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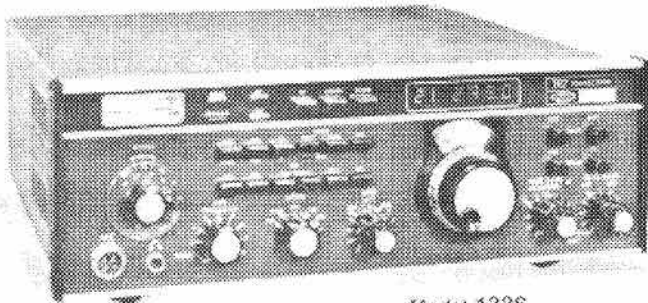
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OCTOBER 1981

The Canadian Amateur Radio Magazine

**CA★RF**

**Annual  
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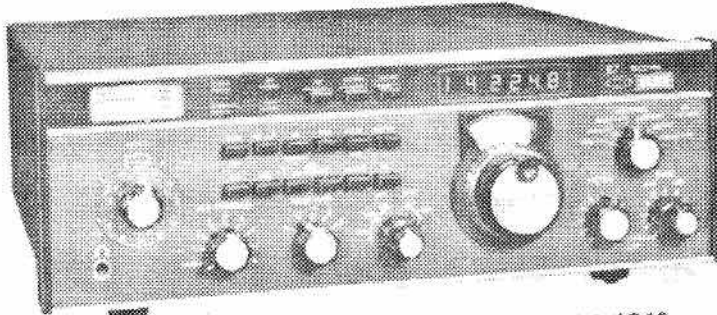
A Pictorial  
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Model 1336



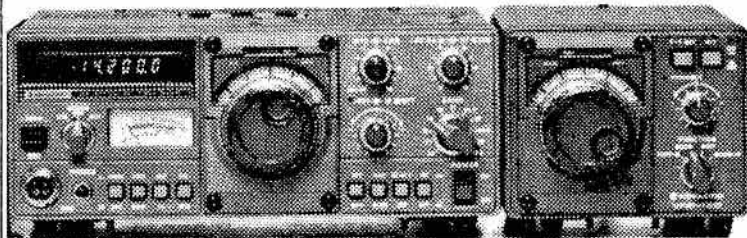
**TR7** Solid State  
Continuous Coverage  
Synthesized HF System



Model 1240

**R7** Synthesized General  
Coverage Receiver

**hygain**



TS-130S

VFO-120

**Kenwood**

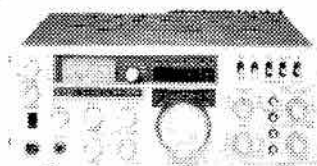
**TS-130S V**

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



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FT-107M



FT-107D

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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.

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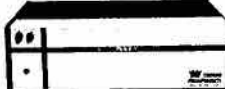


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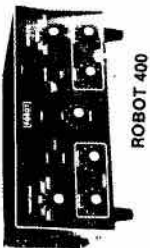


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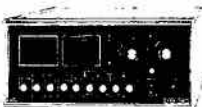
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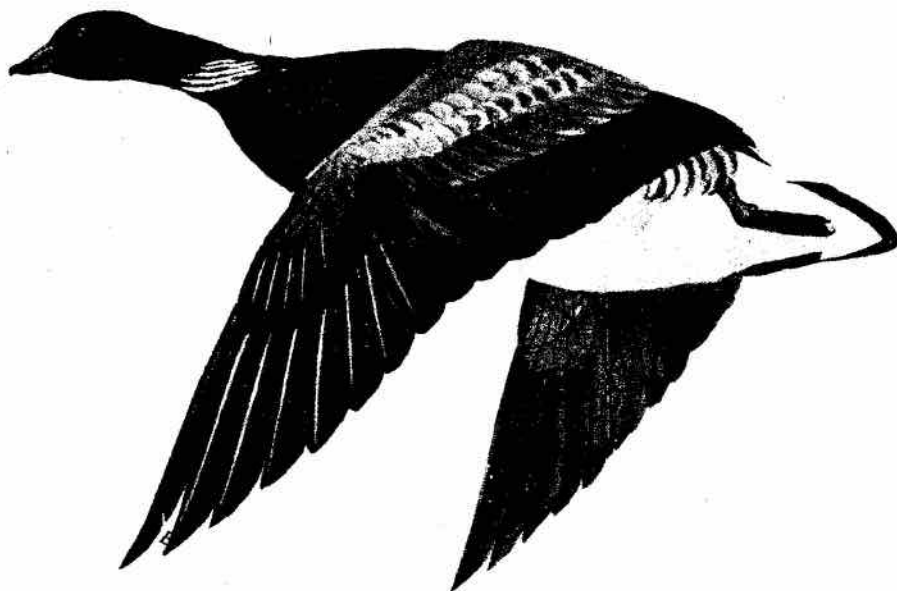
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FT-707 is shown with optional FV-707DM VFO & Scanning Microphone



## 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 uV/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.



**2 METER  
FM  
TRANSCEIVER**

# TR-7800

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

### FEATURES

**15 multifunction memory channels, easily selectable with a rotary control**

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

**Internal battery backup for all memories**

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

**Priority alert**

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

**Extended frequency coverage**

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

**Built-in autopatch DTMF (Touch-Tone) encoder**

**Front-panel keyboard**

For frequency selection, transmit offset, memory programming, scan control, and selection of autopatch encoder tones.

**Autoscan**

Entire band (5-kHz or 10-kHz steps) automatically scans. Automatically locks on busy channel. Automatically returns to memory channel after several seconds of busy channel or mic PTT button is pressed.

**Up/down manual scan**

Entire band (5-kHz or 10-kHz steps) automatically scans with UP/DOWN microphone button.

**Repeater reverse switch**

Handy for checking signals on the repeater or for determining the correct offset.

**Separate digital readouts**

Transmit frequency (both receive and transmit) and memory channel.

**Selectable power output**

High (50 W) or Low (10 W).

**LED bar meter**

For monitoring received signal level and RF output.

**LED indicators**

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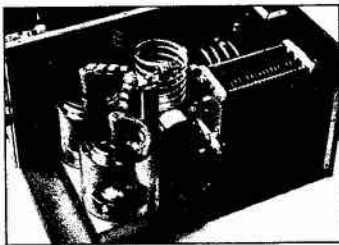
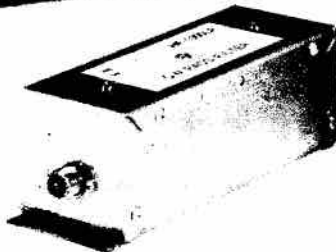




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LINEAR  
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**Hammond  
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**HF-1000LP  
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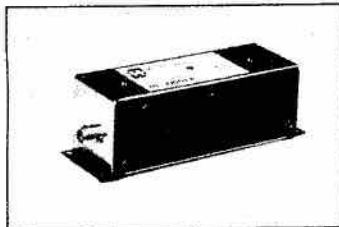


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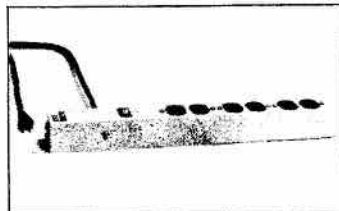
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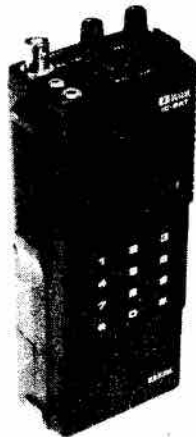
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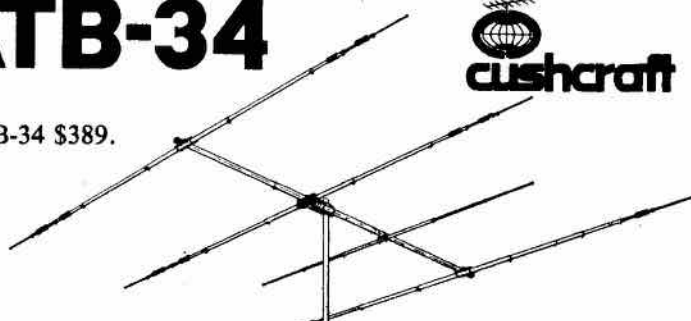
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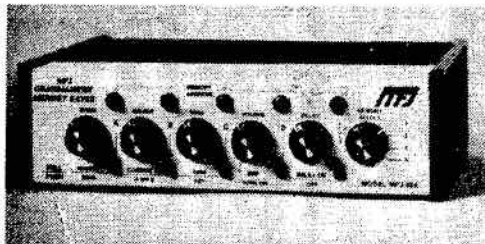
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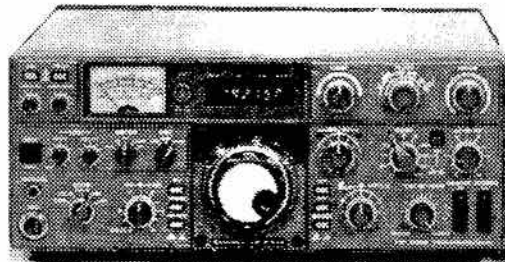
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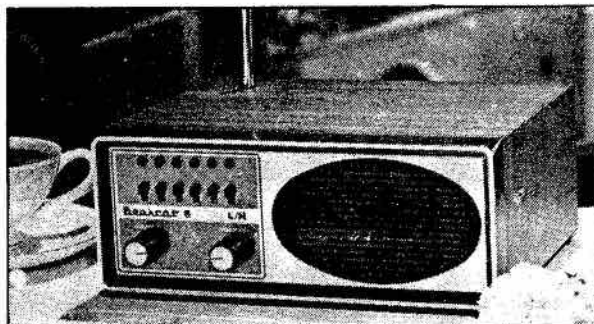
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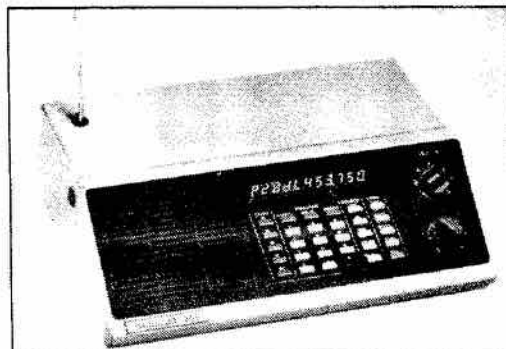
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## The All-American DX Machines

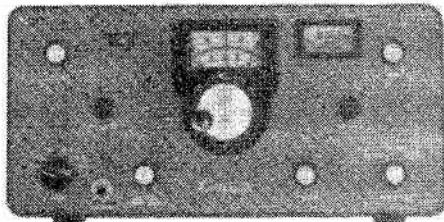


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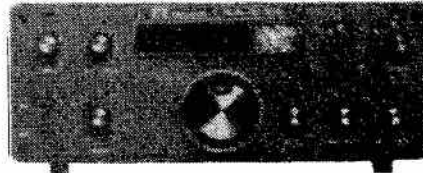
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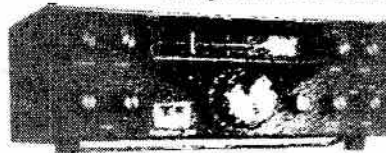
Ideal for the novice as a beginning rig, for the CW op on a budget, for everyone as a second rig, CENTURY-21 goes on making friends the world over! 70 watts input, 80 through 10 meters, all solid-state, full break-in, off-set tuning, broadbanded, overload-protected built-in power supply. See this CW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



### THE NEW DELTA

The notable change in hf transceiver design, DELTA offers all 9 hf band coverage, super selectivity, 200 watts, and all the features you want in a new smaller size at a new lower price!

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  $\mu$ 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 $\frac{3}{4}$ " 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**



### NEW ARGONAUT 515 — THE BEST IN QRP.

The latest in this famous series the new 515 features improved receiver sensitivity (0.35  $\mu$ V), new heterodyne VFO, new bandspread on 10 meters (four 500 kHz segments), new broadbanded final amplifier design, new dial pointer zero-set, new LED RF output indicator (flashes on 2-watt peaks), new tilt-up bail, and new styling in black and bronze. And it has all the features that made its predecessors famous: 80-10 meter coverage, offset receiver tuning, PTT, full CW break-in, SWR bridge, integral TVI filter, go-anywhere size. Work it at HAM TRADERS. **Only \$629.**

(ARGONAUT 509 CLEARANCE \$449.)

