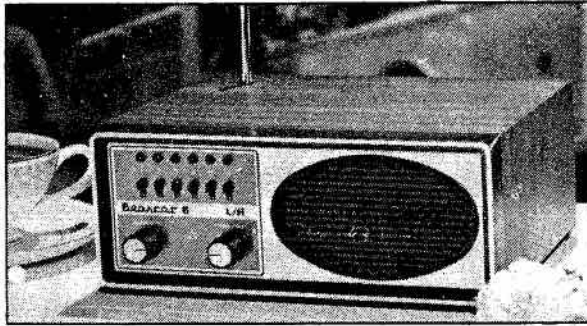
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H4E 1H2

Letters:

AMATEUR OVERPOPULATION

I have read Rowland C.E. Beardow VE3AML's article in May TCA with interest. Amateur Overpopulation is a real grabber. He made some good points, but missed the boat from an Instructor's point of view. I have been instructing one of the classes at Burnaby Amateur Radio for the past three years. All of us at the club teach on a voluntary basis and the fees that we charge for Amateur Radio Instruction help to finance our club activities, our work with 'Handicapped Amateurs' and Amateurs who are 'Seniors'. Most of us have spent hundreds of dollars of our own money buying books and building teaching materials. Believe me, we don't do it for the money. You have to have feelings for people to be a good instructor.

Many of our prospective Amateurs are people who are reaching retirement age and are looking for a hobby. Many had an interest in electronics and radios but never had the time before. Many of our young people are studying electronics at school and have heard about Amateur radio and the interesting things that Amateurs do. What a nice feeling it is to see the development of a young person doing technical things. The key to our success is our training program and the encouragement of our membership which ranges in age from 11 years to 80.

Once you assume the responsibility of teaching Amateur radio classes, you become the only real link with the hobby for many people. My phone never stops ringing, and even after the student receives his or her licence, many hours are spent getting the station operational

and solving many of the so-called beginner's problems.

I encourage all instructors to be as active as possible 'on the air' so that your experience and council to your students will be up to date and meaningful.

Lou Beaubien VE7CGE
BCARI
Vancouver, B.C.

MODERN TRANSMITTING

Twenty, even ten, years ago most radio Amateurs could have converted a tube radio into a transmitter in 24 hours or so. What would happen today, when there are far more portable radios about, but all printed-circuit transistor ones?

I submit a problem for the readers of TCA. If you get replies and publish them, we might all have a stock of information in the back of our minds, of use when the chips are down. What is the maximum frequency of operation of an audio transistor? How long is the wire on an IF transformer, and would it stand being strung up as an antenna?

On thinking over the question, I think I might slip a 7050 KHz crystal in my pocket before I go travelling far again.

Frank P. Hughes VE3DQB
Hawkesbury, Ont.

As a matter of fact, I have heard of one transistor radio being converted to a code

practice oscillator and becoming a very effective radio transmitter at the same time. I am not sure why this happened, but the gentleman from Energy Mines and Resources in Ottawa who accomplished this feat had a lot of explaining to do to the air-radio operator in Tuhtozuk-tuk NWT where he was stationed at the time of the incident. The signal was powerful enough to jam all HF reception. I suspect it was an IF problem.

REPEATERS

This letter was received by CARF in June of this year:

This is further to our letter of March 23 to Mr. Wilson, concerning the introduction of repeaters above 29.5 MHz in the 29 MHz Amateur band.

Our consultation on this proposal has been completed. Based upon the views expressed by the Amateurs attending the fifth annual CARF symposium as well as comments received from other Amateurs and our Regions, the Department has decided to amend our policy to permit repeater operation in the 29 MHz band above 29.5 MHz.

We want to thank your association for providing the Department with the views of its members on this question. It is hoped that this policy change will prove useful to the Amateur fraternity.

L.V. Decloux, Director
Operations Branch
Telecommunication
Regulatory Service.

**TCA WELCOMES LETTERS
TO THE EDITOR. PLEASE
SEND ALL CORRESPONDENCE
TO EDITOR TCA,
1082 APOLYDOR AVE.,
OTTAWA, ONT. K1H 8A9.**

TWO-METRE DEAL?

I am enclosing with this letter a copy of an advertisement which appeared recently in a popular electronics magazine. In it I find a very disturbing

offer to the readers. One of those electronics schools which feature at-home learning is offering along with its instructional material a '2 metre FM transceiver'.

I would like to ask your opinion on this practice and also whether CARF has ever taken a position on the offering of Amateur Radio Equipment (for sale so to speak) to unlicensed individuals.

I personally find this practice unsatisfactory and eagerly await your comments.

David Lloyd VE3ITL
Oakville, Ont.

I am reluctant to reprint the ad, for obvious reasons, but your point is well taken. I don't think CARF has ever explored this area, but I am sure the appropriate people will be made aware of the situation. This ad, and others like it, has appeared for a number of years in various publications. It is a wonder the subject was not brought up before. Some of these schools offer an Amateur radio course which took care of the problem to an extent. What happens to the rig if the student fails?

AMATEUR SURVEY

Who is the Canadian Amateur? How long has he or she been licensed? What are the favorite bands?

If you would like to know the answers to these questions and others, so would I. With the help of TCA and the club magazines across Canada, perhaps we can find out.

If you would like to know something about your fellow Amateurs, send me a list of the questions you would like to see asked on a survey questionnaire. I'll wait three months from the date of publication of this letter in TCA for input before making up the questionnaire.

Club Bulletin Editors— please reprint this letter in your next issue to ensure maximum input.

When the questionnaire is ready (and with TCA's help) it can be printed in TCA, completed, pulled out and posted back to me for tabulation. I'm sure the information collected would be of interest to many of us.

Please address your suggestions for questions directly to me— not to the CARF or TCA addresses.

Hersh Sax VE3JBU
P.O. Box 913
Station B
Ottawa, Ont. K1P 5P9

ON ARES

After reading the article in the OVMRC bulletin of March on emergency communications under the heading the "Prez Sez" written by Ray Perrin VE3FN and a subsequent reply by Joseph MacPherson VE3CAT, I felt that as SEC Ontario that I too should comment.

Ray Perrin explained ARES in an excellent but brief paragraph. I can't add more except to support Ray when he says "Let's support the ARES. Let's not fragment it."

My position is one of disappointment particularly because the people involved were appointed by ARES (Ontario) as Co-ordinators. If these people had studied and learned well the policies and organization of the Amateur Radio Emergency Services, then I am sure their approach and attitudes would have been a great deal different.

It may be news to some, but ARES did not go looking for a sponsoring agency during the Mississauga disaster. Rather, Red Cross Ontario requested the services of ARES through the Section Emergency Co-ordinator. Yes, they did a good job, good enough to earn the praises of the Premier of Ontario and become the Official Communications Organization of Red Cross Ontario. Incidentally, the agreement between ARES and RCO

was well under way before the Mississauga affair.

Yes, a well organized ARES in Ottawa/Carleton would be a great asset to the Planning Officer for Ottawa and perhaps with his co-operation the formation of a well organized and supervised ARES in his area might still be a possibility. However, after reading the last paragraph of his rebuttal I do have some concern.

It is my impression that the Planning Officer intends to "use Amateur radio at the Municipal level of government." I would be somewhat concerned if any level of government be it Federal, Provincial or Municipal used Amateur radio for purposes that might more appropriately be served by commercial facilities. I believe that Amateur Radio Emergency Services should be available to, but not directed by, any agency at any level.

I have a deep feeling of regret that this situation occurred in Ottawa/Carleton but you may be sure that Amateur Radio Emergency Services (Ontario) is ready and willing to co-operate to the fullest with all Agencies.

Jack W. Strangleman VE3GV
Section Emergency
Co-ordinator (Ontario)
in OVMRC Rambler

I am attempting to get the article written by VE3FN to add to the collection. It must have been good to start this exchange. To see where we stand, as far as Emergency Planning Canada is concerned, you might obtain a copy of the Civil Emergency Communications Planning Guide [EFL 9/78]. It is quite clear.

Mark these dates on your calendar... On October 17 and 18, the World Scout Bureau will be holding its 24th Jamboree on the Air. Plan to help your local Scout troop contact scout troops elsewhere in the world. Frequencies and other details appear on page 20 of this issue.



The name of this column is EmCom, short for **Emergency Communications**.

The purpose of this column is to stimulate a positive dialogue between Amateur Radio operators across Canada to develop concepts for Amateur Emergen-

cy Communications at all levels of participation—local, regional, provincial and federal. This column can be a forum for these concepts. If **you**, as an individual or as a spokesman for a group, have ideas that you think could be of benefit to all, by all means

send them to me by mail. All thoughts and ideas are welcome and, if used, will be attributed to those who suggested them.

Thoughts put forth in this column are not necessarily those of CARF.

POLITICS AND EMERGENCY COMMUNICATIONS

Amateurs in Canada must realize that, at any level of organization, politics should not enter into Emergency Communications. There should not be any requirement for affiliation with **any** national or international organization when it comes to local emergency communications.

The principle of Amateur radio operators providing emergency communications should be strictly benevolent—for the good

AMSAT LAUNCH

AMSAT officials are firming plans for the next satellite launch and have appointed VE6AK and VE3HCR as Area Coordinators. A volunteer is still sought for VE4.

U.S. EXPANSION

If you intend to comment to FCC in the States on the proposed U.S. phone expansion on 20, send no less than 16 copies to them. All are needed so that the various departments can have copies. Less than that and your comments will not be heard. Please send a copy to CARF as well.

COMPANY ON 160

Canadian operators on 160 metres may have company soon, as U.S. Amateurs may have the remaining restrictions on that band removed.

of the community served. In an emergency, no operators should be turned away because of their affiliation with any organization.

Furthermore, when an emergency communications unit is being set up locally, preferably the unit should be non-partisan. Feelings with respect to affiliation are strong in this country. If affiliation with any organization of a radio nature is requested, possibly some operators who feel quite strongly about the subject will not join because of the partisan implications. Well-seasoned operators might be lost to the cause rather than volunteer to a partisan group with which they do not wish to be associated.

What good is it to have a partisan-oriented emergency communications unit with only 4-5 operators to provide the required service to a large population when, by being non-partisan, several hundred operators could be available to provide the required service.

Now I don't suggest that Amateurs go running off starting non-partisan groups all over the countryside. Maybe in your community there is already an emergency communications unit operating efficiently. If so, shake off the partisan attitude and join up—show people that you are above politics when it comes to emergency communications.

With a little luck, maybe that

group can be convinced to become non-partisan also.

And don't wait for the emergency to happen. Local groups have written or are writing comprehensive plans for emergency communications.

Some of the plans are quite involved, some are quite simple. You're not very useful in an emergency if you have to read the plan to understand the procedures before you go into action.

That's all for this issue. In future articles we will look at equipment, procedures, agencies that can be served, and proper ways to form emergency communications units.

This is the start of a new column by Ken Kendall VE3IHX of Ottawa. CARF supports the premise that emergency communications should be non-political. It also supports emergency preparedness. We do not boycott something because one or more groups, who may not agree with us, support it. That is pure folly. Some people will only defend an opinion if their chosen organization supports it, right or wrong. That is politics. Those of us who support an opinion or position on merit rather than bias are exercising the greatest right we have. The right to reason for ourselves.

Editor

Excerpts from General Manager's Report

Membership

Membership has remained relatively static for the past year, averaging between 5100 and 5200 individual members.

There has been a significant increase in Affiliated Clubs due to a campaign produced by the Asst. Gen. Mgr., Ron VE3IDW.

All membership details are now computerized and it has been necessary to increase the working hours of the 'Membership Girl' - Janet - to 30 hours per week to handle the normal routines, increasing requests for computer-produced labels and lists and to go ahead with a programme to increase membership.

This membership programme has been started, using Newfoundland and P.E.I. as a test, by the forwarding of a friendly letter requesting continued support to those members who failed to renew in 1980. Results have been excellent with a 100% return from P.E.I. and a substantial return from Newfoundland. Similar letters will be sent to former members across Canada.

As a result of steadily increased costs in all areas, it has been necessary to recommend that approval be given to increasing membership dues to \$15.00 per year with reductions given for multi-year membership. It is also recommended that this increase come into effect on 1 October 1981 to give time for adequate publicity and encourage new, present and past members to support the Federation at the present rates.

(This was changed to Nov. 1, 1981 due to mail strike. ED.)

Publications

The sale of Certificate and

Advanced Study Guides is down from that forecast. This has been caused mainly by the introduction of competitive publications accompanied by a good publicity campaign down to the student level. To gain an adequate share of the market, it will be necessary to revise/rewrite these Guides to conform to the amended technical knowledge requirements of the 1981 TRC-24, to make them more acceptable to instructors and students by a change in presentation and to publicize by personal contact by CARF officials with course instructors and students.