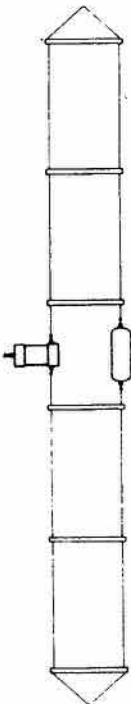
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## ANTENNA PRODUCTS FROM B & W



### MODEL 370-15

#### BROADBAND FOLDED DIPOLE ANTENNA

Patent Pending

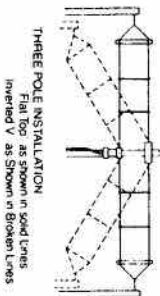
- Features
- Completely assembled.
- No adjustments necessary.

\$229.00 +\$5 S&H.. IN STOCK AT WSI RADIO

#### General Specifications

The new B & W 370-15 is designed for operation from 3.5 MHz. and comes fully assembled and pretuned. It is all weather-rated, power handling capacity 2 KW.-4000 watts PEP CW/SSB, and permits use of the full capabilities of today's 5 band transceivers plus the new bands of 30, 17 and 12 meters. An added feature is one feedline operation for all bands and allows high performance for the novice, general, advanced and extra, as well as the MARS operators. The 370-15 is fabricated with a balun stranded 40% copperweld wire and high impact space-age plastic with a balun and matching network. The feedline impedance is 50 Ohms and comes equipped with a low loss PL-259 coax cable connector. The 370-15 may be installed as a flat-top antenna, inverted "V" or a sloper with the low end as close as 6 feet to the ground. For the best omnidirectional radiation, installation as a sloper is suggested.

#### TYPICAL INSTALLATIONS

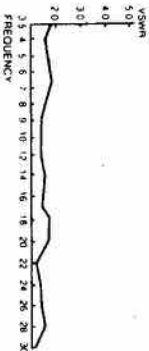


THESE POLE INSTALLATION  
Flat Top as shown in Solid Lines  
Inverted V as Shown in Broken Lines



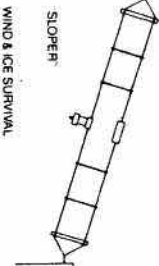
#### TYPICAL FOLDED DIPOLE WITH BALUN FOR 3.5-30 MHZ

#### TYPICAL SWR CURVE FOR ABOVE ANTENNA



**MODEL 370-15-65** (Available on special order)  
4-30 MHz-65' long

**MODEL 370-15-185** (Available on special order)  
2-20 MHz-185' long  
(All other specifications similar to Model 370-15)



WIND & ICE SURVIVAL  
WIND-100 MPH  
ICE-150 MPH with 3 Pole System  
ICE-Accumulated  
40-50 LBS  
80 LBS with 3 Pole System

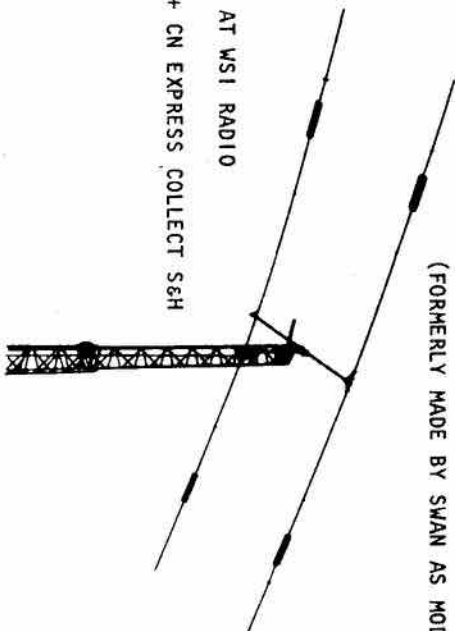
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SWL RADIOS—HAM RADIOS—ANTENNAS

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## ANTENNA PRODUCTS FROM B & W

(FORMERLY MADE BY SWAN AS MODEL TB2A)



### MODEL 370-18

#### ECONOMICAL 2 ELEMENT TRI-BAND BEAM

- Feature
- Portable and lightweight.

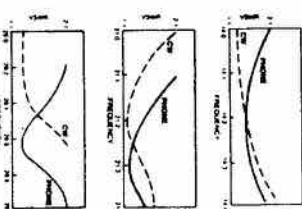
#### General Specifications

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

Shipping Weight: 33 lbs.

Power Rating: 1 KW-2 KW PEP

#### TYPICAL VSWR CURVES—MODEL 370-18—SPECIFICATIONS



Average Forward Gain	5 dB
Front to Back Ratio	16-18 dB
Boom Length & Diameter	6.5' x 1.5"
Longest Element	27'-8"
Turning Radius	14'-3"
Maximum Wind Survival	80 MPH
Wind Load @ 80 MPH	60 LBS
Wind Surface Area	1.8 SQ. FT
Net Weight	18 LBS.

WRITE FOR THE FREE WSI JUMBO JET CATALOG. **BARKER & WILLIAMSON**—10 Canal St.—Bristol, Pa. 19007—215/788-5581

+ WSI'S FREE LUMINOUS KEY TAGS.....

## Guest Commentary

# U.S. 20M Phone Band Expansion Proposal

Further to the "Letter to FCC" that appeared in the March issue (1981) of TCA concerning ARRL's proposal to enlarge the U.S. phone band on 20 metres by starting the low end at 14,150.

Such a move would obviously squeeze Canadian Amateurs, along with the rest of the world, into only 50 Kcs. for phone.

We Canadians, who operate 20 phone, know only too well that many U.S. CW operators QRM our phone operations above 14,100. Also non-U.S. CW can be found along with commercial CW and teletype etc.

Many years ago a 'gentlemen's agreement' was established that was supposed to keep CW operation out of the band from 14,100 to 14,200. Obviously, this 'agreement' has been ignored by many operators, and some have never been aware of it.

If the FCC approves the ARRL proposal then the 'agreement' (such as it has been) must be replaced by a hard and fast rule that establishes that no CW operation, or other non-phone signals, be permitted between 14,100 and 14,150 in the U.S. or Canada; as a start. Additional problems will be the seeking of co-operation of other countries in this respect. Also that of foreign commercial stations and the international nuisance, the Woodpecker!

It must have occurred to the many operators who take part in the Trans-Canada Net opera-

tions that our area of activity will be cut in half if the ARRL proposal goes through. Making it most difficult for the handling of the large volume of phone-patch traffic normally carried on off the net frequency. The net now operates on weekends. The time when QRM is at its worst. Even now with the 100 Kcs. in which to operate. Also, VE8 RCS will be required to move from their established frequency to below 14,150. No doubt you can picture what it will be like with only 50 Kcs. in which to work.

On 80 metres, over the years, as the U.S. phone band widened, the Canadian segment moved lower to retain the same size band section. These moves got us away from U.S. phone QRM but gave us in its place U.S. CW interference in our phone segment. However, due to the inherent propagation on 80 metres it has been largely a North American band and additional QRM from foreign stations has not been a problem. Making a similar move on 20 metres to retain the present size of the international portion would not be possible for reasons that should be obvious. So, we, and the rest of the world will be packed in between 14,100 and 14,150.

With the continual increase of Amateur stations internationally, the VE/VO situation on 20 phone will become chaotic. Not only that but the U.S. Amateur fraternity have clamoured for wider phone bands over the years and they usually got them. How long will the proposed

additional 50 Kcs. for U.S. phone on 20 metres continue to satisfy? With the ever-increasing use of high-power amplifiers by our U.S. cousins; it is a good question. But their problem is of their own making. Also, how long will they be happy with their phone segments on the other bands? Getting 50 more phone Kcs. on 20 could very well whet their appetites.

With the 10 metre band just about folded for the duration, and 15 not what it could be, more VE/VO operators would be looking at 20 metres for their phone operations. But with only 50 Kcs. in which to operate (if the U.S. proposal goes through) makes prospects very poor. Our nearest foreign QRM will be (and is now) the numerous Latin-American stations that will be squeezed into this segment along with the rest of the world.

We must also consider that if the proposal goes through for U.S. 20 metre phone, our effectiveness as a Canadian public service group will be seriously hampered due to the loss of the 50 Kcs. in the international phone segment.

In other endeavours it has often been said - "If you can't beat them, join them". And we often did. In Amateur radio it's not that easy. It would be the end of us! But, in losing half of our operating area, we'll be 50% closer. It will just prolong the agony!

Floyd G. Gribben VE7XN  
ARRL  
CARF



# Letters:

## CQ TEST

I don't know how the rest of the old timers who listen in on the bands feel but I object strongly to hearing pretty near every weekend "CQ Test".

Contests are a fine thing. I should have said 'were' – but all sense of proper procedure is put aside for the sake of obtaining as many stations in as many different countries/districts as possible in the time allotted to the contest.

Four a year is plenty and the bands were meant for "Pleasure and public service". There is no way you can get a station in the contest to stop and accept emergency traffic and this is against the code that the Amateur agreed to when he/she accepted the call or licence.

Please readers, write and let me know how you feel about these things or am I just an old fogey complaining about my pleasant and joyful hobby?! Ticket 1935.

Gordy Webster VE7BIR  
2079 Byron St.

Victoria, B.C. V8R 1L8

**I just turned my rig on. The first thing I heard was CQ test. I am not against contests, but we must use restraint in declaring contests every weekend. The same must be said for Nets. Try 75 metre phone or 80 CW any weekday night. Wall to wall nets. There are more on air activities to be had on the air than just these two, yet, unless you participate in these two activities you get in the way. It ceases being fun.**

## TCA & THE AMATEUR

I would like to congratulate TCA for the fine articles that have been appearing in the last few months. It is nice to see the editorial direction changing

from one of blasting CRRL to one of providing some stimulating competition and perhaps another point of view.

I particularly enjoy articles with a historical point of view, especially the "Wireless Hall of Fame". Many newcomers to Amateur Radio look to TCA as one of the few places to get information on changes to radio regulations, how to put together a station for maximum efficiency. How to solve some TVI and Interference complaints, How to homebrew some accessories, How to get your club off the ground and running, How to provide public service and make your community aware of your skills. The list is endless.

As a hard working 'Amateur' who subscribes to CRRL and CARF, I encourage you to keep working very hard for the hobby. Let's make lots of friends and enjoy a fine hobby too.

Lou Beaubien VE7CGE  
Burnaby, B.C.

## MEMORIES

In the June 1981 issue of TCA under "News Briefs" I noticed an item about J.P. Henderson VE3AF being assigned the call sign 3AF in 1922. That same year I was assigned the call sign 3AG. Unlike J.P., however I allowed my licence to expire after a few years. Although I maintained an interest in

Amateur radio ever since, it was not until this year that I again tried the DOC examination and gained my advanced 'ticket' and the call VE3MUG.

The point of this note is the memories it renewed to see the call immediately preceding my original call and to learn to whom it was issued. Good luck to VE3AF. May he continue to be an active Amateur for many more years.

Eric Shulver  
Eric Shulver VE3MUG  
Scarborough, Ont.

## TCA DELIVERY

I have an article which I hope to submit in the near future for TCA. Please advise where I should send it.

I don't know about other members, but I have been getting poor delivery on the TCA in the past eight months or so.

Although no specific ones come to mind right now, I have noticed that many meeting announcements, Swap Shops, etc. and other date information bits are coming out too late or with too little lead time to even think of attending. I now do see one example that is typical. On page 45 of May TCA, the 1981 Amateur Symposium is announced as May 23 in Winnipeg. If I had wanted to attend, TCA would have arrived too late as I got it May 24. For such an announcement to be worthwhile, at least to those far removed from Winnipeg, it should have got to me a week before.

I really don't know what CARF can do to help things out. First Class Mail might help but it certainly would cost more. Perhaps, CARF should investigate alternate methods of moving TCA, at least to major centres outside Southern Ontario. It might do some good also

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

if CARF had a chat with the Postal authorities in Ottawa about our ridiculous mail service and the rates that continue to go up and up.

Gordon Woroshelo VE3EYW  
Manitouwadge, Ontario

**To answer your first question, send all non-technical articles to me, care of the address on the first page of TCA. Send Technical articles to Ed Hartlin VE3FXZ, Box 356, Kingston, Ont. K7L 4W2.**

**The second part of your question is harder to answer. The post office is not an efficient organization by any stretch of the imagination. Of 100 pieces of mail, mailed to me or by me, only about 75 ever get delivered. To correct the situation, private industry must get involved and support a private mail service. Postal strikes must become illegal; after this summer's strike we can all see that. In TCA's case, our schedule was severely affected by the strike, and we hope to return to normal by the November issue.**

**As for event announcements, they are usually published as I get them. There is a two-month lead time, however, so anything occurring during the month I receive the announcement will be outdated. The symposium was announced in April TCA, page 16.**

#### ODXA

After seeing both of the other SWL clubs in Ontario represented in the June TCA, I couldn't help but write in and let everyone know about the Ontario DX Association (ODXA).

In 1974, a group of SWBC DXers in and around Toronto decided to organize the many listeners of SW broadcast stations into a club. Many showed interest and the club's first bulletin was printed in February 1975. At the moment, I believe we have about 200 members on the roll.