A new edition of the Regulations Handbook will be made when the new Radio Act

SIX METRE BEACON

The University of Saskatchewan Amateur Radio Club VE5US is pleased to announce the commencement of operation of a six metre beacon. Every seven seconds "DE VE5US" is transmitted on 50.061 MHz. Power is 10 watts output and the antenna is a full wave loop. Operation is 24 hours a day. Reception reports are appreciated.

Dr. John Dudley VE5JQ
Saskatoon, Sask.

10 MHZ RESERVED?

HR Report says that Region I of the IARU goes along with current thinking that the new but small 10 MHz band should be reserved for CW and RTTY. The recent meeting in England also agreed with SSB operation on the new 18 and 24 MHz bands. These bands have not as yet been released to Amateurs, but were part of the Amateur allocations made at WARC '79.

has been accepted by the federal government. Until then the 1981 edition contains up-to-date information.

A new concept in Amateur publications will be introduced with the production of the **Canadian Amateur Reference File** in the next few months. Basically the Reference File will consist of a good quality, 2 inch, 3-ring 'D' binder containing a general information section. Other sections will be available, at minimal cost, including: The Amateur Radio Station (Bud Punched VE3UD); Basic Amateur HF Antennas (Art Blick VE3AHU); The Art of DXing (Doug Griffiths VE3KKB); Canadian Packet Radio (Hugh Pett VE3FLL).

Additional sections are being considered and any suggestions for other sections and possible authors are welcome.

The CARF Office

The Office is supplied, under contract, by the Kingston Old Timers Amateur Radio Association (KOTARA), is staffed with four employees for 100 man-hours per week and is open week-days from 9:00 am to 3:00 pm.

The Office functions under the supervision of the General Manager and looks after membership details, production of labels for CARF Publications Ltd. for circulation of TCA, day-to-day accounting of income, typing, duplication and circulation of documents and correspondence, forwarding and invoicing of CARF publications, supply of stationery and CARF printed forms, forwarding of interim copies of TCA, etc.

A.E. Blick VE3AHU
General Manager

Anik B Field Trial

For the first time, the federal government will use capacity on Telesat Canada's Anik B satellite for its own purposes. Communications Minister Francis Fox said that his department was undertaking a major field trial to provide communications service between certain government offices. In making the announcement, Mr. Fox stated, "Because of the potentially large government market, this major step will stimulate the development of Canadian satellite communications services which will ultimately benefit all Canadians."

The trial will use satellite capacity already assigned to a pilot project sponsored by the DOC and CNCP Telecommunications. Start-up is planned for late 1981, with completion scheduled for September 1982. It will test the application of the most up-to-date satellite technology to government operations. Via the Anik B satellite, the Government telecommunications Agency will connect an experimental communications network already established within the DOC.

The Agency will evaluate electronic distribution of documents and personal messages. In addition, it will test satellite services for voice, computer communications and teleconferencing. The trial will also involve the Atmospheric Environment Canada and the Canada Employment and Immigration Commission.

The Atmospheric Environment Service will evaluate the cost-effectiveness of transmitting weather maps between weather centres and of providing access by satellite to data stored in a central computer. Thus, the weather service is

trying to improve its internal communications to provide more reliable forecasts and to make climatological information more accessible to users.

The Canada Employment and Immigration Commission will evaluate the cost-effectiveness of using satellite systems for improving its own administrative communications and its service to the public. Among the applications it will test are the use of satellite systems to provide rapid access to inventories of job openings and applicants; the combination of

telephone, facsimile and communicating word processor traffic for transmission between branch offices; and the handling of large volumes of telephone and computer data traffic between major metropolitan areas.

Earth station locations will include Toronto, Montreal, Ottawa, Kitchener, Ontario and Bathurst, New Brunswick. Developed and owned jointly by the department and CNCP Telecommunications, they will be operated by CNCP. □

Blind Radio Operators

In 1966 The Rotary Club of Toronto gave a substantial gift to the Canadian National Institute for the Blind Amateur Radio Club which was just beginning. This was followed by a generous donation from the Tippet Foundation and these two amounts helped to make it possible for us to achieve today's success.

At a meeting of the Administrative Board of the C.N.I.B. Amateur Radio Program last week it was reported that we now have 428 blind radio operators across Canada in every Province and a sum of over \$90,000 invested. We are now fully funded.

It should be remembered that each of the 428 operators has a sighted sponsor who has put together his radio and has helped to teach code and theory.

We believe that this program gives a new life and hope to 428 blind Amateurs.

David S. Lloyd VE3AW was

awarded the Order of Canada for his work in this project.

It is interesting to note there has been an increase of 28 blind Amateurs in the first nine months of 1980.

Kenneth B. Andras VE3UU
Chairman Finance Committee
C.N.I.B. Amateur Radio Club

Fredericton Seminar

About 50 New Brunswick Amateurs attended a seminar held in Fredericton on May 23. The all-day meeting, sponsored by the new Brunswick Amateur Radio Association, was chaired by president Jean-Paul Filteau VE1KH. Provincial EMO officers participated in the discussion on emergency communications. Other scheduled topics were traffic handling, equipment servicing in the Maritimes and the recent tariff changes for some Amateur equipment.

CQ Jamboree

24th Scout Jamboree On The Air

The 24th JOTA takes place this year over the weekend of October 17/18, and as always, the keywords for this co-operative Amateur Radio activity are 'communication' and 'participation'.

Relatively few scouts from around the world are fortunate enough to be able to attend the World Jamborees which take place in selected countries every four years. The advent of JOTA has helped to bridge this gap in scouting experience for the majority of scouting members. The costs are minimal, any

OAKVILLE HAM OF THE YEAR

The committee responsible for selecting the Ham of the Year has decided that Jim Goodman VE3FZG will receive the 1981 award. The plaque, given to the club by the Oakville REACT group, is presented annually to that member who has made the greatest contribution to club activities throughout the year.

I can think of no other member more deserving than Jim who in past years has served as President, in the past year has been Bulletin Editor and who generally provides valuable service to Ham Radio in Ontario. In addition, Jim has been active with the Radio Reading Service, giving a weekly program on Amateur Radio and has a daily involvement at the Extencicare Amateur Radio Club, VE3XSC.

Jim is also a sponsor for two blind radio Amateurs, Geoff Gunn VE3FDQ and Sandy Smyth VE3MMU.

Oakville ARC
Oakville, Ont.

number can participate, and usually are able to do so without having to leave their home town. JOTA Amateur stations are on the air annually from over 70 countries around the globe, providing a unique opportunity for youth in diverse regions to talk to each other on an equal footing, through exposure to Amateur Radio.

Scouts Canada is again looking for Amateurs to assist in this worthwhile venture. All an Amateur need have is his station and an interest - association with a radio club organization is not necessary. If you or your club would like to help, contact your local scouting organization soon. It is usually best to go through the 'District Commission' in your scouting district. Information may also be had by writing to: National Organizer JOTA, Scouts Canada, P.O.Box 5151, Station 'F', Ottawa, Ontario K2C 3G7.

(Ask for the free brochure - "Jamboree on the Air: How Canadians can Participate".)

As befitting the event, the subject of conversation in JOTA contacts is expected to be about scouting in general, indulging in friendly and informative exchanges. It is stressed that JOTA is **not** a contest. The number of JOTA stations contacted is not so important as the quality of the contacts themselves.

JOTA commences at 0001 hours (GMT) on the Saturday, and closes down at 2359 hours (GMT) on the Sunday.

The actual amount of activity undertaken by any JOTA station will be governed by radio conditions and other circumstances, and will be in essence at the discretion of the Amateur/club offering the station and services for JOTA.

CARF liason officer with Scouts Canada this year is Fred Crowe, VE3LAF.

The official JOTA frequencies, local regulations permitting are:

80 Metres: Phone 3740,3940 KHz	CW 3590 KHz
40 metres: Phone 7090 KHz	CW 7030 KHz
20 metres: Phone 14290 KHz	CW 14070 KHz
15 metres: Phone 21360 KHz	CW 21140 KHz
10 metres: Phone 28990 KHz	CW 28190 KHz

Some special JOTA stations to look for include: HB9S, World Scout Bureau, Geneva; LX1JAM, Boy Scouts of Luxembourg; LA1JAM, Boy Scouts of Norway; GB3BPH, Baden-Powell House, London; K2BSA, Boy Scouts of

America; XE1ASM, Boy Scouts of Mexico; DU1BSP, Boy Scouts of the Philippines; JA1YSS, Boy Scouts of Japan; ZS6JAM, Kafeking Boy Scouts.

VE3GEA

DX

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

The month of September should herald the return of some good East-West openings on 10 metres. In addition to better all-round conditions on the HF bands, there are some very nice DXpeditions slated.

Bits & Pieces

A71 Qatar - The prefix A7X has been replaced by A71. A7XA is now A71AA, and has been active on 14.199 from 2300 GMT. QSL via DJ9ZB. A7XE is now A71XE, and has been found on 14.025 around 0430 GMT, and 21.036 at 1400 GMT. QSLs go to DF4NW via the DL buro. A7XD has become A71AD, and A7XE becomes A71AE.

CE0X San Felix Is. - A group which is reported to include well-known DXpeditioner Dave Gardner K6LPL is supposed to leave the US on Sept. 11. All going well, they should be heard about Sept. 15 and they expect to be there for several days. The callsign is to be WB1DQC/CE0X. There will be six operators, and it should prove to be an excellent operation. QSL information to follow.

FB8WG Crozet - F2CL will be leaving FR7 for this extremely rare QTH in early Sept., and should be

active from Sept. 8 or 11 for about two weeks. No QSL info is available at this time, but mark this one on your calendars.

FW0BE, FW0BF, FW0BK Wallis Is. - A German group will be active from this Pacific island from Sept. 11-18 for about two weeks. They will be active 80-10m on CW, SSB and RTTY. Listen on the usual DXpedition freq. QSLs for all three stations go to DJ9ZB.

FR/J Juan-de Nova - FR7BP and FR0FLO will be active from Europa Is. Aug. 29/30 then on to Juan de Nova Is. from Aug. 31 to Sept. 6. FR7BP/J on CW and FR0FLO/J on SSB. QSL via CBA.

JX7FD Jan Mayen - JX7FD is active until Oct. 16 SSB and CW. QSL to LA5NM.

ST Sudan - DK6NJ/ST2 on mostly CW. Watch 21.020 from 2000. Also active on 40/80M. He will QRT on Sept. 10. QSL to DK6NJ.

TL8WH Central African Republic - Bill can be found on the air regularly until he goes QRT in mid November. He is very active, especially on 40M. Watch 7.076 at 0100 GMT, on Sundays. (Listen up around 7.200). QSL to W5RU.

UA1 Franz Josef Land - UA1PAM, 14.022 at 2000. UK1PGO at 14.036 at 0430 GMT, and above 14.275 after 2200. QSLs go to Box 88, Moscow c/o UK3SAB.

QSL Information

A4XIY via
P.O. Box 592, Muscat,
Sultanate of Oman

A05IC	EA5ZQ
C31LM	EA3BDW
C31GA	F6BWJ
G3MUV/CE0A	KA4MGH
CH2FOU	VE2BCC
DF7NM/KX6	DF7NM
CR9UT	JA1UT
F00FB	WB6GFJ
FP0GNS	VE3CXL
GD5AVR	DL7PD
GD5BLG	DL4FF
GD5CGV	DL7FH
GD5DUR	DF4FO
GD5DVT	DK8WT
HH0N	WD4JNS
OH20T/OH0	OH3CV
OH0AM	OH2BH
OJ0AM	AH2BAD
OY1KH	W1JTI
VE1BL/1	W3Hnk
VQ9QA	N3QA
VQ9AA	AJ3N
ZF1SB	N8AG
ZM7ZR	VK2BJL
ZM7KD	VK2BKD
ZM7JS	VK9NS
3X1Z	W4FRU
9U5AV	K5VT
9X5MH	WA4VDE

Thanks to VE2FOU,
VE3CXL, VE2ZP, DX Report
and Long Skip.

Contest Scene

Dave Goodwin VE2ZP.; 4 Victoria Place, Aylmer,
Quebec J9H 2J3

CONTEST CALENDAR

Sept. 12-13 ARRL VHF
 Sept. 12-13 Eur. DX SSB*
 Sept. 19-20 Can-Am SSB
 Sept. 26-27 Can-Am CW
 Oct. 3-4 VK/ZL/Oceania SSB
 10-11 VK/ZL/Oceania CW
 11 RSGB 21/28 MHz SSB
 17-18 CLARA AC/DC
 17-19 CARTG RTTY
 18 RSGB 21 MHz CW
 24-25 CQ WW DX SSB
 * see last month's TCA

This summer provided a few interesting contests, despite the normal poor summertime conditions. CARF's third Canada Day Contest was a great success, and hopefully you all remembered to send in your logs at the end of the postal strike. Naturally, the August 1 deadline was suspended and Peter VE7BBQ, the adjudicator, will gladly accept entries right up until he prepares the final results in October.