While there are get-togethers and several DXpeditions every year, most of the club's energy goes into our monthly

bulletin, "DX-Ontario". The bulletin, usually about 50 pages in length, contains technical tips; a "Listener's Corner", where members can express their views on the interesting to ultra-boring programs found on the SWBC bands; a QSL column; a very up-to-date scan on what new stations are appearing and what stations are disappearing on the bands, as well as schedules in general; two loggings columns, one covering the higher frequency "International Bands" where the powerhouses hang out, and the other concentrating on the "Tropical Bands" (120 through 49 metres) where one finds countless low powered stations broadcasting to their own countries only. Lastly, there is detailed information on the medium wave scene which consists mainly of loggings and QSL's reported by members on both domestic and foreign medium wave broadcast operations.

Only Ontario residents may become contributing members to ODXA, but anyone may subscribe to the bulletin.

For more information, write to our membership secretary at R.R. #3, Campbellville, Ontario LOP 1B0, or our chairman, Harold Sellers, at 3 Camrose Crescent, Scarborough, Ontario M1L 2B5.

Maybe you've already heard Harold on Radio Canada International with the "Marketplace Report", all about receiving and receiving-related equipment available on the market.

Richard R. McVicar VE3MHJ  
Prescott, Ontario

#### THE SECRET WAR

I read the book review by Doug Burrill VE2CDC, in the July/August issue of TCA and, since I'd seen some of the same books, this was especially interesting to me.

Doug might have noted that Robert Ford's Tibetan call in the 1940-50 period was AC4RF. Some of your CARF DX hounds

may have worked him then. Ah, those AC4 calls! When I was a beginning Amateur (pre-WWII) these were the ultimate DX - needless to say, I never worked one.

In "The Secret War" Brian Johnson pays even stronger tribute to the part played by Amateurs and Amateur radio in the backroom struggle. What caught my eye immediately was a photo of a 1940s Hallicrafters S-29 in all of its black-crackle glory; these receivers (covering 10 metres ...VHF!) were used by the boffins to monitor Jerry radio direction beams. They were about the only equipment available for the freq; the story goes that a Royal Sigs officer went to a London Amateur emporium and on his personal credit bought all the stock.

Julian N. Jablin W9IWI  
Skokie, Illinois

#### 15 METRES

Enclosed my renewal, just wanted to let you know I enjoy TCA. Keep up the excellent work.

I would like to see more activity by Canadian Amateurs on 15 metre band, there are a few we hear out there on the west coast but not nearly enough.

We enjoyed Canada Contest and noticed a lot more participation since the first one.

Thank you.

Dave VE7AYU

#### 420-430 MHZ USE

Prohibitions against 420-430 MHz use by U.S. Amateurs near the Canadian border, a change in 220-225 MHz status, and a new 902-928 MHz band are all included in the FCC's General Docket 80-739. In this 'Second Notice of Inquiry in the Matter of Implementation of the Final Acts of the World Administrative Radio Conference', the Commission reviews the spectrum from 28 through 1215 MHz with no changes proposed for 10, 6 or 2 metres.

HR Report



## Guelph Flea Market a success

Ontario hamfests and flea-markets abounded during the summer months. The first was the Guelph Ont. fleamarket which according to organizers, was the best attended fleamarket in recent memory. It was held unfortunately, on the same weekend as the Barrie hamfest which, I am told, was equally well attended.

One of the main attractions of the Guelph affair was the tour of the Hammond Museum.

Your editor attended the Guelph fleamarket and had the pleasure of meeting many of our readers. The comments and criticisms (though few) were well received and for the most part, were acted upon.

To those who were wondering why Cary's hand was bandaged, he had locked his keys in his car and had to break a window to retrieve them. A quick trip to the hospital stemmed the flow.

Some well known Ontario Amateurs in attendance were Phil VE3HAA, president of the South Pickering ARC; Bernie Burdsall VE3NB, former treasurer of CARF, and Fred Hammond VE3HC.



*Top: Rain threatened to terminate the outdoor flea market. Centre: But the indoor section made up for it. As it was, no rain. Bottom: Garry Hammond VE3GCO was at the May flea market. Joining him at the CARF booth were Bernie Burdsall VE3NB and Stu Watts VE3IUX. Cary VE3ARS is in the background.*

# Contest Scene

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

## CONTEST CALENDAR

### October

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

### November

7-9 ARRL Sweepstakes CW  
14-15 European DX RTTY (see  
Jul/Aug TCA)  
21-23 ARRL Sweepstakes SSB  
28-29 CQ WW DX CW

### December

5-6 ARRL 160 metres  
12-13 ARRL 10 metres  
27 CARF CANADA CONTEST

Coming up at the end of this month, and at the end of November, are the world's two largest contests, the *CQ Magazine Worldwide DX Phone and CW*, better known as the 'worldwides'. By far these are the most popular and arguably the most exciting DX contests around.

Canadian participation has been increasing over the past few years, thanks partly to the improved conditions, and partly to the increased popularity of contests in general.

September *CQ Magazine* included results of the Phone version of last year's contests, and they are reproduced here. The standing Canadian multi/single record was smashed by *three* stations, with the most outstanding effort from CZ6ZT, making over 6.6 million

points, or about twice the old record.

Excellent single op scores by VE7BTV and VO2CW were made, but there was only one Canadian entry to make it into the 'box' or the top six in any class.

VE3BBN placed fifth world high on 1.8 MHz single band. All the stations ahead of him were in Europe, where the country multipliers are so much easier to find. There was some sort of error in the leading scores box, and VE3BBN should have appeared in fifth place. Reg VE1BNN managed to place 7th world high on 1.8 MHz, and in a letter last fall he told me of the kind of DX he worked. I am going to have to return to the Maritimes! My own modest efforts netted me the lowest score from any Canadian entrant. I have promised myself no further indignities.

For the casual operator or the DXer, these contests present the chance to pick up some new countries. Contests do create activity, and some of the rarer spots to show up last year included 5X, ST0, JT1, 9M2, SV9, HB0, 5W1, CR9 and many others. Not only does this sort of DX show up, but it is relatively easy to work, by virtue of the speed at which they operate.

Contests, especially the big ones like the Worldwides provide you with the chance to sharpen your skills as an operator, forcing you to dig weak signals out of high noise or QRM levels, copy information at high speed, or teach you

a bit about propagation. As one gets more involved in contests, one seeks to improve antennas, equipment, station layout and do some of the experimenting that Amateurs were once known for.

In contests as large as the CQ WW's, there are all sorts of smaller sub-competitions going on, within the various classes, within countries or even between friends. With more than a dozen different entry classes, everyone should find a category they can compete in or achieve an objective in.

One final word to the casual participant would be that the big competitors, the guys with the HUGE signals, are also trying to meet some goals, and therefore need all the QSOs they can get. It is the casual operator who makes all the difference to the big gun. Please give these ops a hand.

One bit of cheering news is that a group of VE2's will be in Zone 2 during the Phone contest. A group of DXers from the Rouyn-Noranda area will head up there, as they do periodically, with simple antennas, operating from a provincial park near Chibougamau. They should be on 40 thru 10 metres. Last time I heard, they had not decided on whose call they were going to use.

The CQ WW contest is another of those events where the special prefix question arises. For all the hard work, excellent operating, fine equipment and antennas that multi/single CZ6ZT had, they would certainly have to give some credit for their success to that

special prefix.

Even though the prefix has no multiplier value in the CQ WW contests, it does make one more attractive to casual operators. CZ6ZT had a multiplier total comparable to those of VE1DXA and VE3EDC, but they had a QSO total about 2,000 higher than the other two groups. On the high bands, it is certainly easier to work the Eastern USA and Japan from Alberta than from Ontario or Nova Scotia, but on the other hand, DXA and EDC had a better shot into Europe.

Some of CZ6ZT's success has to be attributed to that prefix. Judging by the great number of special-prefixed stations that appear in the results of this year's WW's, not every country feels that special prefixes are a special dispensation, as if in anticipation of the second coming. There appears to be an attitude by some administrations that self-training and experiment-encouraging activities like contesting are to be encouraged and their participants assisted in a relatively painless way.

A special prefix can be more attractive to a casual operator than 'just another VE', and the competitor, who has put so much energy into developing a versatile and effective station, can have a good effort made great.

Success encourages more success, and any encouragement helps generate more creative energy. Contesting may be one of the last vehicles for experimentation and new learning on the Amateur High and Medium frequency bands.

Good luck to all on the WW's.

### CQ WW DX

Period: Phone- 0000z 24 Oct. to 2400z 25 Oct. CW- 0000z 28 Nov. to 2400z 29 Nov.

Bands: 160 thru 10 metres.

Classes: Single operator, all band; single operator, single band; multi-operator, single transmitter; multi op multi transmitter. There are separate QRP single op, single or all band classes for stations run-

ning less than five watts output. Multi/single stations may, during any ten minute period, operate on one other band only, to collect new multipliers.

Points: 0 points for QSOs with Canada, 2 points for QSOs with other stations in North America, 3 points for QSOs with stations outside North America.

Multiplier: is the total of CQ Zones and DXCC/WAE countries worked on each of the bands.

Awards: Certificates are awarded to the high scores in each class in each country and Canadian call area. In the Phone, plaques are awarded for the top scoring Canadian single op single band, single op all band and multi-single entrant. In the CW, plaques will be awarded to the high-scoring Canadian single op all band, and single op single band classes. CARF sponsors the single op single band trophy.

Entries: Official entry forms are available from CQ Magazine. Entries should be sent to: CQ Magazine, 76 North Broadway, Hicksville, NY 11801 USA. Please indicate on the envelope which contest the entry is for. Entries must be postmarked by Dec. 1 for Phone and Jan. 15 for the CW contest.

### ARRL SWEEPSTAKES

Period: CW- 2100z 7 Nov to 0300z 9 Nov. SSB- 2100z 21 Nov to 0300z 23 Nov. Stations may operate a maximum of 24 hours.

Entry classes: multi or single operator, all bands only.

Bands: 80 thru 10 metres. Recommended frequencies are CW: 3550-3650, 3740, 7050-7100, 7110, 14050-14100, 21050-21100, 21110, 28050-28100, 28110 kHz. SSB: 3850-3950, 7200-7250, 14250-14300, 21350-21400, 28550-28650 kHz.

Exchange: Is in the form of a message preamble. It consists of a serial number, the 'precedence' (A means less than 200w, B means more) actually a power classification, your callsign, the 'check'

which is the year you were first licensed, and your ARRL section. For example, if I were running 150 watts, making my first QSO, I would send: 'NR1 A VE2ZP 75 QU'.

Scoring: Each QSO is worth 2 pts. The multiplier is the number of ARRL sections worked, regardless of band. Each station may be worked once, regardless of band.

Logs: must be received by 14 Dec. and must be sent to ARRL, 225 Main St., Newington, Ct. 06111 USA. Official log and summary forms are available.

### Canadian Results, CQ WW DX SSB 1980.

Class	call	score	QSOs	Zones	Countries
A	VE7BY	2,237,985	2317	127	242
A	VE2GW	1,964,112	2290	97	251
A	VE3JCR	1,278,846	1138	117	297
A	VE7WT (op. VE7BWR)	1,250,565	1665	114	203
A	VE3ED	949,696	1033	80	224
A	VE3JL71	868,927	867	94	267
A	VE2AYU	702,552	970	77	215
A	VE3JUC (op. VE1DCZ)	676,872	852	93	213
A	VE7GVH	541,144	1685	55	81
A	VE7OC	430,272	908	76	116
A	VE3JUS	334,884	467	71	187
A	VE6HP	242,022	416	65	144
A	VE1LAC	201,960	652	50	86
A	VE3PRA	201,474	390	50	132
A	VE7DIX (op. VE7WT)	173,715	323	64	121
A	VOLAW	154,344	309	42	135
A	VE3MV	91,184	203	52	112
A	VE6RP	81,204	243	46	88
A	VE6OCH	70,854	288	32	66
A	VE3ZLU	44,226	147	44	88
A	VE7ALG	32,896	514	33	31
A	VE5ZU	3,300	30	18	26
28	VE3BWW	1,102,206	2561	36	125
28	VE1TO	464,256	1479	28	96
28	VE7FAO	304,322	1502	28	56
28	VE1OU	136,752	655	24	64
28	VE7CIT	51,156	445	20	29
28	VE2PHE	47,004	185	25	71
28	VE5AAD	9,051	220	11	10
28	VE3BHN	6,440	43	21	33
21	VE7IN	780,692	2384	35	86
21	VE5RA	421,590	1208	34	104
14	VE3KZ	562,906	1279	38	128
14	VE3PRA	513,888	1266	39	120
14	VE5AAO	113,776	469	30	74
14	VE7ATU	91,184	280	24	42
14	VE3BBJ	37,728	138	28	68
7	VE3OCO	89,225	513	21	62
3.5	VE3JCN	24,087	396	11	20
1.8	VE3BBN	5,590	231	6	7
1.8	VE1BNN	5,160	107	8	16
1.8	VE3MFA	4,491	264	4	5
1.8	VE3CCU (op. VE3DZ)	1,539	95	4	5
HB	VE2ZP	6,642,405	5461	135	362
HB	VE1DXA	4,700,361	3553	137	400
HB	VE3EDC	4,208,581	3311	135	388
HB	VE7ZAZ	2,781,669	3876	101	190
HB	VE1UNB	2,624,556	3115	86	251
HB	VE4JK	2,127,093	3038	98	221
HB	VE3KKB	1,539,371	1715	108	265
HB	VE4TU	316,305	862	36	99
HB	VE6RP	289,648	735	56	116
HB	VE5AR	186,850	435	65	120
HB	VE2OUA	153,465	298	57	138
HB	VE3KID	112,009	460	27	74
HB	VE7APY	22,764	97	35	52

# Canada Contest Results

The first annual running of the December 1980 Canada Contest was by all accounts a resounding success. The participation and scores were considerably higher than in the July Canada Day Contest.