Participation was very good, and despite the poor propagation, some excellent scores were earned. VE7ZZZ almost certainly won Multi/single with a score of about 300k or more. VE3FKK will probably place second, making about 100 fewer QSOs than ZZZ's 650, and about 25 fewer multipliers. Single op, all-band saw a three-way race between the three members of CARF's contest committee, Peter VE7BBQ operating as VE7SZ made about 200k, Doug VE3KKB about 220k, and your humble scribe (blush) about 314k points.

I'm not sure how many were

operating single band, but some participants had their own objectives. One VE7 told me he wanted to make exactly 114 QSOs. Why 114? For our 114th Birthday, of course. If he gets on in the December contest, I would like to know how he proposes to make 114½ QSOs, but I will leave that up to him.

Malcolm VE4QST made an appearance and was quite active. Tom VE3MFT was going great guns, primarily in CW, as he did not yet have his Advanced certificate. Look for him to win the certificate for the top Amateur class entrant.

The top foreign spot is at present a toss-up between NE4L and WD0EWD. NE4L told me after the contest that he made about 34k, which is very good considering how difficult it is for USA stations to collect VE multipliers. Much to my surprise, there was one YU who was very active, but I have no idea how well he did.

VO1VCA, VE3VCA and VE3TCA were the only active CARF official stations I heard, and thanks go to Nate VO1NP, the lads at the Kingston office and the lads in Ottawa for handing out all those bonus QSOs.

Activity was good from VY1 and VE8, with four or five stations on from each area. PEI was a little on the scarce side this time around. Ten metres was poor, and very few got more than those multipliers available via ground-wave. Special thanks go to those who, while not competing, were kind enough to give the rest of us

maniacs a contact, or QSY to give us new multipliers.

Everyone appeared to be satisfied with the rules this time, even the USA stations whose opinions I collected. This will be the last contest that Peter VE7BBQ will adjudicate, as he feels the pressures of work and his position as CARF Pacific Director deserve greater attention. Thanks to Peter for his work in creating the contest, and seeing it through its first three years.

IARU's Radiosport was well attended, although not many Canadians were on. One Canadian who was on was John Gilbert VE3CXL, operating as FP0GNS from St. Pierre et Miquelon, where he was brushing up on his French. Armed with his TS 520 and his low-slung trapped dipole (the same one that gave him 5B DXCC, 5B WAS and soon a 5B Canadaward), John made about 450 QSOs between bouts of TVI.

The European DX CW contest was graced with the presence of born-again contester VE1ASJ, who has been very active again this year after a nine-year contest hiatus. The European contest gave me a chance to use the antenna I was building on the weekend of the IARU. One of the most interesting aspects of that contest is the QTC rule, by which non-Europeans send Europeans their log data.

The world's biggest contests will soon be upon us, that is the CQ worldwide SSB and CW, and this year may well see more interest in multi-single by Canadians

than ever before. As usual, VE1DXA and VE7ZZZ will be there, to be joined by the Perth Contest Association VE3PCA, finally getting its antenna act together, VE3ICR and some other London-area operators, and rumours of some effort from VE3BVD. BVD was one of the operators involved in that incredible 6 million point phone score from CZ6ZT last year.

Results of the CARF Phone Commonwealth Contest appear elsewhere in this issue of TCA and, as predicted, Andy VE1ASJ walked away with the first ever piece of hardware for this contest. This contest's second running will take place in the spring of '82, carefully scheduled not to conflict with any other contest.

CAN-AM

Period: SSB 1800z 19 Sept. to 1800z 20 Sept. CW: 1800z 26 Sept. to 1800z 27 Sept..

Entry Classes: Single op, all band; or multi op, single transmitter, all band. There is also a club competition compiled from the five best scores posted by any group that submits a summary of its members' scores.

Bands: 160 thru 10 metres.

Exchange: RST plus serial number and Province or Territory.

Multipliers: total of Provinces, Territories and States worked on each band. St. Paul and Sable Islands count as one multiplier, as do USA Atlantic possessions and USA Pacific possessions.

Points: VE to VE or W to W QSOs worth 2 points; VE to W QSOs worth 3 points.

Awards: Certificates will be awarded to the top-scoring entrant in each Prov, Terr, State and possession in each class in each contest. As well, plaques will be awarded to the top scoring entrant from each country in each contest, and for both contests combined.

Entries: Dupe sheets should be included with each entry over 200 QSOs. Official entry forms are available, and are recommended. Entries should be sent within one

month of the end of the contest to: VE3BMV, P.O. Box 292, Don Mills, Ontario M3C 2S2.

VK ZL OCEANIA

Period: SSB - 1000z 3 Oct. to 1000z 4 Oct. CW - 1000z 10 Oct. to 1000z 11 Oct.

Classes: Single operator, all band only.

Bands: All Amateur bands.

Exchange: RST and serial number.

Multipliers: total of VK and ZL call areas worked on each band.

Points: 2 pt./QSO with VK/ZL; 1 pt./QSO with other Oceania.

Awards: Certificates will be sent to the top-scoring entrant from each country, and Canadian call areas are considered as separate countries.

Entries: Separate logs must be used on each band. A summary sheet and the customary declaration must be included. Logs must arrive by 31 Jan. at NZART Contest Manager ZL2GX, 152 Lytton Rd., Gisbourne, New Zealand.

CLARA AC/DC

Period: 1800z 17 Oct. to 1800z 18 Oct.

Classes: Single operator, all bands only.

Bands: 80 thru 15 metres. Suggested frequencies are 3690, 3775, 3900, 7035, 7200, 14035, 14160, 14280, 21035, 21300 kHz.

Exchange: RST, name and QTH.

Multiplier: total of provinces and territories worked, regardless of band.

Points: each station may be worked twice, either once on each mode, or once on any two bands. CLARA members may work anyone, non-members may work only YLs. 1 pt./QSO and 3 pt./bonus QSO. Bonus stations will identify themselves as such.

Awards: 1st, 2nd and 3rd place certificates will be awarded to the top non-member, and a pin to the top member of CLARA.

Entries: Logs should be submitted before 31 Dec. and sent to

Lynn Boothroyd VE3LQL, 673 Tackaberry Dr., North Bay, Ont. P1B 8R1.

RSGB 21/28 MHz SSB

Period: 0700z to 1900z 11 Oct.

Classes: Single or multi op, all bands only.

Bands: 21 and 28 MHz, SSB only.

Exchange: RS and serial number.

Multiplier: Total of UK prefixes worked on each band. GB prefixes do not count. 42 prefixes times two bands, for a total possible maximum of 84 prefixes.

Points: 3 points per QSO with the United Kingdom.

Awards: Outside the UK, 1st, 2nd and 3rd place certificates will be awarded.

Entries: must include a summary sheets listing multipliers on each band, and must be received by 1 Dec. at RSGB HF Contests Cttee., P.O. Box 73, Litchfield, Staffs. WS13 6UJ, UK.

RSGB 21 MHz CW

Period: 0700 to 1900z 18 Oct.

Classes: Single op only, with a separate QRP class. (less than 10 in.)

Bands: 21 MHz CW only.

Multipliers: total of UK prefixes worked, excluding GB prefixes. (max 42)

Points: 3 points per UK QSO.

Awards: 1st, 2nd and 3rd place certificates will be awarded in each class.

Entries: should be submitted by 31 Dec. to D. Lawley, 24 Glen View, Gravesend, Kent, DA12 1LP, UK.

CARTG RTTY DX SWEEPSTAKES

The rules, especially concerning the point scoring system are so complicated that their reproduction here would not do them justice. Please send a SASE to CARTG, 85 Fifeshire Rd., Willowdale, Ont. M2L 2G9. This contest is one of the more prestigious RTTY contests, and active RTTYers are encouraged to participate.

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A new portable from YAESU...

- Size - 7 1/2" x 6" x 2 1/4" like old Drake TR220 - an over the shoulder portable.
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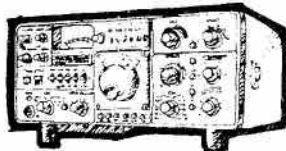
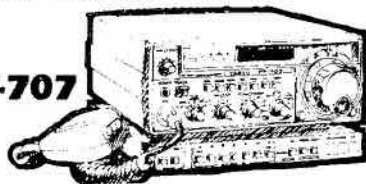
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 - MMB10 Mobile hanger \$16 Trionyx 1/4 wave antenna \$12
 - YaCom 5/8 wave antenna \$35 YM24A speaker mike \$50
 - PA3 car DC-DC adaptor & slow charger \$36 Decco DC quick Charger
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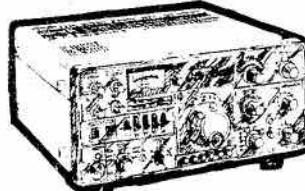


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FT-902DM



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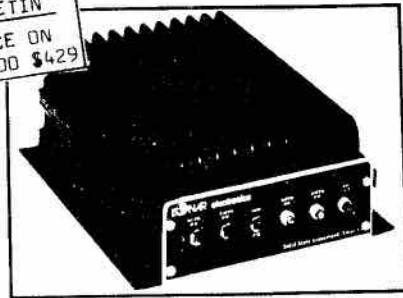
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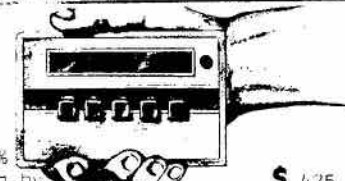
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MODEL	FREQUENCY	POWER		CURRENT	PRE
		IN	OUT		
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6M10-120P	50 MHz	10	120	22A	1.5 dB
2M4-40P	144 MHz	4	40	6A	1.9 dB
2M10-80P	144 MHz	10	80	12A	1.9 dB
2M25-150P	144 MHz	25	150	24A	1.9 dB
2M30-160P	144 MHz	30	160	25A	1.9 dB
2M10-150P	144 MHz	10	150	24A	1.9 dB
VHF10-70P	148-74"	10	70	12A	2.0 dB
VHF30-150P	148-74"	30	150	25A	2.0 dB
1.3M10-70P	220 MHz	10	70	11A	2.5 dB
1.3M30-140P	220 MHz	30	140	22A	2.5 dB
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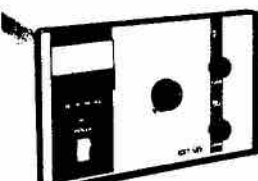
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dB	7 x 15 x 33 cm	1.6
dB	7 x 15 x 33 cm	1.6
dB	7 x 15 x 20 cm	1.0
dB	7 x 15 x 33 cm	1.6
dB	7 x 15 x 33 cm	1.6
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dB	7 x 15 x 33 cm	1.6
dB	7 x 15 x 33 cm	1.6



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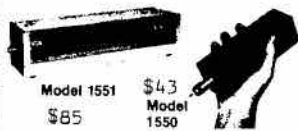


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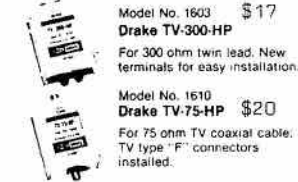
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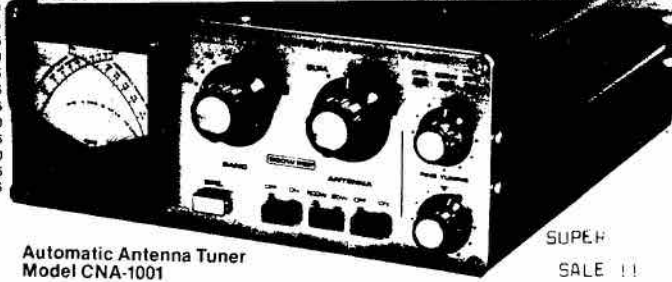
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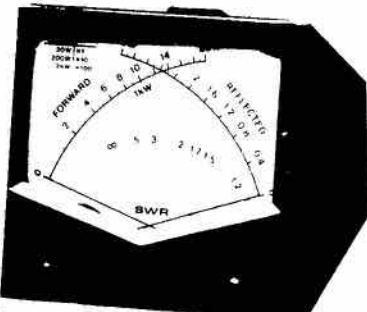
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 Internal Dummy Load: 50 Watts/1 Minute
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 Tune-up Time: 45 Seconds Max
 Power Requirement: 13.8 VDC/2 Amp

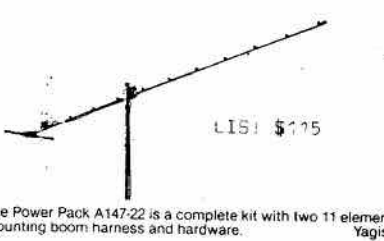


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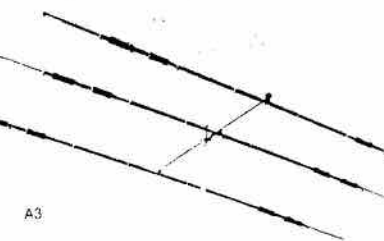
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 2kw model of CNA1001
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NEW CN520
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A 220 MHz Band Evolution Proposal

The following proposal is set forth to encourage discussion and depicts what I believe to be an orderly evolution plan for the band.

Problem: Evolution is the past....History

The current 'forced' plan shows little or no forethought for the orderly development and band use encouragement. Repeater plans that have been around for about the past ten years are quashed by 'Packet only' restrictions and the remaining segment does not allow for comfortable TX/RX frequency separation for a conventional Voice FM Repeater.

I have trouble conceiving of there ever being sufficient data traffic via classical computer to computer communication no matter how many total users get on packet in a local area on 220. A proposal about a year and a half ago about a 900 MHz General Radio Service for data traffic would be more suited to the "pay the money and play" operators. One must realize that since there would be no commercial use of the 220 band, the scope of data traffic is limited considerably.

However, future communication with digital techniques must be considered. Digital TV where only information change is sent to update a frame and

newer digital techniques of the laboratory today, will be here within ten years at the current rate of memory cost reduction.

The immediate necessity is to get a variety of activity all over the 220 MHz band quickly, to demonstrate that it is being used, and will continue to be used.

I propose the encouragement of conventional voice FM on the top portion; repeaters with inputs above 222.5, and the primitive digital repeaters of today locating between 220.5 to 221 MHz initially, and then wait to see how the band develops. Leaving the middle as a semi no-mans land will permit the future expansion of the dominant mode.

A topic of major concern is the question. Do we want regulation?, or Gentleman's agreement? I suggest that there must be some control via bandwidth limitation to prevent wholesale domination by a specific interest. Throw out the obsolete mode designators and let's try something new and not discourage someone who might want to try something not quite kosher.

I have noticed that the same people who are active on 220 voice, also want 220 digital. The proposed plan encourages same site digital and analogue repeaters. Now, one can control

the analogue and of course the digital repeater by simply addressing a packet containing control information to it.

Discussion with others on what I have already presented has raised other questions.

Should the first 100 KHz be bandwidth limited as to suggest CW or should it be a 25 KHz Bandwidth limitation from 220.0 to 220.5 MHz yet with a gentleman's agreement still holding for CW?

What about the 220 MHz band being used for linking two metre input nodes of an analogue transmission path between major cities?

What about point to point, long haul, and dedicated repeater links? Should spectrum be reserved or such use discouraged?

I see this 220 MHz band plan as being ideally suited to using HF transceivers with transverters for the first 500 KHz, dedicated radios for packet, and dedicated 220 MHz FM radios or 2 Metre to 220 transverters for the high end of the band.

We are in the infancy of this band's usage. Band use has gone up several hundred per cent in the last two years due to both voice and digital users and I wish to encourage an orderly childhood **now!**

Craig Howey VE3HWN

220-225 MHz Band Plans

BANDWIDTH LIMITATIONS



1 KHZ



10 KHZ



25 KHZ



100 KHZ



200 KHZ



CONVENTIONAL

A0, A1, A2, A3, A4
F1, F2, F3, F4

220 221 222 223 224 225



← PACKET ONLY RESTRICTION

CURRENT PLAN

LITTLE CONSIDERATION FOR CONVENTIONAL FM REPEATERS

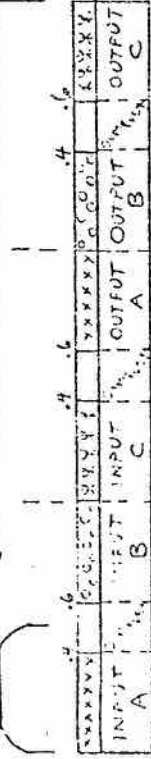
220 221 222 223 224 225



HF YCVP TRANSVERTER

{ NO PACKET ONLY }

DEDICATED 220 MHz FM YOUR OR 2nd FM TO 220 TRANSVERTER



V5
E5

1. Remove packet only restrictions "Gentleman's Agreement Rules"
2. Preserve existing repeater plan segments (FM)
3. Packet is a technique, not a mode.
4. Band plan by bandwidth limitation not by obsolete mode descriptors.

WNYSD BAND PLAN (1920)

40 KHZ CHANNELS

(+/- 20 KHZ DEVIATION)

1.6 MHZ REPEATER OFFSET

AT LEAST 4 220 MHZ FM REPEATERS IN CANADA NOW
(2 IN ONTARIO)

OTTAWA
WATERLOO
WINNIPEG
VANCOUVER

VE3OCR
VE3WAR
VE-4
VE-7 ?

223.34 IN 224.94 OUT

B.C. Winter Games

The Fort George Amateur Radio Club was requested by the organizers of the 1981 B.C. Winter Games to provide communications for the event. The request was made in early 1980 and following discussions at general meetings, it was agreed that the Club would volunteer its participation.

After some consultation, it was determined that Amateur involvement was required for the successful communication of priority traffic between the various venues and accommodation sites with the Games Headquarters.

At the commencement of the Radio Club's negotiations with the B.C. Winter Games H.Q. committees, it was envisioned that the principal use of Amateurs and their equipment, would be communication between accommodation sites and security base to back-up telephone communications. However, due to a strike by the employees of the B.C. Telephone Co., the Amateurs' back-up status rapidly became that of first line communications.

As time progressed, it became apparent that a larger number of Amateur Operators would be required than had originally been anticipated. In consequence, the F.G.A.R.C. contacted all Amateur operators known to be in the area, including such towns as Fort St. James, Fort Fraser and Vanderhoof, to determine the availability of volunteers from outside of the City limits.

A roster was drawn up detailing the stations to be manned, the equipment available through the B.C. Winter

Games H.Q., and what would be necessary in the way of equipment to be provided by the Amateur operators from their own resources.

It was determined that stations would be required to provide communications from the accommodations (Security), at the Medical H.Q., at the Cross Country skiing event at Barkerville, some 120 miles distance from Prince George and in addition, a general coverage communication station at the B.C. Winter Games H.Q. to monitor and relay overflow traffic for all other services.

A shift schedule was drawn up making use of those Amateurs available at times convenient to them and with licences appropriate to the type of communication required. It was decided that equipment supplied by the B.C. Forest Service would be used for communication with accommodation sites and event venues as this equipment, being on commercial frequency, could be used by non-licensed operators.

Backup through the use of two metre simplex frequencies was arranged with Amateur operators. General coverage

"The Club was requested to sign out, service and account for 60 forestry two-way VHF portable radios..."

communication was by H.F. (High Frequency), V.H.F. (Very High Frequency), and relays to the results H.Q. was via U.H.F. (Ultra High Frequency) linkage.

Volunteer Advanced Amateurs manned the communication base from 8 a.m. to 10:30 p.m. daily throughout the event. Volunteers with mobile H.F. equipment were dispatched to Barkerville to relay cross country skiing results and provide phone patch communication with competitors home towns. The latter had been arranged on H.F. nets in advance.

As a substantial number of volunteers from the general public became available during the last week prior to the Games, the requirement of Amateur operators at accommodation sites and venues was diminished with the consequence that Amateurs were able to operate one, or at the most, two 8 hour shifts during the five days that communications were provided by the Club. Hence, backup operators were readily available to cover unforeseen absences.

With the use of two channels of commercial (forestry) communications, one simplex channel Amateur 2 metre, H.F. and U.H.F., the problem of coordination was resolved by the use of the main communication unit at the Games H.Q. If traffic could not be passed on the primary frequency allocated for that purpose, backup was available by 2 metres through the Club repeater. A Scanner was used to monitor all the frequencies in use.

All Amateurs who partici-

pated were security cleared by the R.C.M.P. so that their services could be utilized in any area including the accommodation sites and Games venues.

In addition to providing communication, the Club was requested to sign out, service, and account for 60 forestry two-way V.H.F. portable radios.

It was emphasized to the organizers of the Games that Amateur operators only were permitted to operate on the Amateur bands and no traffic of a commercial nature would be permitted.

It was necessary in some instances to make direct contact with a chairman of various events and specialized services to ensure that they were aware of and familiar with the services provided by the Amateurs.

A publicity sub-chairman was appointed who provided releases to press, radio and T.V. As a result, Amateur participation was well recognized by the community.

The participation of the F.G.A.R.C. in the 1981 B.C. Winter Games became especially important as a result of the B.C. Telephone Company employees strike, nevertheless, it is readily apparent that commun-

FRED SAXON TROPHY

The annual award of the Fred Saxon Memorial Trophy to the Amateur whose efforts on behalf of the hobby in general and the Peel Amateur Radio Club in particular were outstanding, was awarded to Bob and Mary Drummond VE3's ROB and IYY.

Bob has the distinction of being the oldest person ever to write and pass the Amateur exam in Canada, and Mary is a past Treasurer of our club. They may both be found hard at work in almost everything the Club undertakes: auctions, Field Day, bike-a-thons, S.E.T.'s, etc.

Peel ARC News

ication for an event of this nature by the use of Amateur radio operators and their equipment holds great potential.

It is a recommendation of the Club that anyone contemplating similar community involvement should insist that all communication be it by radio, telephone, pagers or whatever means, be handled by the Amateur radio club involved.

It was found that communication handled by the organizers of the Games in connection with

the dispatching of courtesy cars, buses, etc., was inadequate as it was reliant upon either one way communication via pagers or returned telephone calls with a consequent inefficiency and slowness in response.

In summary, it was both a pleasure and an educational experience for the F.G.A.R.C. to participate in an event which encompassed 2500 athletes, 4000 volunteers and over a year's planning. We wish our successors the best of luck. □

Call for Papers on High Bands future

As a result of the Winnipeg Symposium, an ad hoc committee has been formed to coordinate input from Canadian Amateurs on the future of the VHF and above bands, specifically matters of concern with respect to emission modes, bandwidth, bandwidth definition (digital), guideline changes, and gentlemen's agreements on subbands.

There are currently problems in southern Ontario on the 220 band as some 2 metre groups have requested link and control frequencies and based on the current state of affairs on internal band usage we may be in for some unfortunate confrontation between users of different modes.

On the higher bands FS ATV interests might note that it was requested at the symposium that the ATV bandwidth be increased to a full 6 MHz. The concern being not necessarily with existing 430 band users but with soon to be surplus microwave TV equipment. It was pointed out by DOC personnel at the symposia that there is a misprint in TRC-25 and that all "regular" emissions

are to be permitted on the new 902 to 928 MHz band. Discussion is open on ATV usage within the band.

Both the Hamilton and Winnipeg symposia have pointed out a general desire amongst Amateurs to have considerably more flexibility in what can be done on the higher bands and the specification of Bandwidth Restriction rather than mode descriptors at the regulation level seems to be a preferred control methodology.

All interested parties with submissions are invited to send them to the CARF office. Committee members across Canada are required and should be active users of the bands above 2 metres. Barry VE4MA and Craig VE3HWN will coordinate initial input until enough interested parties step forward to fully organize at a regional level. Hopefully a comprehensive analysis and report on High Band activity can be ready for next years Symposium.

Let's hear about activity everywhere!

Craig Howey VE3HWN

Winnipeg Symposium Report

I had started out to write an article on the Winnipeg Symposium when the following article crossed my desk. As I was there, I can vouch for the accuracy of these articles. It was a pleasure to meet those Amateurs who did attend. They provided Canadian Amateurs a vocal input to DOC and Emergency Planning Canada. I regret, however, that most of the local Amateur population of Winnipeg chose not to attend in the belief that it was a political move on the part of CARF. It was not, and all those

who attended realized this. In boycotting their own chance to influence DOC policy, they are, in effect, cutting their own throats. Winnipeg will not be holding the CARF Symposium for some time to come, and so these Amateurs have forfeited their chance to be heard. I hope they realize this. There are no hard feelings on the matter, but it does seem strange that these same Amateurs have recently complained that they are not getting any representation.

Editor

VE4 View

From the Amateur Radio League of Manitoba Bulletin:

This special section, is brought to you by various ManHams who attended the CARF/DOC Symposium in Winnipeg, Friday and Saturday May 22 and 23, 1981. The MANAM, would like to thank all those who attended and all those who sent in articles so the rest of us could know what it was like.

The first contribution "One Way to Spend a Wet Weekend", was submitted by Jim VE4FK.

The weekend of 23-24 May was a wet one in Winnipeg - the rain the farmers had been praying for came all in one slug overnight Friday and most of Saturday!

The CARF/DOC Symposium opened on Friday evening with a 'getting-to-know-you' party, and I was interested to meet, among others, Cary Honeywell VE3 ARS, the Editor of TCA, and Mitch Powell, VE3OT of CRRL. Amateurs from almost every area of Canada were present, but the turn-out from Winnipeg was disappointing, the majority of the Manitoba Amateurs present being from rural Manitoba. In view of the fact that CRRL, DOC and Emergency Planning Canada were repre-



Although the attendance at the Symposium was small, those who did attend had their hands full with the topics provided. Craig VE3HWN, Ontario's new director, attended the meeting at his own expense.

sented in force, the poor representation of Winnipeg may not have gone unnoticed, and can have done little to salvage the already tarnished reputation of the Winnipeg Amateur radio fraternity.