Part of this success may be attributed to the excellent winter propagation on all bands 160 through 10 metres. Over 100 logs were received from all provinces and 8 DX countries.

Congratulations to Jim Bearman VE5DX who, with the highest single operator score, wins the Canada Contest Plaque. Jim made almost 1200 contacts, over half of which were Canadian, and more than double the score of his nearest competitor, a tremendous effort which demonstrates the potential of this contest.

Multi-op honours go to VE7WJ with 126 multipliers. They missed only one province on 40, 2 on 80 and 5 on 160, and so came within three contacts of working a five-band Canadaward in 24 hours.

Some excellent scores which deserve honourable mention:

- W5JW who came 6th all band, despite not being able to work phone in the DX band.
- VE1BNN who came 7th all band, despite being not able to work any phone at all on 80-15 metres (non-advanced).
- VE7SK who came 3rd all band with only wire antennas, no beams.
- VE6CKW who came first on 28 MHz with some stiff competition.
- VE7BS with an outstanding effort on 7 MHz.
- VE2JV with a similarly excellent score on 3.5 MHz.
- WA5QBO who came 4th on 28 MHz, despite complaints from other W's about all the VE's below 28.5 MHz.
- G4BWP with an excellent 28

MHz score from Europe.  
- JA7OWD and JA6THW with very good 28 MHz scores from Japan.

The contest attracted a lot of

newcomers to contests and provided a good opportunity to meet old friends on the air. Don't miss this year's event, it will be a lot of fun.

VE7BBQ

## Soapbox

- Thanks for a great little contest. Surprised at all the activity. (VE5DX)
- We found that not many Canadians knew about the contest. (DA2CF)
- I have not worked any contest before. (VE5WJ)
- It was the first contest for either of us. (VE6ANC)
- Enjoyed working the contest. (VE3DQM)
- Enjoyed contest just passing out few PEI contacts. (VE1ATJ)
- Not enough turnout of VEs. Should improve in future contests. (VE3DDU)
- Thank you for a very pleasant contest. (KA2EPS)
- As a native of Oshawa, Ont. living in the States since 1966, I particularly enjoyed talking across the border. (WA0RJJ)
- This is my first contest. (VE8EC)
- This was the first time I participated in a contest. (VE3LQJ)
- Worked three new countries plus my first VE8. (VE7DZR)
- Linear quit in first ten minutes. (VE2HY)
- My first contest and a few tricks to be learned I see, but it was fun anyway. (VE3KOY)
- 30 QSOs on 160, including both modes with VE7WJ. Quite a thrill. (VE1BNN)
- I enjoyed the contest and certainly appreciate the number of hams who were willing to QSY to another band or a different mode to make up for some of the activity. (VE3GCO)
- 78 band changes— great fun. (VE7SK)
- This was my first contest; enjoyed it very much. (VE7EWW)
- Thanks for fun contest. (W5JW)
- First contest. (VE5ACY)
- This is the first contest I have ever taken part in. (VE3LXL)

## MULTIPLIER LEADERS

	total	1.8	3.5	7	14	21	28	50	144
VE7WJ	126	13	19	20	24	24	24	0	2
VE5DX	110	8	17	19	22	18	22	2	2
VE7CNY	94	8	15	16	20	13	20	0	2
VE7SK	93	8	15	19	22	16	11	0	2
VE3GCO	91	0	18	16	21	20	16	0	0
VE2DZE	79	3	15	11	20	15	15	0	0
W5JW	71	0	18	10	15	13	15	0	0
VE7CMK	71	3	7	14	18	11	18	0	2

class	call	score	QSOs	pnts	mult	class	call	score	QSOs	pnts	mult
A	VE5DX	773,740	1194	7034	110	MS	VE7WJ	600,516	602	4716	126
A	VE3GCO	299,390	549	3290	91	MS	VE7CNY	341,972	691	3638	94
A	VE7SK	263,283	360	2831	93	MS	VE6ANÇ	251,251	397	3263	77
A	VE2DZE	203,662	351	2578	79	MS	DA2CF	31,220	185	1561	20
A	VE7CMK	172,317	436	2427	71						
A	W5JW	164,152	310	2312	71	50	JR3SQZ	0	7	7	0
A	VE1BNN	97,785	666	2385	41						
A	WA5QBO	75,922	248	2233	34	28	VE6CKW	39,160	294	1780	22
A	VY1AL	70,516	211	2074	34	28	VE7CXC	35,000	463	1750	20
A	VE3KBX	66,410	185	1498	45	28	VE4VV	26,576	351	1208	22
A	VE1BMX	62,771	169	1531	41	28	WA5QBO	23,380	183	1670	14
A	VE4QST	59,709	232	1531	39	28	VE6BFN	20,010	280	1334	15
A	VE1CCC	56,862	168	1458	39	28	VE7FCK	11,517	174	1047	11
A	VE3DDU	48,332	150	1124	43	28	G4BWP	10,020	111	1002	10
A	VE6AYX	46,120	306	1460	32	28	VE3LQJ	8,722	157	623	14
A	VE3KQD	44,220	139	1005	44	28	VE2FSH	7,436	100	676	11
A	VE2HY	42,108	200	957	44	28	LA4HH	5,589	63	621	9
A	VE3HQM	41,106	113	1054	39	28	JA7OWD	5,013	62	557	9
A	VO1OI	41,067	112	1053	39	28	SM5CMP	4,950	55	550	9
A	VE7FBS	28,364	122	1013	28	28	JH6TEW	4,906	50	446	11
A	K9GDF	26,390	134	910	29	28	VE7DZR	4,524	71	377	12
A	VE8EC	25,875	117	1035	25	28	VE3KHE	4,347	135	621	7
A	VE7IQ	24,804	175	689	36	28	JR2UWZ	3,740	50	374	10
A	VE6AMY	23,244	90	894	26	28	JATWSX	3,064	41	383	8
A	VE3MFT	21,708	137	804	27	28	VE5AAD	2,716	37	272	8
A	VO1VCA	19,026	103	906	21	28	WBØRJJ	2,664	37	333	8
A	VE4YF	17,864	70	638	28	28	SM4DHF	2,660	38	380	7
A	VE3VCA	17,025	85	681	25	28	WB5UWI/VE11	1,370	166	274	5
A	VE1ATJ	15,022	76	518	29	28	JA1JGP	1,020	17	170	6
A	VE7EWW	14,400	100	722	20	28	JL1BLW	650	13	130	5
A	VE3LRD	12,167	61	529	23	28	JK1DWE	60	3	30	2
A	VE3GJV	11,868	66	516	36						
A	VE7EMX	11,457	161	603	19	21	DF1EI	1,000	20	200	5
A	K6XO	6,544	84	409	16	21	JA6OKB	654	28	109	6
A	AA6EE	6,511	53	383	17	21	VE3KOY	705	42	141	5
A	VE3MEW	6,060	44	404	15	21	JHØCXS	20	2	20	1
A	VE3CXL	5,313	28	253	21						
A	VE7AFY	4,848	33	303	16	14	VE3DIJ	8,100	79	540	15
A	W9HVP	3,190	29	290	11	14	VE4YF	3,720	38	372	10
A	VE8XO	3,120	26	260	12	14	KL7JHD	3,240	360	540	6
A	VE3DXY	3,072	40	256	12	14	KA2EPS	3,152	79	394	8
A	K7NW	2,872	25	214	13	14	EA7AKQ	512	20	128	4
A	N4AOC	1,750	34	250	7						
A	VE5WJ	1,712	25	214	8	7	VE7BS	8,932	107	638	14
A	W9QWM	1,312	28	164	8	7	JL1CGL	64	14	32	2
A	WB7QYG	924	28	154	6						
A	VE5ACY	885	32	177	5	3.5	VE2JV	8,000	78	800	10
A	WA2NGX	640	20	128	5	3.5	KA8FAL	2,317	51	331	7
A	W8EAO	595	13	85	7	3.5	WAØDEL	1,872	35	234	8
A	DL1TH	328	9	82	4	3.5	VE3LXL	212	15	106	2
A	WA1ZCE	270	9	54	5						
A	JA3LQI	204	7	51	4	CK	VE3TCA				
A	LA8OM	93	4	31	3	CK	SM5BDV				
						CK	K1KI				

# Whom the Apples fell on

In the 45 mile stretch between San Jose and San Francisco called Silicon Valley lives a computer-age version of the American dream.

It turned to reality recently when Apple Computer went public at \$22 a share. Venture capitalist Arthur Rock, who invested \$57,600 in the company three years ago, ended up with stock worth \$14 million; Tele-dyne Chairman Henry Singleton's investment of \$320,000 blossomed into \$26 million.

Impressive, but nothing like what happened to Apple's young founders, Steven P. Jobs, 25, and Stephen G. Wozniak, 29.

Graduates of Santa Clara's Homestead High School, Jobs and Wozniak dropped out of college. The self-taught computer whizzes went to work for local electronics companies. The two began collaborating five years ago at the Home Brew Computer Club in Palo Alto.

They designed their first machine in Jobs' bedroom, built it in his parents' garage, and showed it to a local computer store owner, who promptly ordered 25. Demand for the 'personal' computer, mainly from hobbyists, soon outran the young men's ability to produce, so they began looking for help.

Enter A.C. Markkula Jr., who had been marketing manager at Intel, the fast-growing producer of integrated circuits. 'Mike' Markkula was soon convinced that the two Steves, as they are known at Apple, were on to something big. He put up \$91,000, secured a line of credit,

and later raised some \$600,000 from venture capitalists.

Markkula became chairman of the company in May 1977, and Michael Scott, 37 signed on as president a month later, taking a 50% pay cut from his job as a director of manufacturing at National Semiconductor.

You don't need an Apple computer to tell you that at least four new multimillionaires are now roaming the Silicon Valley. The four men own 40% of the

company, which earned \$11.7 million on sales of \$117 million last year. At the public-offering price, Scott's shares were worth \$62 million, Wozniak's \$88 million, Markkula's \$154 million and Jobs' \$165 million. Wozniak spread the wealth among his relatives. His parents and siblings own nearly \$3 million in Apple stock, and his wife, Alice, owns \$27 million.