Work started in earnest on Saturday morning with a workload which was much too much for a one day symposium. Workshops were held on Malicious Interference, Emergency Communications, Experimentation and Regulations and Examinations.

I attended the workshop on Emergency Communications in my capacity as a District Emergency Co-ordinator CRRL/ARES, and was excited to learn just how highly Amateur radio is regarded by Emergency Planning Canada. "Amateur radio is regarded as no more and no less important than any other communication service", is almost a direct quote from a senior EPC representative. I interpret that as meaning that Amateur radio ranks with the Military and the Trans-Canada Telephone System.

The workshop on Experimentation appeared to concentrate much of its time on allocations of sub-bands in the UHF spectrum, and personally I didn't find that an inspiring discussion. However, for those interested in some advanced systems and Moon-Bounce, it is important, and some useful recommendations were made to DOC.

This workshop passed a resolution that DOC be urged to reinstate the word "Experimental" in the title of our license.

My main impression of the Symposium was that too much had to be crammed into too short a day, and that possibly a better job could have been done with more time available. Also, I would have liked to attend all of the workshops, but because they ran concurrently I had to choose only one.

Many of the visiting Amateurs wound up the day by dining at the "Hollow Mug", and enjoying the floor show. I would have to comment that the quality of the food and the standard of the entertainment must make that the best supper deal in the city. Judging by the lack of space in the parking lot, I'm not the only one who feels the same way!

Thanks are certainly due to Don VE4NI and Len VE4QL for their trouble and effort in organizing things so well. Thanks also to Alex VE4??? for keeping the coffee pots going – and Alex, where did you get those delicious doughnuts?

"Amateurs from almost every area of Canada were present..."

The next article on "Illegal Operations" was transmitted via the radio waves by Harold VE4AAF.

The Chairman or Chairperson of this workshop was Art Stark VE3ZS. DOC of Ottawa was represented by Ron Powers VE3FIN. Representing CRRL was John VE4ADS while the Secretary was Harold VE4AAF.

The first item discussed was interference on Bands and fringes of Bands.

This is apparently a worldwide problem as these groups can apply pressure politically as lobbyists. Correspondence from DOC indicates that they are in favour of Amateurs giving them extra 'listening' power. DOC has a mandate to manage the spectrum not to chase offenders. They encouraged assistance in this but do not want to be deluged with reports. DOC

knows what is required when violations occur but reports are not sufficient enough to prosecute offenders. DOC must obtain concrete evidence of their own and then prosecution will only occur when all other avenues have been exhausted. DOC gives out information to news media on successful prosecutions. Each Amateur should do as much as he/she can to convince the news media that these occurrences deserve attention.

Proposals were also made concerning teaching and testing. There should be more stress placed upon courtesy and operating procedures.

Special Prefixes: were also discussed and it was noted that these special prefixes would be used mainly for contests. This matter was tabled for future discussion as criteria needs to be established for the signing of the special prefixes.

Wallet-sized certificates were discussed but DOC thought that the additional higher costs involved would be prohibitive – besides photocopy's of certificates are sufficient for proof. Amateurs would be advised to carry photocopies of their certificate while using mobile communications as the RCMP has been asked by DOC to make spot checks on mobiles to ascertain whether or not they have a valid Amateur Radio Certificate.

The next report on the Symposium has been supplied by Don Campbell VE4NI and Len Herrington VE4QL who were co-chairmen.

This event is now history, but the discussions and recommendations will direct Amateur Radio policies for the future. In summary the following are the highlights:

The official response to this annual symposium is very favorable. Senior members of the DOC Ottawa (4) and Winnipeg (3) together with Emergency Planning Canada

(EPC), Ottawa (2), gave up their weekend to attend. Both groups indicated their desire to develop close association with Radio Amateurs to our mutual advantage.

Friday evening was an informal gathering which, judging from the QRM, was a success in renewing old acquaintances and making new ones. It was planned to make formal introductions at 9:00 pm, but the QRM did not die down until 9:30 pm, at which time several had left.

Saturday's session at the Red River Community College saw three workshops well attended:

1) Amateur Emergency Communications (Nets, Etc.) DOC Examinations and Procedures.

3) Amateur Research and Technical Development.

The fourth workshop, Amateur Illegal Operations was poorly supported. Unfortunately, the DOC was particularly interested in this subject, and in obtaining Amateur assistance in cleaning up non-Amateur illegal operation, which is reaching serious proportions. It is hoped that the Amteur will re-consider his attitude to this subject and support DOC's efforts.

Details of these workshops will be published when the tapes are transcribed. A common observation was that there was insufficient time to effectively cover the subject matter. A two-day symposium is no doubt required. Again, a Plenary Session ran overtime although efficiently handled by Bill Wilson. Participants obviously could have discussed some points in greater depth.

Individual points resulting from the discussions were:

1) International agreement was necessary when licensed Amateur abused their privileges.

2) Effective judgement and penalties must be imposed on illegal operations.

3) In illegal operation the Amateur must leave the direct action to DOC or other government body.

4) For involvement in emergency operations the Amateur should carry an identity card the same as, or similar to, the Emergency Planning Canada cards.

5. Do's and Don'ts for operators in respect of unscheduled accidents should be published.

6) Educational programs on handling emergencies should be provided by the Provincial Societies.

7) Emergency planning is a complex subject and varies greatly from Province to Province.

8) It is recommended that National Nets be expanded rather than new ones be started.

9) The new TRC-24, distributed at the symposium, appears greatly improved, but there was not time to analyze it, although the DOC requested an early approval from the Amateurs.

10) Restoration of an oral examination was requested but the DOC would not agree at this time, and pointed out that a clause 'handicapped' would cover special cases, and educational backgrounds.

11) The new code requirements were considered an improvement, and the sending requirement at both applicable speeds approved.

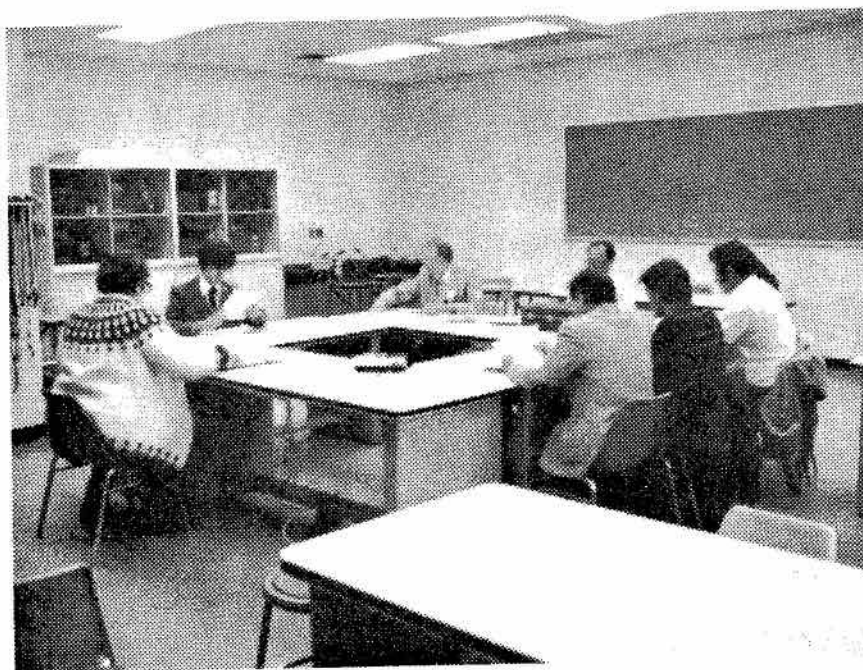
12) Restrictions by 'mode' should be removed and 'bandwidth' used, but no limit be specified above 2300 MHz.

13) Packet restrictions on 220 MHz be removed.

14) A committee of Amateur Research to be established reporting to DOC.

15) ATV bandwidth above 432 MHz to be changed from 4 to 6 MHz.

16) The first 100 KHz on VHF/UHF bands to be limited to weak signal (DX) situations, and no specific bandwidth be quoted.



The workshop for Spectrum Management, Exams and Ten Metres was chaired by Peter Driessen VE7BBQ (second from left).

17) The proposed plans for 220 and 432 MHz bands be publicized, and assessed by Amateur opinion at large.

18) Details were given on Amateur signal leakage into cable operators cables. This is a responsibility of the latter, and can be due to poor installation of the TV cable.

From a statistics point of view, 48 registered or attended. All call areas VE1 through VE7 were present. Other than CARF and ARLM representatives. CRRL, NSARA, RSO, Calgary ARC and North Okanagan ARS were officially represented.

The outstanding feature of the symposium was the degree of participation by all who attended. Our guests from DOC, both in Ottawa and Winnipeg, and the Ottawa representatives from the EPC, were most helpful in their candor and their interest in all that took place at the symposium.

We are indebted to Dale Johnson VE4AED and Barry Malowanchuk VE4MA, for leading the session on 'Amateur Research and Development' including ways of encouraging Amateurs to take a greater interest in the spectrum above 148 MHz.

The other sessions were lead by Amateurs from out of town: Art Stark VE3ZS - Illegal Operations.

b) Croft Taylor VE3OR - Emergency Communications.

c) Peter Driessen VE7BBQ - DOC Examinations, growth of the Amateur Service, etc.

We particularly appreciate

the work of Bill Wilson VE3NR, CARF President, who lead the discussions during the Plenary Session. The contributions of Mitch Powell, CRRL President, were both interesting and very helpful. The work of our secretaries: Dick Holder VE4QK, John McFerran VE4JY and Harold Fehr VE4AAF aided the discussion leaders in their presentations at the Plenary Session. We also acknowledge the keen interest and important contribution of John Gowron VE4ADS, during the sessions, and for his acting as secretary of the Plenary Session. John has been left with the onerous task of completing the minutes of the main session.

It was a remarkable occasion, and regrettably one that will not be repeated in Winnipeg for a number of years. We missed those who were directly involved locally in the education of future Manitoba Amateurs, and those who had an interest in ARES, who could have made an important contribution to the discussion on Emergency Measures. Those who came showed a strong interest in the proceedings and had the opportunity to learn a great deal from the discussions with our visitors.

VE1 View

VE1BJB wrote the following article on the symposium for the Nova Scotia bulletin:

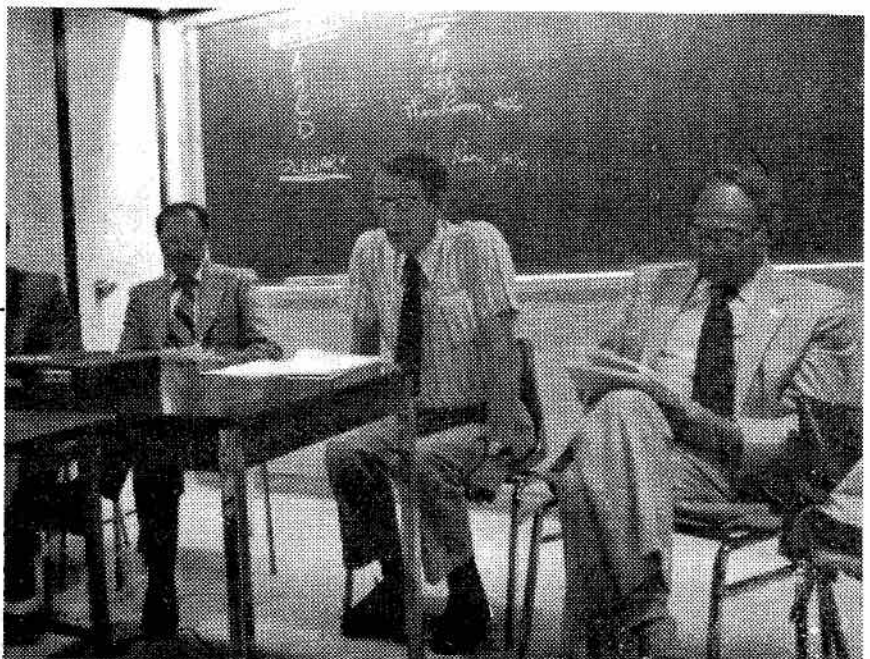
WORKSHOP A

Workshop A was moderated by Art Stark VE3ZS. While the DOC wanted to be made aware of any illegal activities on the air, they also stated that in order to prosecute an illegal activity, they must compile their own data. The input from Amateurs could be helpful in drawing their attention to illegal activities and providing information on on type, time, frequency, etc.

DOC apparently have no objection to the publication of cases they prosecute-- provided of course that it is not done before the fact.