Grant F. Winthrop  
SARL - QSO Newsletter

## CARF News Service Stations

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 >>>

VO100	LARK HARBOUR		MODE & NET
SUNDAY			
WEDNESDAY	1900 N-T	3.785	SSB-VO NET
VE1APB	CHARLOTTETOWN		
MONDAY	1830 A-T	3.7625	SSB-NSASA
THURSDAY	1915 A-T	3.750	SSB-MARITIME NET
VE2TD	STIE-CATHERINE		
SUNDAY	2100 E-T	146.45/25	FM-TO INFO ROUNDUP
VE3AMB	WASHAGO		
TUESDAY	1930 E-T	147.81/21	FM-DEEP-BRILLIA A.R.C.
WEDNESDAY	1930 E-T	146.25/45	FM-DEEP & GEORGIAN COLLEGE
VE3AML	SARMIA		
WEDNESDAY	2030 E-T	147.72/12	FM-BROADWAY KENT NET
THURSDAY	1000 E-T	7.274	SSB-TOMSONT
VE3DPO	HANOVER		
SUNDAY	1830 E-T	3.645	FM-BREY BRUCE TFC
VE3JLL	METCALFE		
WEDNESDAY	1830 E-T	3.645	FM-BREY BRUCE TFC
VE3TCA	OTTAWA		
SUNDAY	1745 UTC	14.140	SSB
	1830 UTC	14.270	15 WPM CW
	1500 E-T	21.075	MURRAY & ASCII TTY
	1530 E-T	28.075	MURRAY & ASCII TTY
	1630 E-T	14.075	MURRAY & ASCII TTY
	1800 E-T	3.755	SSB-ONTARS
	1830 E-T	3.632	MURRAY & ASCII TTY
	1845 E-T	146.45/25	FM-STR MINI NET
VE4MG	KELWOOD		
MONDAY	1854 C-T	3.765	FM-TOBIA EVENING PHONE
VE5RC	SASKATOON		
SUNDAY	2100 C-T	3.625	MURRAY TTY
VE5WM	REGINA		
WEDNESDAY	2130 C-T	146.45/25	FM-BARA 2M
FRIDAY	0100 UTC	3.755	SSB-SASK. PHONE
VE7CJY	COQUITLAM		
THURSDAY	2000 P-T	146.34/54	B.C.F.Y.C.A.
VE7TCA	VERNON		
SUNDAY	1930 P-T	3.618	MURRAY TTY
TUESDAY	1930 P-T	3.618	15 WPM CW

We pay for technical articles.  
Send contributions to:  
CARF Technical Editor, Box 356,  
Kingston, Ont. K7L 4W2.



# Milton, Ont. Flea Market



The Milton Fleamarket was held earlier this summer and CARF was in attendance. One of our more active Directors Craig Howey VE3HWN attended and sent along these snapshots.



*Left: The fleamarket area.  
Above: Craig Howey VE3HWN  
(facing camera) in action at the  
CARF booth.*

## Life with an Amateur Wife

This article was written for all those Amateurs who keep saying how lucky they are to have a wife who is also an Amateur.

### **The typical day**

You will rise at 7:30 a.m. and after the usual morning duties proceed to the kitchen where you expect breakfast to be ready!! Not so however, all you hear is "This is VE3MFZ checking into the early morning DX net," coming from the shack.

So you put the kettle on and proceed to get your own breakfast. A loud shout for 'coffee' is heard from the shack, explaining that she is waiting on a list and cannot come up for coffee.

After this depressing start to the morning you deliver the

coffee to the shack and announce that you are off to work. All you get is "OK dear" followed by "Good morning VK4NIC/3X this is VE3MFZ your 59" as you close the door of the shack, again is heard "EP2TY this is VE3MFZ your 59".

So off you go to work and sit all day knowing that at 5:00 p.m. you have to check the P.O. box and listen to all the rare DX stations your **wife** has worked.

The box is full of cards, all for her and nothing for you, but just you try and collect the fee when it comes time for renewal of the box.

You open the door and say "Hello dear, I'm home!" and receive a fabulous greeting from the **dog!** The wife is in the

shack, earphones on and no supper ready!

You pull off the earphones and inquire why your supper is not ready and get that blank astonished look, "Oh my gosh I don't know where the time went!" as she flies up the stairs.

A look at her log and all the countries she worked that you have yet to work convinces you to lock the shack door, remove her QSL cards from the wall and tell her to buy her own rig, IRC's and to mail her own QSL's.

Yes guys it's terrific to have a wife as a ham!

Roger Paradise VE3LWL

**My wife is also an Amateur, VE3KLH, however she rarely visits the shack except when she needs me or a screwdriver...Ed.**

# Yaesu's All-New VHF/UHF Transceivers!

Yaesu is proud to introduce a new generation of computerized VHF and UHF equipment. With the features you have asked for and the quality you demand, these revolutionary transceivers are your passport to the newest frontiers in Amateur Radio!

\$895

\$753

PRICES ARE CANADIAN LIST !! CHECK WITH HRA FOR YOUR LOW CHEQUE WITH ORDER PRICE !! !!



\$299

## COMPLETE OSCAR STATION !!

- FT-800R - 143.5 to 148.5 MHz SSB/CW/FM
- FT-780R - 430-440 MHz SSB/CW/FM
- SC-1 Station Console w/Digital Clock

A complete microprocessor-based communication system with convenient switching of scanning and microphone controls, AC power supply, and 16-button tone pad.

## Trionyx

- 1/4 Wave \$12
- VoCom
- 5/8 Wave \$35

- NCB \$103
- PA3 \$36
- FN82 \$46
- FBA2 \$12
- MMB10 \$16
- YM24A \$50
- FL2010 \$149

\$469

FT208R

## 2 METER FM HANDHELD !!

- LCD Display with Lithium Backup Cell
- Selectable 5 kHz/10 kHz Scanning
- 10 Memories with Auto/Rescan Scan
- 16 Button Tone Encoder

Yaesu's latest thoroughbred for 2 FM is the FT-208R Hand-Held. Four digit LCD display, 10 memories, limited band scan, and priority channel make this the most versatile hand-held ever made available to the amateur fraternity.

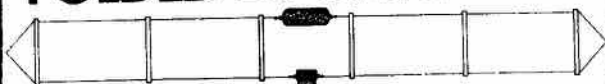
**Closeout Special**  
**SAVE \$190**  
FT-101ZD (WARC w/AM)



Older YAESU FT-101ZD (MK III) 9-band, 180w. HF Transceiver with AM. A mid-priced unit loaded with features. Digital + analog readout, variable IF bandwidth, noise blanker, RF speech processor, built-in 117 VAC + 13.5 VDC (with optional DC-DC converter). Uses FT-9020M accessories. 13 1/2" w x 7 1/2" h x 13 1/2" d, 33 lbs.  
Reg. \$1389 - **Closeout \$1199**

# BROAD BAND FOLDED DIPOLE

BARKER & WILLIAMSON'S MODEL 370-15



B & W's Broad Band Folded Dipole covers all amateur bands including the new 12, 17, and 30 meter bands. Also covers CAP frequencies, MARS, Military or any frequency from 3.5-30 MHz. Being used throughout the world! Total length only 90 feet long—spreader spacing 19 inches.  
SWR—Less than 2:1 from 3.5-30 MHz  
Supplied completely assembled with 50 feet RG 8U type coax **\$229.**



FT290R 2M MULTIMODE PORTABLE !!

- Battery Powered (NiCd C-Cells Optional)
- LCD Display with Night Light
- USB/LSB/CW/FM with 2.5W RF Output

An entirely new concept in VHF operating! LCD display with full microprocessor control, 10 memories, two VFO's and multimode flexibility, all from a battery powered package. Telescoping antenna built in. Optional FL-2010 PA and FP-80A AC Supply.

## FT208R INTRODUCTORY SPECIAL

FT208R Transceiver	\$469
Trionyx 1/4 wave antenna	\$12
NCB Qk-S10 Chgr AC-DC	\$103
FN82 Extra nicad pack	\$46
FBA2 Sleeve to chrg nicd	\$12
YM24A Speaker-mike	\$50
<b>TOTAL</b>	<b>\$692</b>

PACKAGE SPECIAL **\$599**  
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FT-902DM 9-band digital Transceiver  
Less Keyer FM DC-DC **Sale \$1669**

DO YOU KNOW ABOUT...  
The NEW YR-901 CW/RTTY Reader?



- 170/425/850 Hz shift
- 45-75 Baud rate

## SPECIAL CLEARANCE !

YR901K + RF modular to allow standard TV as receiver + YK901 Keyboard. Reg. \$1516

ONE ONLY SPECIAL all 3 \$999



YAESU FT-720RVH 25 watt 2m FM Transceiver. Microprocessor controlled, 144 to 147.99 MHz, 10 memories, 600 KHz offsets, four memory channels, "receive memory" for odd splits. Up to 2000 Hz dial & memory channels controlled by 100 Hz 1750/1800 Hz tones, LED display and 144 MHz national control head and 144 MHz 25W RF deck. Detaches for removing or to use optional 144 MHz/10W RF deck. Optional switching box using both decks for two band operation. Phone, wire stand, mobile mount. Dimensions: 13.8 VDC/16" A, 6" w x 2 1/2" h x 10" d, 5 lbs.

Regular \$673 - **Closeout \$455**

FT-720RU 10 watt 440 MHz FM Transceiver. 440-449.975 MHz, 10 memories, 600 KHz offsets, national control head with 720RU RF deck. Optional 720RU RF deck 25W and optional S-72 for two band 144 MHz/25W and optional S-72 for two band 144 MHz/10W.

Regular \$737 - **Closeout \$545**

Accessories for FT-720R:  
S-72 RVH/RU switching box and 2 \$195  
E-72L 13" cable for removing RF deck



## SPECIAL !! while they last

FT-707DM digital VFO with 12 memories. Allows scanning from YM35 Mike Reg. \$435

**SPECIAL \$349**



## MFJ 941C Versa Tuner II

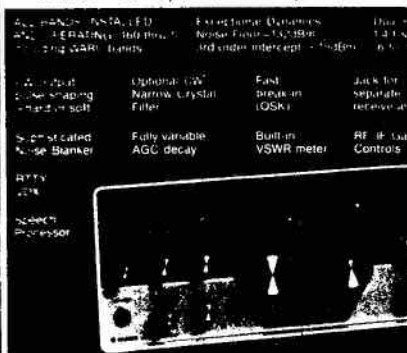


Fastest selling MFJ tuner... because it has the most wanted features at the best price. **SWR + dual range wattmeter** (300 & 30 watts full scale, forward and reflected power). **Sensitive meter** measures SWR down to 5 watts output. **More flexible antenna switch** selects 2 coax lines, direct or through tuner, random wire/balanced line, or tuner bypass for dummy load. **12 position efficient airwound inductor** for lower losses, more watts out.

**Built-in 4:1 balun** for balanced lines, 1000v capacitor spacing. **Matches everything from 160-10 meters:** dipoles, inverted vees, random wires, verticals, mobile whips, beams, balanced and coax lines. **Easy to use, anywhere.** Measures 8x2x6", has SO-239 connectors, 5-way binding posts, finished in eggshell white with walnut-grained sides. **MFJ-940 \$120**, like model 941C but less 4:1 balun.

# ALL BAND

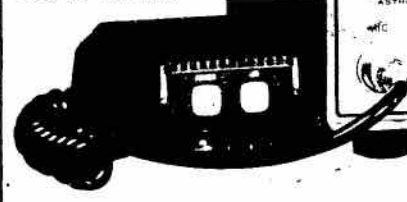
A new name, a new look, and a new...



# CUBIC ASTRON

The ASTRO-D is a high quality, economical 3.5 state transceiver designed to meet the requirement for full and continuous frequency coverage from 1.6 to 30 MHz.

With 100-watts output PEP and CW, and 25-watts in the AME (AM equivalent) modes, this transceiver provides a dependable, economical solution to high frequency communications, government, and military requirements & marine.



## Continuous coverage trans

## NEW MFJ-312 VHF Converter

**HEAR POLICE/FIRE**  
and Weather Band on 2 meter rigs. Covers allocated police/fire VHF-hi freq. (154-158 MHz) readout on synthesized, VFO 144-148 MHz.

## Now with weather band coverage!

**Receive weather band coverage!** Receive weather band coverage on your 2 meter rig! Scanning rigs become police/fire scanner. This ingenious MFJ VHF Converter turns your synthesized or VFO 144-148 MHz FM rig into a police/fire receiver (154-158 MHz) with direct frequency readout on your rig.



**Receive weather band coverage!** Receive weather band coverage on your 2 meter rig! Scanning rigs become police/fire scanner. This ingenious MFJ VHF Converter turns your synthesized or VFO 144-148 MHz FM rig into a police/fire receiver (154-158 MHz) with direct frequency readout on your rig.

## MFJ-949B VERSA

MFJ-941C \$135

MFJ's best 300 watt Versa... Matches everything from 160-10 meters, balanced lines, up solid state or tubes. **Tunes out SWR** on dipoles, verticals, whips, beams, quad. **Built-in 4:1 balun, 300W, 50W SWR meter and 2-range wattmeter.** 6 position antenna switch position air-wound inductor, coating posts, black and beige case.

# COVERAGE!

Standard of performance in ham radio!

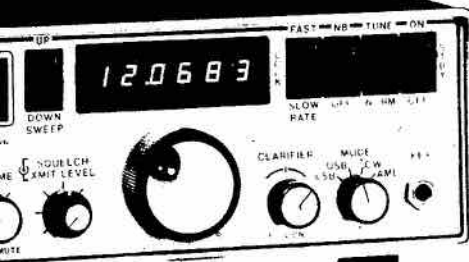
The Cubic ASTRO-103 expands on the highly acclaimed ASTRO-102BXA with the addition of the most asked for features—RTTY, an input connector for a separate receive antenna, and of course, ALL BAND coverage from 160 through 10 meters, including the new bands at 10, 18 and 24.5 MHz. All bands are operating now, nothing to buy later, and of course WWV is covered.