DOC was not receptive to the idea of supplying Amateurs with a wallet-sized licence. They have no objection to Amateurs using photocopy and reduction techniques to produce their own. They pointed out the entire radio licensing system was computer-based and provided on one standard licence form.

Discussion on special prefixes for contesters was considered



Head table at the start of the Winnipeg Symposium. Left to right, Mitch Powell VE3OT, Bill Wilson VE3NR, 'Wiggy' Wigglesworth VE3YE.

and abandoned after it became apparent that DOC was not very receptive. A proposal from VE3 land to grant Amateurs their initials from the available three letter calls also was not pursued.

It was considered that the criteria laid down by DOC for Special Calls and prefixes was sufficient.

WORKSHOP B

Workshop B was moderated by Croft Taylor VE3OR. This was the workshop charged with discussing the EMO situation and Wiggy Wigglesworth ex VE1US now VE3YE from Emergency Planning Canada was in attendance.

It was the decision of this group that existing traffic nets in Canada could handle all the required traffic and could be extended in times of necessity. Therefore there was no need for further nets in Canada. (Presumably they are talking about long haul nets between provs.)

Some provinces have a 'Good Samaritan Act' which protects an individual from being sued later for any problems that may or may not be a result of his action. Other provinces protect professional people only. It was suggested that each provincial body publish a list of do's and don'ts in the event of any mishap occurring.

EPC (Emergency Planning Canada) made the suggestion that every five years when DOC issues new licences that it could include a card which would identify the Amateur as a member of EPC and would be a virtual passport into a disaster area in order to reach the communication center or provide communications as the case may be. It was pointed out that this wasn't a very practical method but on vote the majority was in favour. (Our rep voted against it, and so would I, had I been there.)

There was some discussion about the difficulties experien-

ced with emergency type messages in the past and the result was a recommendation of more and better education of local authorities. Closer ties between provincial bodies and government (municipal) bodies.

Wiggy indicated there is the possibility of future training programs of selected Amateurs to be undertaken at Arnprior in MSG handling and emergency communications. These Amateurs would be expected to return home and pass the information along to other Amateurs in his or her area.

Not too many recommendations came from this workshop.

WORKSHOP C

Workshop C was moderated by Peter Driessen and dealt with spectrum management, exams and ten metre repeaters.

A firm recommendation emerged to allow repeater operation in the 29.5 to 29.7 MHz range with a change in regulations to reflect the FM bandwidth requirements from 52 MHz and up at present down to 29.5 MHz. New Amateurs would be allowed the use of this repeater sub-band from day one. This alleviates the problem that most ten metre repeaters are accessed from 144, 220 or 440 MHz and at present one must either be an Advanced Amateur or have the so-called ten metre endorsement to legally be retransmitted on the ten metre band.

Visitors from Europe may not legally use the frequencies above 144 MHz according to the Canadian regulations which means they cannot use the majority of our two metre repeaters. The DOC is preparing to issue a policy notice that would apply to Europeans only to change that. It is to be noted that no such change is contemplated for USA Amateurs operating in Canada, and they must still abide by the terms of their own licence. That doesn't affect them on two metres, but it

means they cannot legally use fone below 14,200 or 7150 or 3775 (and only then if they have an extra class licence) while in Canada.

A request to DOC that oral exams be part of the examination procedure was not well-received by DOC—citing lack of manpower as their primary objection. They still give oral exams to handicapped persons. DOC appeared to be more receptive to the suggestion that the CW sending test be re-instated in the exam procedure. It was pointed out that in the new draft copy of TRC-24 it is specified that 5 errors in CW copy would be allowed plus a two minute period following the test in which the candidate can "fill in the blanks, if you will".

DOC has requested comments as soon as possible on their new draft proposal of TRC-24. It's a little puzzling that DOC would entertain the idea of reinstating the CW sending tests when they originally removed them citing lack of manpower and just turning down a request for oral examinations for the same reason.

WORKSHOP D

Workshop D was moderated by VE4AD and VE4MA. This workshop concluded that a recommendation should be made to DOC to reinstate the word 'experimental' in the description of the Amateur Class licences.

This group discussed the idea of eliminating the mode designators from 50 MHz and up to be replaced with a 'bandwidth of emission'. The discussion generally centered on a bandwidth of 36 KHz, allowing any mode to be employed that did not exceed that bandwidth. These recommendations were referred back to the committee for further study.

Also discussed was the removal of the packet only restriction on a good part of the 220MHz band also to be

replaced with a bandwidth of emission legislation.

A recommendation is to go to DOC urging them to come up with a clear definition of bandwidth.

This group urged the total removal of sub-band allocations on 6 and 2 metres. Mitch Powell VE3OT argued for the retention of the A1 designated sub-band on the first 100 KHz of 6 and 2. He was supported in his arguments by our rep, Leigh. (Believe me, as an active EME operator, I too would have voted for its retention. A signal off the moon rarely ever will move the S meter on a receiver even with a 25 dB gain preamp with a 1.0 dB or better noise figure, so could not tolerate modulated signals in the same portion of the band. To give you some idea for comparison, most HF receivers have noise figures of 10 dB or more, so EME signals would be as far as 40 dB or so below your HF rec noise level output if it were terminated in a 50 ohm dummy load.)

A recommendation was also made to change the assignment on 200 band as it presently stands for packet only from 221-223 MHz to 223-225. This is an effort to make the band more compatible with standard bandplans for FM repeater operation. This was also referred back to committee for further study.

One motion that did stand was for a change in the bandwidth for ATV (Amateur fast Scan Television). They have been limited to 4 MHz of bandwidth and the recommendation is for a 6 MHz bandwidth. (That would then comply with standard TV transmission bandwidth.)

There was a motion that CARF, and I presume ARRL should encourage research and development in the VHF and up bands.

On the question of radiation from the cable TV systems and

the assignment of carrier channels that parallel existing Amateur bands, the DOC didn't seem too concerned— stating that cable TV systems operate under stringent conditions and that it shouldn't be any problem.

Well, we all know that those conditions are rarely if ever met and maintained. What can leak out can also leak in. (As an aside, I can tune in and receive several cable TV channels on a pair of rabbit ears on my portable basement TV set and it's at least 60 feet from the nearest leaky TV cable. Can you imagine the problems if they were to be allowed to use 'H' channel on that TV carrier—that's the one that happens to fall across the entire two metre band. This is a potential problem

area that the NSARA intend to press the DOC on for better protection.)

Leigh reports that Mitch Powell VE3OT didn't seem to be able to drum up too much support for 'opposition to TV systems in Amateur bands' except from NS and a few others. Perhaps they just don't realize the implications.

As an overall comment both from Randy last year and Leigh this year, they observe that to have taken full advantage of such a meeting, we really should have more than one person attend. However, that is quite impossible when costs are so high due to travel distance. Our congratulations and thanks to Leigh for his able representation this year. □

HERE IS A PARTIAL LISTING OF CARF NEWS SERVICE STATIONS.
P-T IS PACIFIC TIME (SAME FOR SUMMER & WINTER), ETC.

<<< CARF RADIO NEWS SERVICE >>>
<<< BULLETIN STATION SCHEDULES >>>

			MODE & NET
VO100	LARK HARBOUR		
SUNDAY			
WEDNESDAY	1900 N-T	3.785	SSB-VO NET
VE1APB	CHARLOTTETOWN		
MONDAY	1830 A-T	3.7525	SSB-NSARA
THURSDAY	1915 A-T	3.750	SSB-MARITIME NET
VE2TD	STE-CATHERINE		
SUNDAY	2100 E-T	146.46/06	FM-TD INFO ROUNDUP
VE3AMB	WASHAGO		
TUESDAY	1930 E-T	147.81/21	FM-ORR-ORILLIA A.R.C.
WEDNESDAY	1930 E-T	146.25/85	FM-LSR & GEORGIAN COLLEGE
VE3AML	SARNIA		
WEDNESDAY	2030 E-T	147.72/12	FM-CHATHAM KENT NET
THURSDAY	1000 E-T	7.074	SSB-COMSONT
VE3DPO	HANOVER		
SUNDAY	1830 E-T	3.645	CW-GREY BRUCE TFC
VE3JLL	METCALFE		
WEDNESDAY	1830 E-T	3.645	CW-GREY BRUCE TFC
VE3TCA	OTTAWA		
SUNDAY	1745 UTC	14.140	SSB
	1830 UTC	14.070	15 WPM CW
	1500 E-T	21.078	MURRAY & ASCII ITY
	1530 E-T	28.078	MURRAY & ASCII ITY
	1630 E-T	14.078	MURRAY & ASCII ITY
	1800 E-T	3.755	SSB-ONTARS
	1830 E-T	3.630	MURRAY & ASCII ITY
	1845 E-T	146.46/06	FM-STP MINI NET
VE4MG	KELWOOD		
MONDAY	1854 C-T	3.765	MANITOBA EVENING PHONE
VE5RC	SASKATOON		
SUNDAY	2100 C-T	3.625	MURRAY ITY
VE5WM	REGINA		
WEDNESDAY	2130 C-T	146.46/06	FM-RARA 2M
FRIDAY	0100 UTC	3.785	SSB-SASK. PHONE
VE7CYJ	COQUITLAM		
THURSDAY	2000 P-T	146.34/94	B.C.F.M.C.A.
VE7TCA	VERNON		
SUNDAY	1930 P-T	3.618	MURRAY ITY
TUESDAY	1930 P-T	3.618	15 WPM CW

Results

1981 CARF Phone Commonwealth Contest

The first running of the newest of CARF's Contests, the CARF Phone Commonwealth Contest, was a measured success. Participation was poor, but competition was very keen, as proven by the closeness of the scores.

One major mistake on the part of the committee organizing the contest was its accidental scheduling on the same weekend as the very popular Bermuda Contest. There was, however, no serious clash, with many stations exchanging two reports, one for each contest.

Seventeen logs were received, representing ten Commonwealth call areas. Due to the cooperation of non-contest stations, winners' scores were comparable to those earned in the RSGB's 50-year-old CW event, on whose rules this contest was based. The five principal competitors, each from a different call area, succeeded in producing excellent scores, each with almost the same number of bonus QSOs. Much exotic DX was worked, including 9G1, P29, VP5, 9V1, 9J2, H44, 5N0, 9M2 and others.

In order to avoid a repeat performance in terms of participation, 1982's contest will be scheduled at a time (we hope) which will not conflict with any other major contest. As well, due to the necessity of good propagation in both hemispheres, the contest will be scheduled as close as possible to the solar equinox.

The overall winner, Andy McLellan VE1ASJ, will receive the first-place plaque for his superb

efforts in the face of a shortage of antennas. Using only a three-element 10 metre Yagi and a trapped Vertical antenna, Andy came first in terms of both QSOs and bonus points. The top scoring en-

trant in each class in each call area will receive a certificate for their efforts. Thanks to all who participated, and we hope you will return to see more company next year.

COMMENTS

- First contest since 1972. (VE1ASJ)
- I was quite delighted with your initiative and resolved to give the event my full support. (G3FXB)
- It seems to me unfair to British stations not to count separate prefixes as areas for country bonus points... and next year I hope there will be a lot more stations on. (VE5BBD) (Thanks for the computer-done log, VE2ZP)
- We in VK seemed to have little G activity, and not much from elsewhere. (VK7BC)
- A hard grind. May be better when contest becomes better known... When will Europeans get the message that stn in BERU (CARF) not interested in QSO with dime-a-dozen UA-DL-PA-F etc. (VK6FS)
- I think contest would be more interesting if we had prefix multipliers. (VE4RP)
- First time in any contest. (G3ZRL)
- The operator of this station was VE3HWS Gary Penwarden, a handicapped Amateur who is totally dedicated to the hobby. (VE3KFZ)
- Most enjoyable contest and very friendly. Could only manage 3h this year due to work. (GW3MPB)

Class	Callsign	Score	QSOs	Bonus	Place
A	VE1ASJ	6360	544	182	1 *
A	G3FXB	5740	448	175	2 *
A	VE5RA	5730	482	166	3 *
A	VE3GCO	5180	396	160	4 *
A	VP2VGR	4130	390	109	5 *
A	VE5BBD	2915	227	89	6 *
A	G4APL	2465	129	91	7
A	VE2ZP	2395	139	85	8 *
A	VK7BC	2245	113	84	9 *
A	VK6FS	2160	136	79	10 *
A	VE3UD	1685	117	55	11
A	VE4RP	1375	103	43	12 *
A	G3ZRL	815	59	26	13 *
A	VE3KFZ	605	30	23	14
	(op. VE3HWS)				
A	VE3GWM	305	13	12	15
14	VE3KKB	1440	96	48	1 *
14	GW3MPB	390	18	15	2 *

How the leaders made their scores.

QSOs versus bonus point QSOs broken down by band.