With the optional 400Hz crystal filter installed, which cascades with one of the 8-pole I.F. filters in the CWN position, and can be moved through the passband, along with QSK provisions, the ASTRO-103 is the CW operator's dream!

## The ASTRO Family

List \$1899

# 103



List \$3495

## ASTRO-D

...ver, synthesized in 100 Hz steps!

...r lets you  
CALLS  
nearly all FCC  
(Hz). Direct freq.  
FM rigs.

...g rigs become  
fire scanner.

...req. readout on  
red and VFO rigs.

...re on 160-164 MHz.  
...neous scanning of both  
...and. No missed calls.  
...your rig such as squelch,  
...lectivity, stability, limiting,  
...eds, too.

...d RF amp, mixer), bipolar  
...excellent performance.  
...allows transmitting. Won't  
...it (up to 25 watts) with  
...tion SWR.

...SO-239 Mtg. bkt. 3x4x1"  
...e MFJ-312 less WX band.

BARGAIN PRICED!  
**AZDEN**  
**PCS-3000**  
STATE-OF-THE-ART 2 METER  
MICROCOMPUTER-CONTROLLED  
TRANSCIVER

NOW ONLY \$ 429 !!!

Astron RS7A power supply  
7amp crowbar \$89 + \$55&H  
CS-ECK rom cable 15' \$65  
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less \$10 trade on kit

NOTE: MFJ-312 gives  
142-150 & 152-166MHz  
coverage with PCS3000  
MFJ-311 gives 152-160

## HI-Q BALUN

- For dipoles, yags, inverted vees & doublets
- Replaces center insulator
- Puts power in antenna
- Broadbanded 3-40 MHz
- Small, lightweight and weatherproof
- 1:1 Impedance ratio
- For full legal power and more
- Helps eliminate TVI
- With SO-239 connector



AGAIN ONLY \$10  
add \$2/Balun S&H

Bearcat® \$549  
NEW! Bearcat® 100

The first no-crystal programmable handheld scanner  
3-Band, 16 Channels • Liquid Crystal Display  
Search • Limit • Hold • Lockout • AC/DC  
Frequency range: 30-50, 138-174, 406-512 MHz

## Electronic Keyers

SPECIAL  
\$59

1 ONLY!



The MFJ-400 8044 IC Econo Keyer is a reliable, full feature economy keyer for squeeze single lever or straight key.

**Sidetone, speaker, volume, speed, internal weight and tone controls.** Pull to tune. Watch On off. Iambic operation. Dot-dash memories 8 to 50 WPM. Uses 9 V battery. 2x3x4 inches. **Reliable solid state keying:** grid block, cathode solid state transmitters.

## ROTORS

T2X \$399

HAM-IV \$295

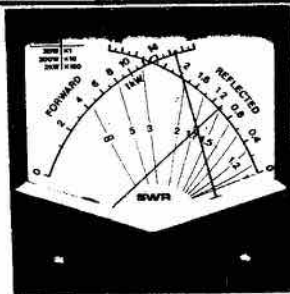


## BUTTERNUT

Only Butternut's new HF5V-III lets you use the entire 26-foot radiator on 80, 40, 20 and 10 meters (plus a full unloaded quarter-wavelength on 15) for higher radiation resistance, better efficiency and greater VSWR bandwidth than conventional multi-trap designs of comparable size. The HF5V-III uses only two high-Q L-C circuits (not traps) and one practically lossless linear decoupler for completely automatic and low VSWR resonance (typically below 1.5:1) on 80 through 10 meters. HF5V-III 10-80 \$149  
TBR160 add on \$ 59  
STR radial kit \$ 39  
RMK roof kit \$ 59

2MGV 2M Colinear  
Vertical +6db \$ 59  
S&H TBR STR \$3  
RMK 2MGV \$5 HF588

UNLESS NOTED OTHERWISE INSURED SHIPPING AND HANDLING ADD 2% (MINIMUM \$2.50) on all goods



DAIWA EN-520  
1.8-60MHz-----\$109

Uses Curtis 8044 IC. All have dot-dash memories, weight control, solid state keying. RF proof.



\$105

The NEW MFJ-406 Deluxe Electronic Keyer sends iambic automatic, semi-automatic, manual. Use squeeze, single lever or straight key.

Socket for external Curtis memory, standard iambic operation keyboard.

Iambic operation with squeeze key. Dot-dash insertion. Semi-automatic "bug" operation provides automatic dots and manual dashes. **Dot-dash memory,** self-completing dots and dashes; jam proof spacing, instant start. **RF proof.** Solid-state keying; grid block, solid state xmtrs. Front panel controls: linear speed, weight, tone, volume, function switch. 8 to 50 WPM. **Weight control** adjusts dot-dash space ratio; makes your signal distinctive to penetrate DRM. **Tone control.** Speaker, ideal for classroom. **Function switch** selects off, on, semi automatic/manual, tune. Tune keys transmitter for tuning. **Uses 4 C-cells.** 2.5 mm phone jacks for external power (6-9 VDC). Optional AC adapter \$12 Eggshell white, walnut sides. 6x2x6 inches.

MFJ 408 like 406 with  
Speed Meter \$120  
NEW MFJ/BENCHER  
Keyer-Paddle Combo —  
"The Pacesetter"



MFJ-422  
Combo  
\$149

New MFJ keyer — small in size, big in features. Curtis 8044 IC, adjustable weight and tone, front panel volume and speed controls (8-50 wpm), built in dot-dash memories, speaker, sidetone, and push-button selection of semi-automatic/tune or automatic modes.

Ultra-reliable solid-state keying: grid-block, cathode and solid-state transmitters (—300 V, 10 mA max.; +300 V, 100 mA max.). Fully shielded. Uses 9 V battery or optional AC adapter \$12.00. Beautiful functional engineering. The keyer mounts on the paddle base to form a small (4 1/4" W x 2 1/2" H x 5 1/2" L) attractive combination that's a pleasure to look at and use. The BENCHER paddle is a best seller. Fully adjustable; gold-plated silver contacts; lucite paddles; chrome plated brass; heavy steel base with non-skid feet.

## NEW MFJ "Dry" 300W & 1KW Dummy Loads

MFJ-262  
\$98.

MFJ-260  
\$40

Air Cooled, non-inductive 50-ohm resistors in perforated metal housings with SO-239

## MFJ 410 "Professor Morse" Code Generator/Keyer



NEW  
LOW  
PRICE  
Save

MFJ-410 Now Only

\$195

Use it to learn, use it to operate. It sends unlimited random code in random groups for practice; never repeats sequences. And when you're on the air, it's a full feature Keyer. Vary speed from 5-50 wpm; meter readout. Vary spacing; give fast sound to low speed. Alpha or alphanumeric with punctuation. Built-in speaker and phone jack; tone and vol. Ideal for classroom or private use. Full feature keyer includes vol., speed, tone and weight controls, tone switch, dot-dash memories, keys grid block, cathode, solid-state rigs. Optional BENCHER paddle \$5. Operates on 9-18 VDC, two 9 V batteries or 110 VAC with optional adapter \$12.00. Size 7x2x6". Get "Professor Morse" — you'll never outgrow it.

## MFJ-484 Memory Keyer



MFJ-484 \$210

Ham radio's most popular — up to twelve 25 character messages plus 100, 75, 50 or 25 ch. messages (4096 bits).

Repeats continuously or with pauses that are adjustable up to 2 minutes.

Record, playback or change messages instantly, at the touch of a button.

Built-in memory saver — 9 V battery takes over when power is lost.

Iambic operation with squeeze key. Dot-dash insertion.

Dot-Dash memories, self-completing ch., jamproof spacing, instant start.

Full controls: Speed (8-50wpm)/Record; Weight/Memories Combined; Tone/Tune; Delay/Repeat; Vol/On-Off; Memory Select; Message buttons; Memory Reset button.

Solid state keying; grid, cathode, solid-state xmtrs (—300 V, 10 mA max.; +300 V, 100 mA max.). 12-15 VDC or 110VAC w. optional AC adapter \$12.00. 8x2x6".

Optional BENCHER paddle \$65  
MFJ-482, \$149 four 25 or 50 + two 25 ch. messages; MFJ-481, \$135 two 50 ch.

## GMT Clock/ID Timer



MFJ-102  
\$55

NEW 12/24 Hour Digital Clock/ID Timer. Switch from 12 hr. to GMT, to "seconds" readout. ID timer or elapsed timer. WWV sync, solid-state, blue 0.6" digits, reg. alarm + indicators. 110 VAC, 60 Hz, 6x2x3".



MFJ-752B  
\$135

MFJ Dual Tunable SSB/CW Filter; primary filter has peak, notch, lowpass and highpass; aux. Filter notches to 70 dB or peaks to 40 Hz; both tune 300-3000 Hz with bandwidth from 40 Hz to flat; constant output; noise limiter; 2 inputs; 9-18 VDC 300 mA; or 110VAC with adapter \$12.00 10x2x6".

## MFJ-962 VERSA TUNER III



MFJ-962  
\$345.

## MFJ-989 VERSA TUNER V



MFJ-989  
\$495.

Run up to 1.5 KW PEP, match any feed line from 1.8-30 MHz.

Built-in SWR/Wattmeter has 2000 and 200 watt ranges, forward and reflected.

6 position antenna switch handles 2 coax lines, direct or through tuner, plus wire and balanced lines.

4:1 balun, 250 pf 6KV cap. 12 pos. inductor. Ceramic switches. Black cabinet, panel.

ANOTHER 1.5 KW MODEL: MFJ-961, \$285. similar but less SWR/Wattmeter.

New smaller size matches new smaller rigs — only 10.314Wx4.12Hx14.78D".

3 KW PEP, 250 pf 6KV caps. Matches coax, balanced lines, random wires 1.8-30 MHz.

Rotter inductor, 3 digit turns counter plus spinner knob for precise inductance control to get that SWR down.

Built-in 300 watt, 50 ohm dummy load.

Built-in 4:1 ferrite balun.

Built-in lighted 2% meter reads SWR plus forward/reflected power. 2 ranges (200 & 2000W), 6 position ant. switch. Al. cabinet. Tilt bail

# HAM RADIO ATLANTIC

MON-FRI 6pm-11pm  
SATURDAY 1pm-6pm  
SUNDAY 1pm-5pm  
ATLANTIC TIME



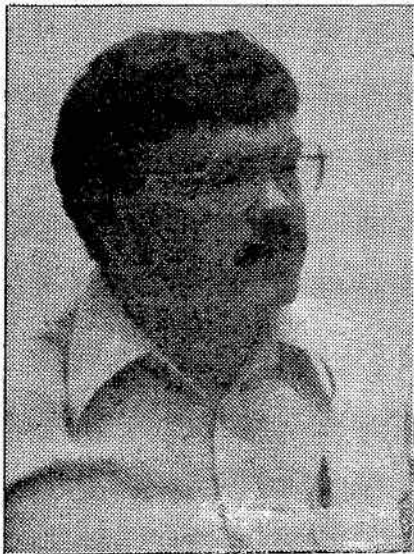
P.O. Box 755  
Saint John, N.B.  
Canada E2L 4B3  
(506) 652-5753

MIN \$50

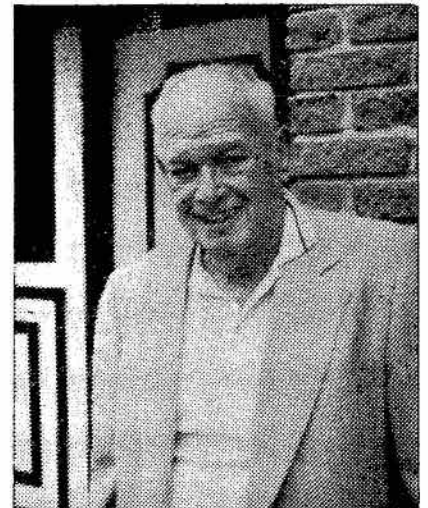
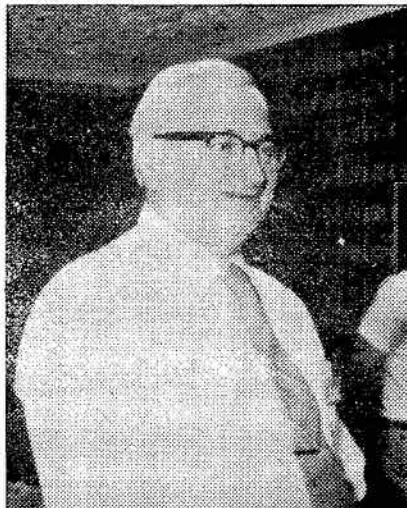