Band	3.5	7	14	21	28 MHz
VE1ASJ	13/12	26/14	83/47	110/41	312/68
G3FXB	4/4	16/12	155/61	140/51	133/47
VE5RA	1/1	30/25	120/52	80/29	251/59
VE3GCO	7/6	15/15	195/67	54/25	125/47
VP2VGR	—	—	115/39	53/28	222/42

Higher Baud Rates for the VUcom 1

By J. Gary Mills VE4CM
and
Ed Hartlin VE3FXZ

As many Amateurs are discovering, the VUcom 1 is a fine and useful piece of equipment which is available in limited quantities to licenced Amateurs at a very modest price. Some versions of the VUcom offer a wide range of baud rates, including the higher ones which enable you to make better use of the speed of a microcomputer. This article will explain how to add these higher baud rates to the earlier model VUcoms.

The modification to be described pertains to the VUcom 1, which can be identified either by the decal on the front of the terminal, or by examining the baud rate selector switch on the rear panel. On the VUcom 1 this

is a 5-position switch calibrated from 75 to 300 baud. This modification will add 600, 1200, 2400, 4800 and 9600 baud without affecting the existing baud rates. You will need four 7400-series TTL ICs and a few

small components; total cost should not exceed \$10. You will have to do some quite fine surgery and soldering, but should be able to complete the modification in a few hours of interesting work.

Modifications

All the changes are made on the 1CGE board, the first board in the VUcom logic module. All the ICs on this board have a grid location consisting of a letter and a number; this grid location will be used to identify ICs in the step-by-step instructions which

follow. Notice that about half the board is blank, there is plenty of room to install the additional components. Four cuts will be required in the circuit traces, three on the top (component side) and one on the bottom. Several connections are needed

between the existing and the added circuitry; these are most easily made using 30 AWG wirewrap wire. Strip about 3 mm, wrap it around the IC pin on the bottom of the board, and solder. A small connector will be added for the new wires to the baud rate switch. If you install this connector on the edge of the board above the reset push-button, the four ICs can be

mounted behind it and both Vcc and ground will be conveniently available. See Fig. 1 for a suggested layout.

The baud rate switch has an adjustable stop and plenty of unused positions. All you need to do is move the stop five more positions clockwise, and solder the new wires to the five new switch terminals made available by moving the stop. You will

notice that moving the stop also moves the locating tang; you will have to drill a new hole in the panel to have the existing baud rate markings line up properly. You might like to consider moving the baud rate switch to a much more convenient location on the keyboard unit; there is more than enough room for it between the LED indicator panel and the LOCAL switch.

Step-By-Step

1. Remove the logic module from the VUcom chassis, being careful to note where each connector goes. Murphy's Law will apply on reassembly. Remove the 1CGE board from the logic module, it is the full-sized board nearest the cover when the VUcom is assembled.

2. Prepare for surgery. The first circuit trace to modify begins at D10-6 and runs to D6-3 and to D5-3. (D10-6 means pin 6 on the IC at grid location D10; similar notation will be used for all references to the existing circuit.) This trace cannot be followed visually because it runs under ICs and the power bus, you must use an ohmmeter to identify it positively. Be sure you have the right trace before you make any cuts. The first cut is made in the line between D6-3 and D5-3, just where it leaves D6-3. Be careful, the lines are very close here.

The second cut is made in the same trace, but on the other side of D6 and on the other side of the feed-through which carries the branch to C7-3. This leaves D6-3 connected only to C7-3; check this with your ohmmeter.

Next, turn the board over and install a jumper wire from C8-3 to D5-3 on the bottom of the board. You should now find

continuity between D10-6, C8-3 and D5-3. Verify this. This completes the modification to the first trace, the other two are simpler.

3. Again on the component side, the second trace to be modified runs from C10-4 to C2-1 and to pin 37 on edge connector J7, with a side branch to D8-1. The cut is made where the line from C2-1 emerges from under the power bus and runs over to the edge connector.

4. Now turn the board over and on the bottom locate a trace which runs from C10-5 to pin 8 on edge connector J8, with a side branch under the power bus to D8-2. Cut this trace just where it leaves C10-5. You should still measure continuity between pin 8 on J8 and D8-2. This completes the destruction, construction next.

5. This is the boring part. You need to make 58 holes in the blank area of the 1CGE board to mount the added ICs, plus whatever are required to mount the few discrete components and the new connector. The easiest way to make the holes for the ICs is to get a piece of circuit board which is already machine-drilled for mounting DIP sockets and secure it temporarily over the exact location on the 1CGE where you

want to add the ICs. Tape will do, but a pair of small C-clamps work much better. With the template in place, drill through the existing holes in it and through the 1CGE board using a #60 drill bit.

You can insert the ICs through the holes and solder directly to the IC pins, or use either soldertail or wirewrap sockets. Wirewrap is recommended; it is neat, easy to do, and in the unlikely event of a wiring error easy to change. You can use a drop or two of cement to hold the sockets in place, but should find that the socket pins fit tightly enough in the #60 holes to hold the fully-seated socket quite firmly.

Decide where and how you're going to mount the six resistors, one diode, one capacitor and new connector; and drill the holes for these before mounting the IC sockets; it's easier to work with a flat surface.

6. Now that all required holes are drilled, install the sockets, components and connector and wire up the circuit according to the circuit diagram, Fig. 2. On the 7400, 7404 and 7408 ICs it is of course immaterial which gate on the chip is used in which location in the circuit, as long as the

correct type of gate is used in each location, and you will undoubtedly find that you can make a neater job by changing some or all of the assignments. Technically, the inputs to the unused NAND gate on the 7400 and the two unused inverters on the 7404 should be grounded.

7. Prepare a five-wire cable long enough to thread through the VUcom chassis cutouts from the added connector on the 1CGE board to the baud rate selector switch. A five-wire length from a piece of ribbon cable works fine. On one end put a connector to mate with the added connector; the other end can be fanned out and the leads soldered directly to the baud rate switch terminals. It helps to get them in the right order so

that each clockwise click of the switch gives the next higher baud rate.

8. All that remains is to make the connections between the added circuit and the original VUcom circuits. There are eight of these connections to make (to J1-12, J7-37, D3-1, D10-6, D8-2 C10-5, D8-1 and D6-3); all are shown on Fig. 2. If you used wirewrap it is easiest to solder to the appropriate pad first, then lay the wire along the board in a straight line to the correct point in the added circuit, cut and strip the free end, then wirewrap.

9. When you removed the 1CGE board from the logic module, you may have noticed that there is not a lot of clearance between circuit boards in the module and

between the 1CGE board and the frame. Cut off wirewrap pins and any other projections you have added to the board short enough to assure clearance when the logic module is reassembled.

10. Before reassembling, do a last careful check of your handiwork for wrong connections, bridged circuit traces, bits of loose wire, missed Vcc or ground connections to the added ICs, etc. If you did something wrong and the circuit doesn't work the first time, you will quickly learn something else about the VUcom: any point in the logic module where you might like to do a voltage or waveform check is completely inaccessible when the module is assembled and installed in the VUcom.

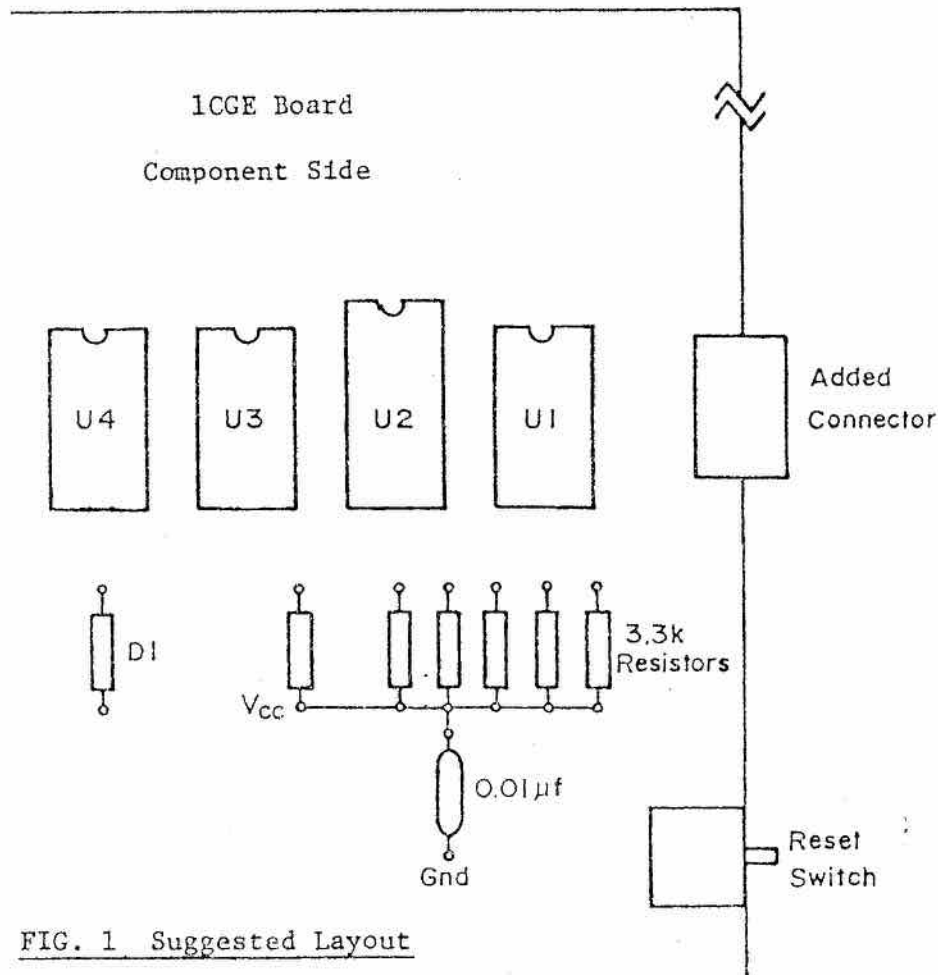


FIG. 1 Suggested Layout

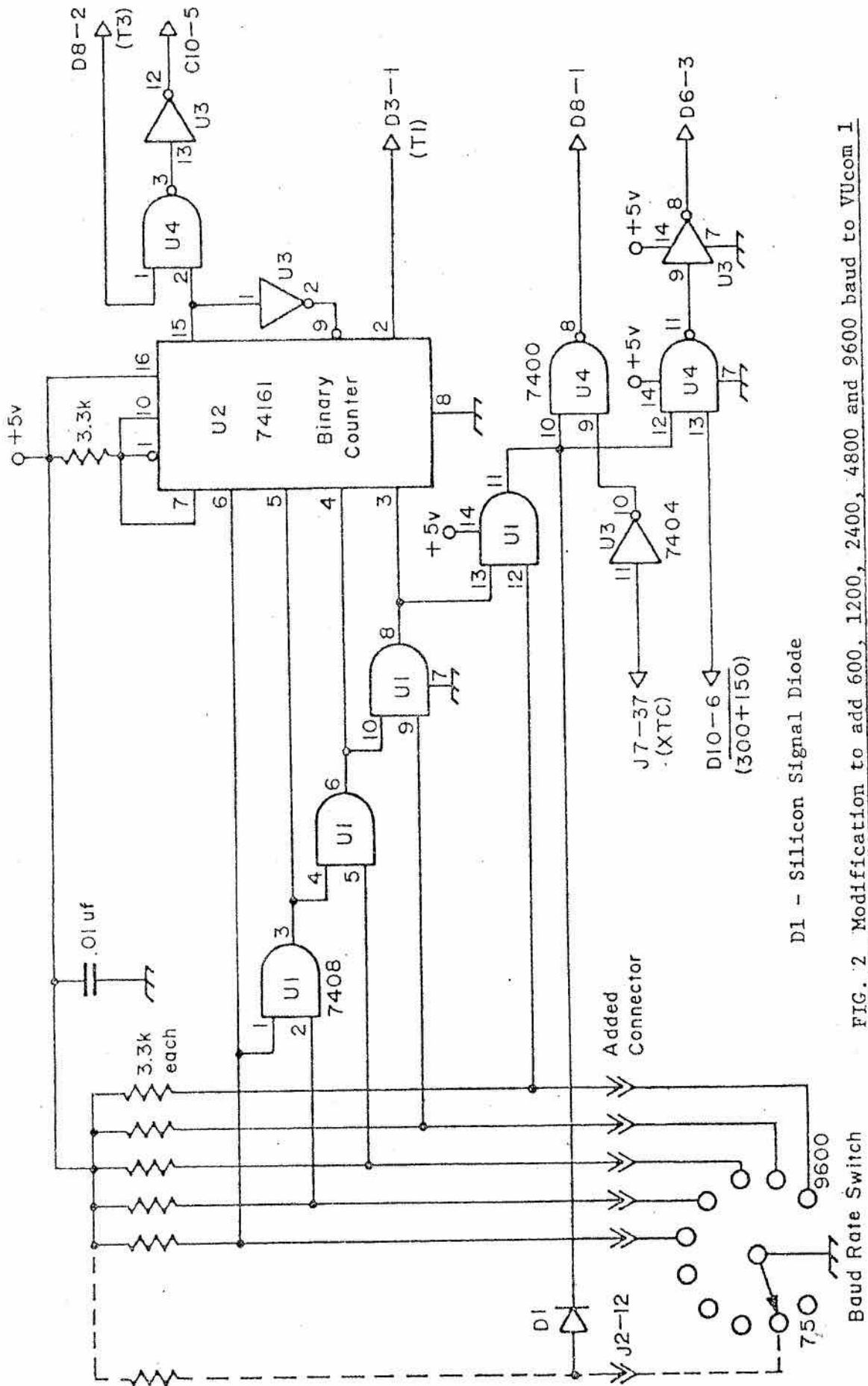


FIG. 2 Modification to add 600, 1200, 2400, 4800 and 9600 baud to VUcom I

Operation

When you select any of the original baud rates, from 75 to 300 baud, there should be no change in the operation of the terminal. As you select the higher speeds, operation is still the same except faster – up to 32 times as fast as before the modification. This speedup also affects the REPEAT key; speed is derived from the baud rate. If you use the repeat key a lot at high baud rates, you will need to make modifications to the repeat circuit to achieve a reasonable repeat speed.

How it Works

The logic circuits of the VUcom are not exactly simple, and the description of circuit operation given in the logic module manual is not exactly complete, one can spend fascinating hours trying to decipher in detail how the circuits work. Basically, the transmit and receive clock signals at the selected baud rate are independently generated from a signal called XTC by two programmable dividers and a JKFF (1CGE board ICs D5, D6 and half of B7 for the transmit clock; C7, C8 and the other half of B7 for the receive clock). The XTC signal has a frequency of 15.723 KHz. When you select a baud rate between 75 and 300 baud, the gating between the baud rate switch and the dividers sets the divide ratio of the dividers. At 110 baud, for example, the dividers divide the XTC signal frequency by 142 to give the required 110 Hz signal.

For the added higher baud rates, dividing the XTC signal does not give an accurate enough frequency. For example at 4800 baud we would require the divider to divide by 15723/4800, or 3.28. Since we can only set the chain to divide by even whole numbers, we would have to select divide-by-4; this would give us 3930Hz, not

nearly good enough.

With the modified circuit when you select any baud rate from 600 to 9600 baud the divider chains in both transmit and receive clock circuits are set to divide by 174. The clock signal for the dividers is changed from XTC to a signal derived from another VUcom signal called T3, which has a frequency of 1.6667 MHz. At 9600 baud the frequency of T3 is divided by 174 to give a 9580 Hz signal, only 0.2% off the nominal value and well within tolerance. At baud rates of 600 to 4800 the T3 signal frequency is divided by IC U2 before being applied to the clock dividers. (To be precise, a signal called T1 which has the same frequency as T3 is divided by U2 and the output of U2 is logically ANDed with T3. This was done to remove a nasty glitch on the output which was caused by the propagation delay of U2.) The divide ratio of U2 is selected by the baud rate switch with the help of U1. At 4800 baud the frequency applied to the clock dividers is one-half the frequency of T3, at 2400 baud it is one-quarter, and so on. These "sub-harmonics" of T3, divided by the fixed 174 ratio of the receive and transmit clock divider chains, produce the required baud rate signals for the intermediate speeds.

Conclusion

The authors have been using their VUcoms with Motorola microcomputers at the higher baud rates and find the faster operation to be terrific. VE4CM has programmed his computer to write 15 lines to the terminal at 9600 baud, then wait for a keyboard entry. The screen fills in a flash, hit RETURN and the computer displays the next 15 lines just as quickly. If you are searching for a particular part of a rather long printout, you can put the VUcom in scroll mode and select a more modest baud rate, then sit back and

watch the screen as line after line rolls by until you find what you want. Depending on the length of the lines, a baud rate of 1200 or 2400 will give you time to scan and halt the display before what you are looking for has disappeared, which is almost impossible to do at 9600 baud. If you have junior operators you are teaching to use the microcomputer, 9600 baud can be rather overwhelming for them while 300 baud is painfully slow for the OM; one of the intermediate speeds will give a compromise acceptable to both. Whatever your application, once you have tried the higher baud rates you will not want to go back to 300 baud and watch the VUcom slowly print line by line.

Acknowledgements

This article combines the contents of two previous articles which have been published in CARTG's "RTTY NEWS", "Run Your VUcom at 9600 Baud" by VE4CM and "Intermediate Baud Rates for the VUcom 1" by VE3FXZ. It is written especially for those VUcom 1 owners who are still patiently watching their terminals perform at 300 baud or lower, and would like to add the higher rates all at once. If you would prefer to add only 9600 baud, or if you have already added 9600 and would like to try the intermediate speeds, the earlier articles will be more useful.

For information on current availability of VUcom terminals (and of Teletype equipment) for use by licenced Canadian Radio Amateurs, see the latest "RTTY NEWS" or contact Croft Taylor, VE3OR, Pioneer Amateur Radio Club, Box 3246, Station D, J.Gary Mills, VE4CM
1019 Weatherdon Ave.
Winnipeg, Man. R3M 2B5

Ed Hartlin VE3FXZ
Milton Ave., RR 1
Kingston, Ont. K7L 4V1

New Finals for the Atlas 180

I am a life member of CARF and am very happy with TCA. I am also the owner of one of the early Atlas 180's and had the misfortune of burning out the finals. Due to a very lengthy search for substitutes, this fine little rig was on the shelf for two years.

Quite by accident I obtained a pair of transistors that run much cooler than the original ones. I would like to pass along the information to any fellow Amateurs who would like to try them. The original finals are A5012 with single stud mounting

bolt. The ones I am now using are Motorola MRF 454 030. These are double screw mount type and require some chipping away of the circuit board. I used self-tapping screws to fasten them to the heat sink.

The MRF 454 has a much greater metal surface in contact with the heat sink, allowing higher output with much less chance of thermal runaway. I had to adjust the bias a bit and tweak the balanced modulator.

For proof of how the rig sounds, listen for me this summer on 14.140 and 3.755 on

the commercial fishing vessel CHARIS. I am captain and owner of this 40-foot salmon troller. I will be fishing off the west coast of the Queen Charlotte Islands, my call will be VE7BVZ/MM.

Wayne Wagner VE7BVZ
6970 Carmel Way, RR 1
Brentwood Bay, B.C. V0S 1A0

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

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

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VO1NP Nate Penney, Box 10, Shoal Harbour, Nfld. A0C 2L0. 709-466-2931.

CARF recently checked with the DOC Head Office on the current status of the lists of forbidden countries, third party traffic and reciprocal operating arrangements. The official lists as of Sept. 1, 1981 are those published in notice DGTR 019-80 in the Canada Gazette of Nov. 22, 1980, with the subsequent addition in 1981 of Haiti and Australia to the third party agreements. Australia, Haiti and Ireland were added to the reciprocal agreements this year. The lists are reprinted here as obtained from DOC.

RECIPROCAL OPERATING AGREEMENTS

Canada has concluded agreements or arrangements with the following countries to permit licensed Amateur radio operators to operate radio stations while temporarily in the other country: Australia, Austria, Barbados, Belgium, Bermuda, Botswana (Republic of), Brazil (Federative Republic of), Chile, Colombia (Republic of), Costa Rica, Denmark, Dominica, Dominican Republic, Ecuador, Finland, France, Germany (Federal Republic of), Greece, Guatemala (Republic of), Haiti (Republic of), Honduras (Republic of), India (Republic of), Indonesia (Republic of), Iceland, Ireland, Israel (State of), Luxembourg, Netherlands (Kingdom of the), New Zealand, Nicaragua, Norway, Panama (Republic of), Peru, Philippines (Republic of the), Poland (People's Republic of), Portugal, Senegal (Republic of the), Sweden, Switzerland (Confederation of), United Kingdom, United States of America, Uruguay (Oriental Republic of), Venezuela (Republic of).

Negotiations for the establishment of similar agreements or arrangements with the Republic of Bolivia, Cuba and Italy have been initiated.

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THIRD PARTY TRAFFIC AGREEMENTS

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

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

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

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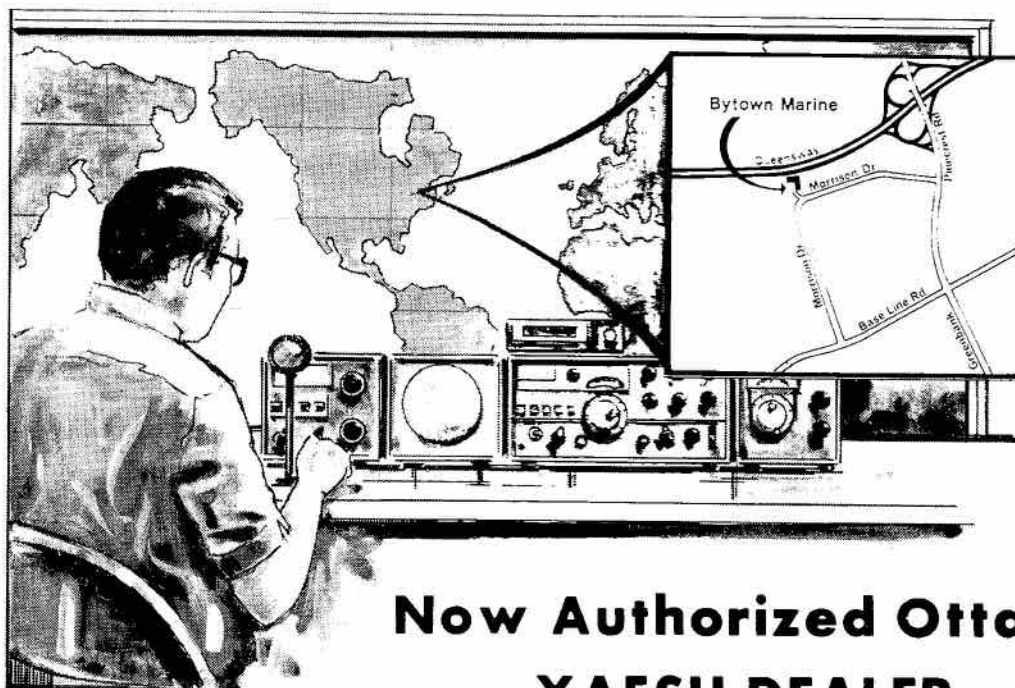
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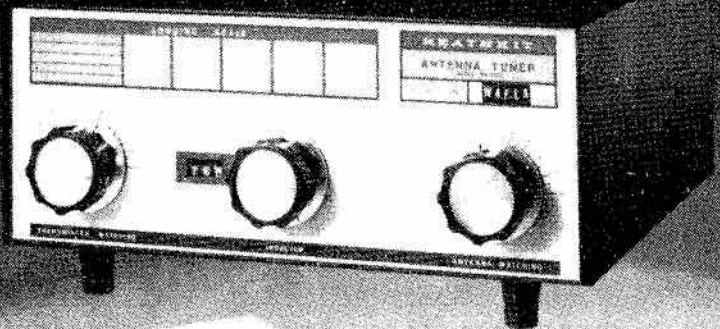
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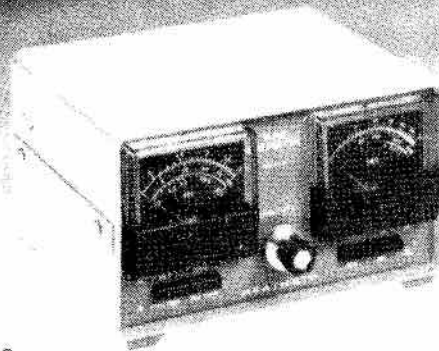
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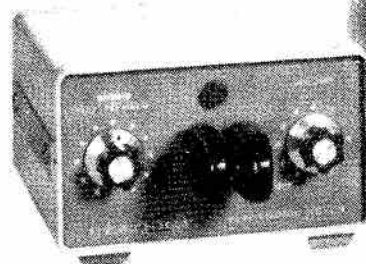
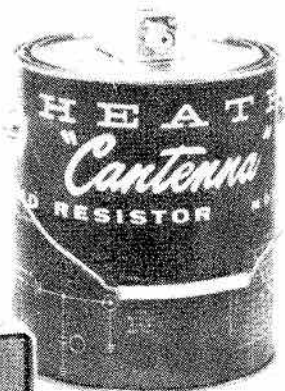
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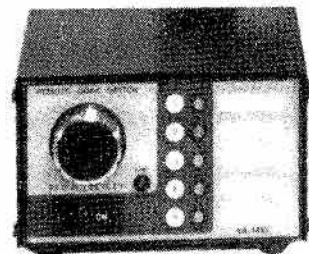
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