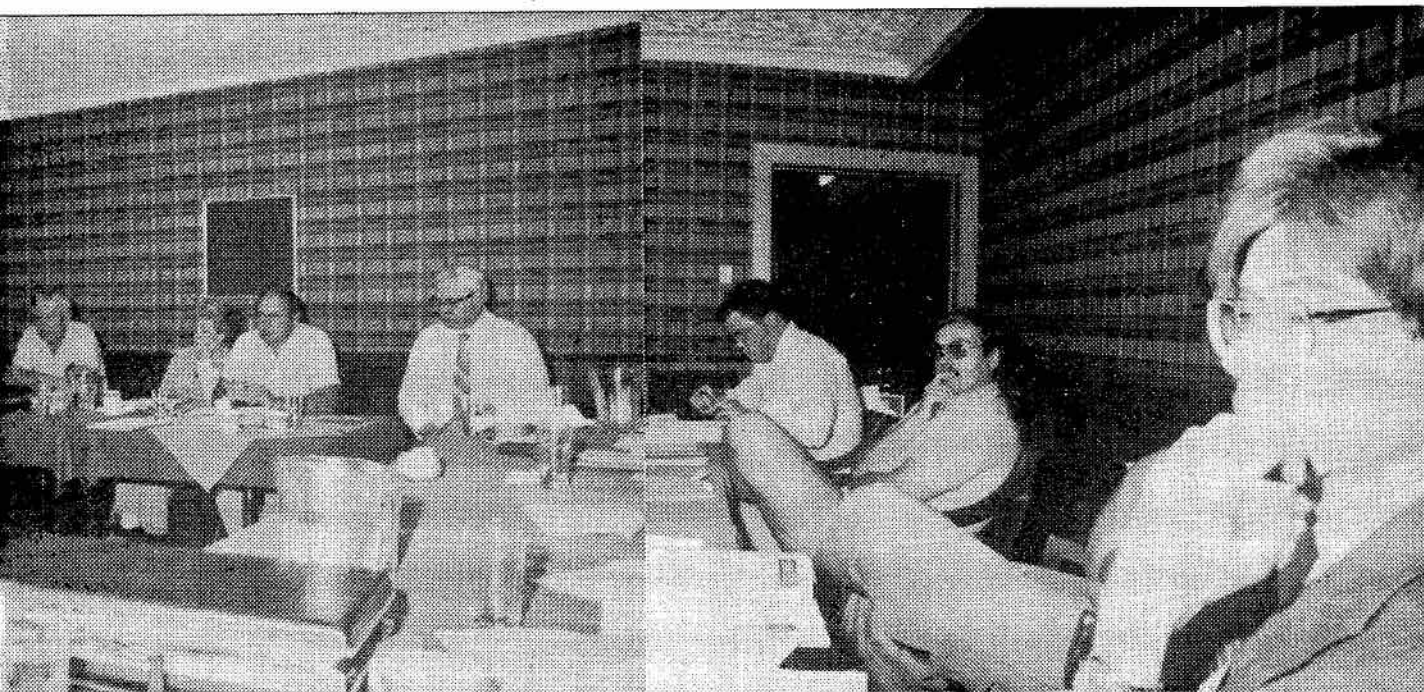
*Above: The assembled multitude appears in this unique 360° around the table view.*

# CARF Annual General Meeting



*Far left: New Ontario Director  
Craig Howey VE3HWN.  
Centre: Nate Penney VO1NP.  
Below: Jim McKenna VE6HO.*

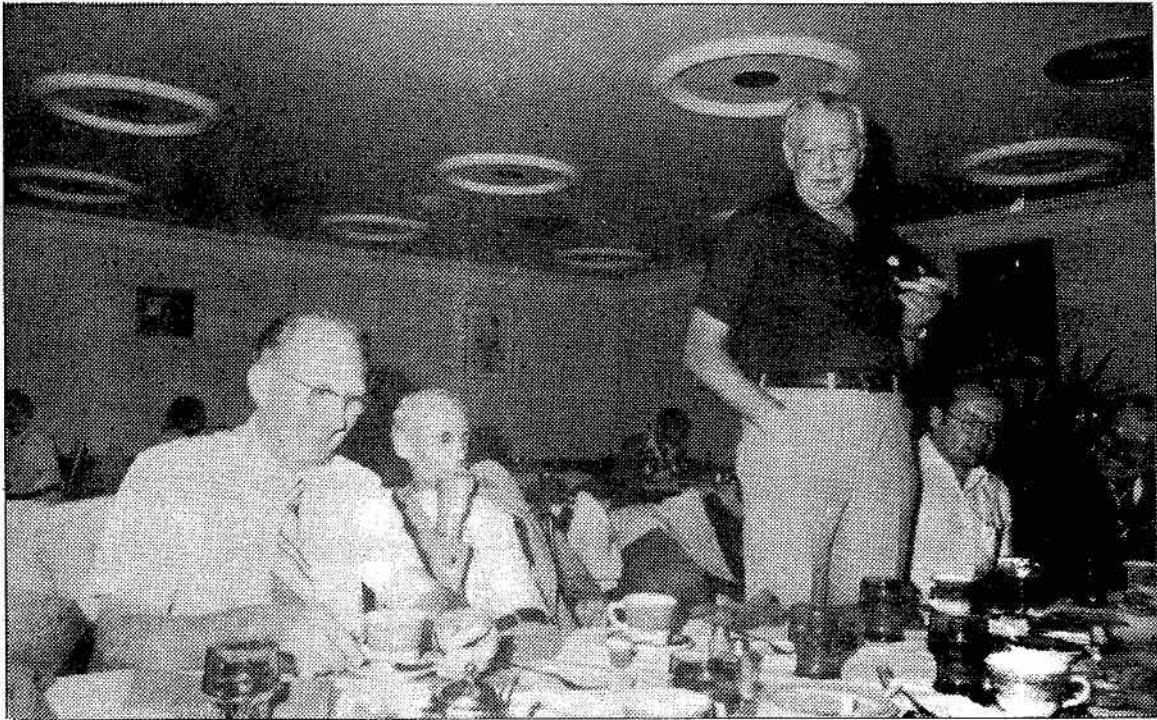




*Photos by Cary  
Honeywell VE3ARS*

*Below: Immediate Past President  
Bill Wilson VE3NR listens  
attentively to a speaker.  
Right: Lively pre-dinner  
discussions cover a variety of  
subjects, from Joe's new beam to  
DOC's new policies.*

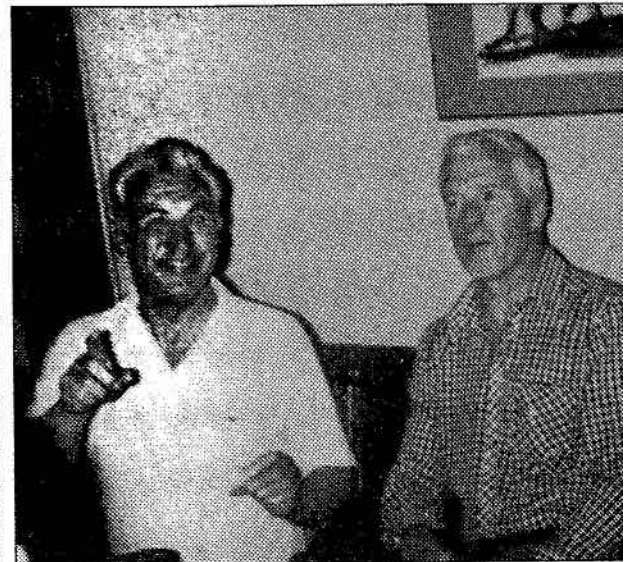


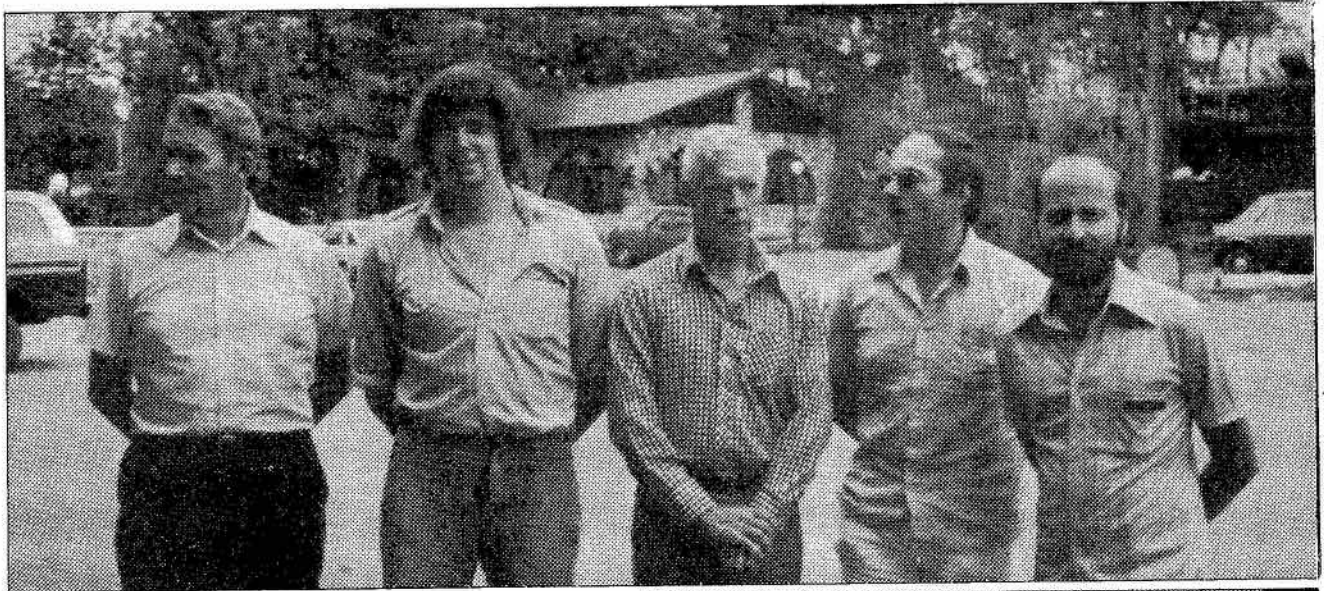


*Above: CARF General Manager Art Blick VE3AHU draws a few smiles with his oratory abilities.*

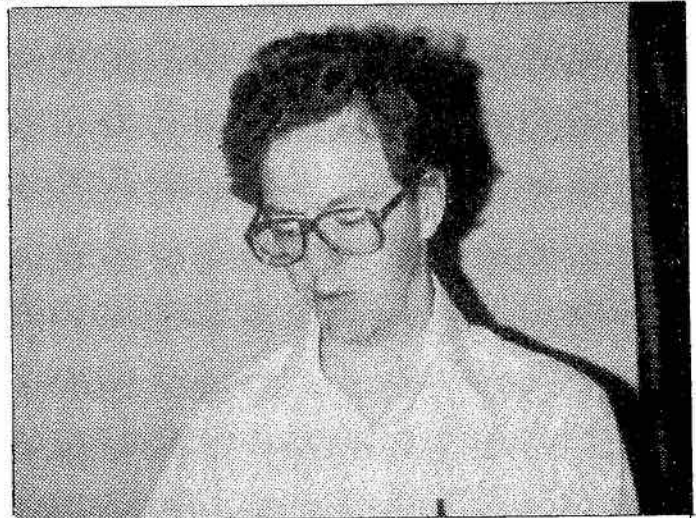


*Left: Pacific Director Peter Driessen VE7BBQ.  
Centre: Treasurer Lorna Hill VE3IWH, who keeps CARF's finances in order.  
Below: Former CARF Treasurer Bernie Burdsall VE3NB makes a point for CARF President Don Slater VE3BID.*





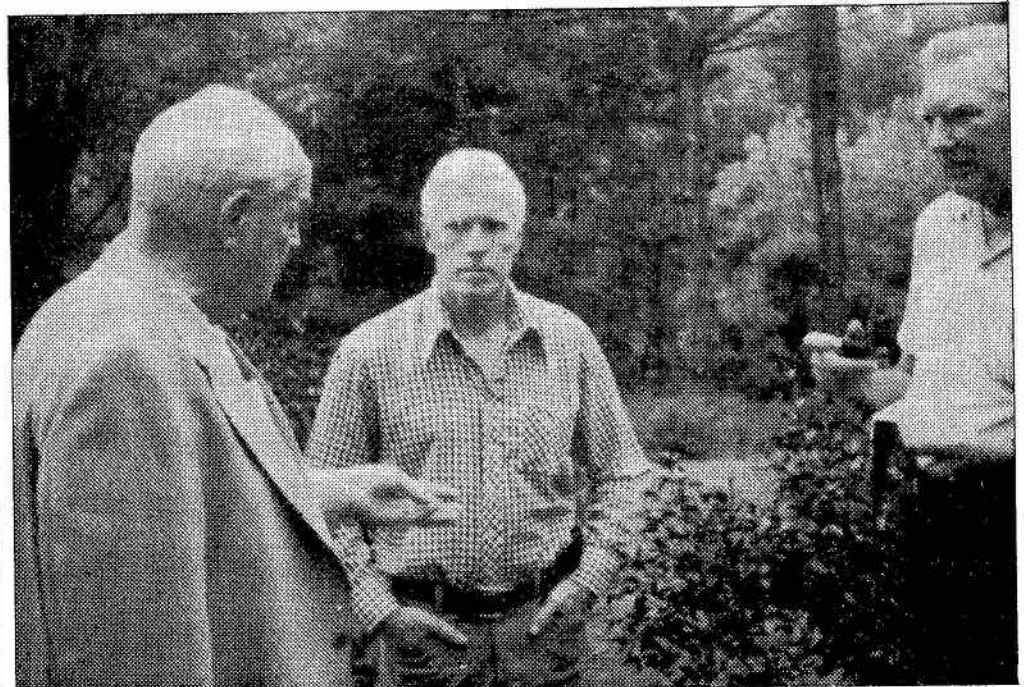
*Above: Editorial staff of TCA, less VE3ARS who took the picture. Left to right: Technical Editor Ed Hartlin VE3FXZ, Contest Editor Dave Goodwin VE2ZP, Advertising Representative Don Slater VE3BID, DX Editor Douglas Griffith VE3KKB, Associate Editor Dave Nessman VE3GEA.*



*Right: TCA Editor Cary Honeywell VE3ARS.*

*Below, left: QSL Bureau Manager Jean Evans VE3DGG.*

*Below, right: An impromptu outdoors forum involving Jim VE6HO, Don VE3BID and Art VE3AHU.*



# Garage Sale Adventuring

George W. Goodwin VE2DQ

Attending my first local garage sale this past summer, I was pleasantly surprised to find that I had latched onto something good.

Not that I ever expected to find any Amateur radio gear as none of the local Amateurs appeared to be holding garage sales but there were lots of other goodies to be had.

My first venture produced a steel tool cabinet, which sells for around \$79 and purchased for a mere \$20. This was a most welcome addition to the home workshop and perhaps whetted my appetite for garage sales in general.

As an added bonus, when I came to install my own tools, I found two socket sets already inside. At a nominal \$20 per set, this was indeed a bargain. If this was a case of CAVEAT EMPTOR, or buyer beware, then it was also a case of seller beware..... Another garage sale really turned me into an addict. There on the ground was a steel,

dual drawer card filing cabinet for a mere \$2. A little dirty perhaps, but soap and water and a new coat of spray paint would cure that. Here was the ideal answer to my QSL filing problem.

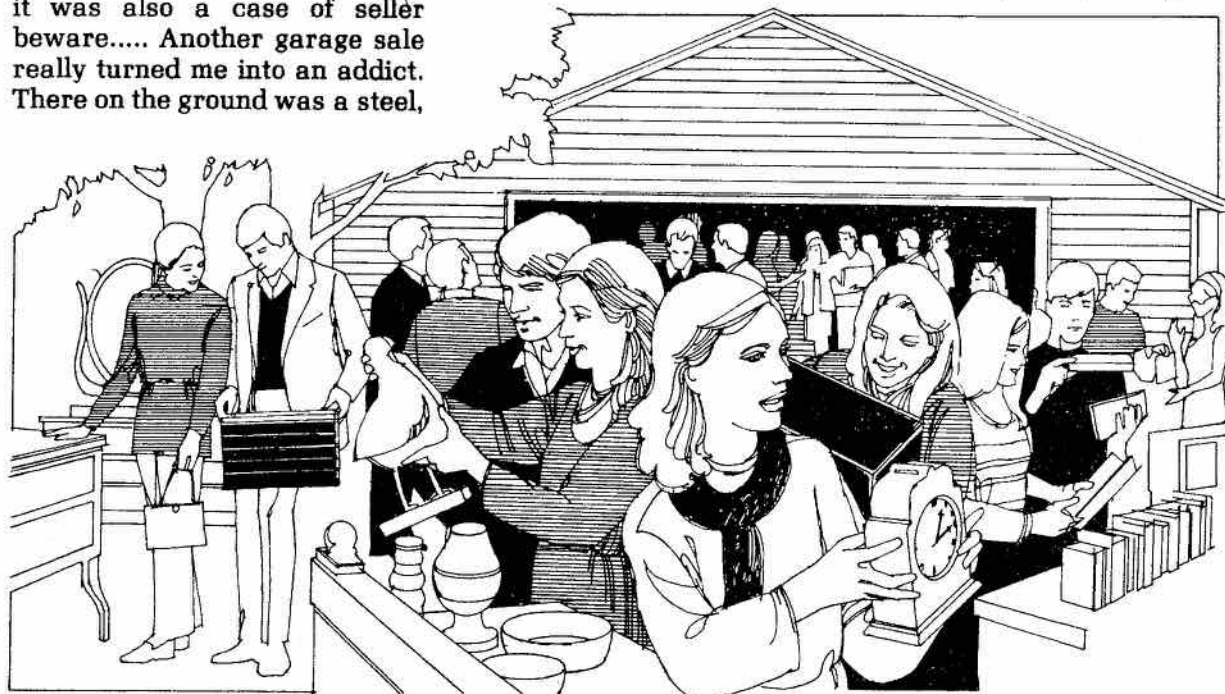
Subsequent garage sales have netted a further half dozen or so of similar cabinets which are serving a very useful service in the basement workshop. Continuing to browse, I became curious to see what was in that long, narrow carton under a table.

It turned out to be a Shakespeare 4 element, fiberglass coated yagi antenna for CB and things were really looking up now..... This was what I wanted for 28 MHz, as it is easy enough to cut a few inches off each element or perhaps even add a few feet of tubing and use it on 21 MHz.

Seeing that he had a prospective sale, the owner came over and we had a little discussion and he assured me it was in working conditions and that all bits and pieces were there. The price was right, and probably cheaper than it would be at a Ham Auction.

His reason for selling was that he was taking Horace Greely's advice and going out west to join the oil moguls in Alberta. It seems he was a frustrated would-be Amateur, who could never master the code and had settled for CB which was something of a pity. I thought as he seemed to know his stuff otherwise.

Taking my leave, I walked off with my newly found treasures and conjecturing to myself that I now had a bit of work to do, installing a new antenna and the consequent pruning.





Treasure indeed. This was almost as good as working a new country. Certainly one came up with something more tangible than a never-to-be-received QSL in exchange for one's 'green stamps'.

### SEARCHING FOR BARGAINS

Radio gear is not necessarily confined to Ham flea markets or auctions, although it is somewhat more restricted of course. There are a great number of Amateur creature comforts to be had which one never sees at a Ham auction or flea market... such as desks, swivel chairs, easy chairs, bookcases and lamps of all description.

Like most other Amateurs, I never entertained the idea of going out and splurging big money on furnishings for the radio room and simply made do with what was at hand. Any spare money was needed for equipment and not furnishings.

For me, all this has changed, thanks to garage sales, and the 'shack' has ceased to exist. It is now the 'radio room' with all the comforts and conveniences making for more enjoyable operating, and at very little cost.

Sometime later I attended another garage sale where I spotted a test meter priced at a mere \$5. This turned out to be a Triplett model 850 VTVM. What was wrong with it, I wondered? The meter movement appeared to be intact as I shook and rocked it back and forth, so what else was in a VTVM besides shunts, an inoperative tube or transformer?

Upon enquiring, I learned that indeed it was not in working order and had been replaced by more modern solid-state metering the chap now used in his TV servicing business. Lucky you, I thought, and no wonder TV servicing is so expensive when one can afford to discard an expensive meter rather than repair it.

For \$5 this seemed to be a better deal than a lottery ticket as the odds were in my favor that I could

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*"Radio gear is not necessarily confined to Ham flea markets or auctions..."*

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'fix' this gamble. For that kind of money, I would be only too happy to cart his 'garbage' away.

Sure enough, I found the probe resistor shot. Two other DC voltage ranges also proved to have defective shunts, but with the replacement of three defective resistors I ended up with a \$150 instrument for a mere \$5, which wasn't a bad deal.

This same garage sale resulted in the purchase of a pole light for another couple of dollars. This was the ideal answer to my problem of insufficient light over my operating and typing positions, as I lost no desk space.

True, one of the light sockets had been broken from its pole mounting and the shade was broken, but I only needed the two lights anyway if I was unable to effectively make a repair. Certainly it beat spending \$30 or so for a similar article in the stores, as I was not *that* interested in lighting.

Repair was effectively concluded by simply replacing a spring retaining nut which had been jarred loose from the socket mounting and fallen down in the wiring. As for replacement of the broken shade glass, that will have to wait until another garage sale, as I refuse to pay the price for a matching replacement.

### BE PREPARED TO REPAIR

Another eventual garage sale yielded a TV antenna and Alliance rotor and control box. The former I wasn't too interested in, but the rotor and control box were a dif-

ferent story. The rotor would hardly handle a heavy beam, but should certainly handle my newly acquired Shakespeare CB antenna, yet to be converted to 28 MHz, I thought.

Asking whether the rotor was in working order or not, I was assured that it was but that they "hadn't used it in a long time" due to the cable TV which had been installed.

Whether these people misconstrued my question or not is open to question. Possibly the antenna had worked, but certainly that rotor had never turned one revolution since the day it had first been installed. I was not to discover this until some time later when I got it onto the bench for a check out and overhaul.

Frankly, it took me two whole days of checking and eventually drawing out the circuit of both the rotor and control box before finding out that the rotor unit and control box were not compatible. Either that or the instructions had been lost or ignored. Whatever the reason, that rotor had *never* rotated since the day it had been installed.

However, all was well that ended well, and the two units are now working to perfection after sorting out the crossover in interconnecting wiring, proving once again that humans are not infallible to error.

### FOR THE JUNK BOX

Rummaging at another garage sale led me to a couple of cardboard cartons holding a bunch of wire and odds and ends. Here I spotted a PL259 and a couple of BNC connectors attached to some lengths of RG 58. What are these connectors doing here at a non-Ham environment? This was worth a gamble at a dollar a throw per box. Who knows what I would end up with in the bottoms of the boxes?

Actually, it turned out that this was the residence of a former CBER who had departed this realm, and

the daughter was getting rid of a lot of useless 'junk' for which she had no use herself. Oh well, it takes all kinds, and I happened to be that 'other kind'.

I ended up with a mile of wire in all gauges and types but, more interesting, about 100 feet of RG58 in varying lengths, maximum 25 feet, but fine for baluns or other interconnecting leads. As an added bonus, it wasn't the cheap kind of coax with skimpy shield, nor even contaminated.

There were also two PL259 plugs, nine BNC connectors, two pyrex antenna insulators and a hank of resin core solder... all for a mere \$2.

Another lucrative sale netted over two dozen LEDs along with as many slide switches, a spool of tinned wire, two unused 8-track stereo tapes, each 270 metres long and a tin of auto body cement, unopened, which I find particularly useful around the ham workshop.

This particular chap was neither a ham nor a CBer, or even employed in the electronics industry. He was just interested in how transistor and diode switching worked and had been playing around for his own particular hobby to augment his knowledge of electronic switching.

Once again, one never knows what one might find in the most unexpected places... one man's garbage is another man's treasure.

Many transistor and tube-type radios are to be had, some in working order and some defunct, but all worth consideration for their parts value alone.

TV's also abound, mainly black & white at this stage of the game, but if one needs a replacement tube, these are a good bet. Have you seen the price of outmoded tubes today?

### TALE OF TWO STEREOs

Personally, my tastes lean toward the solid-state items such as transistor-type radios or stereos

which have come my way at these sales. All have been procured at giveaway prices and yet have been quite expensive to buy originally.

Three notable items have been an AM, FM and 5 short wave band receiver which covers three ham bands and two metres for a mere 50 cents.

Two AM, FM stereo multiplex receivers with 8-track tape playing facility were also purchased for a measly sum of \$2 and \$5 respectively. These latter two were worth at least \$100 apiece new, but were unusable due to defects and were relegated to a garage sale for any price they would get.

The sellers were even obliging enough to tell me where the problems were, so I figured they must have had technical experience or advice from some outer source. One had unserviceable output transistors and the other had a blown transformer, so I was informed.

Suffice it to say that I had the expertise to repair them for a nominal sum, if not from the junk box. Transistors were cheap enough and power transformers for solid state equipment were not too hard to come by. If they happened to be beyond repair, there was always the parts value, so I had nothing to lose.

The \$5 stereo, presumably requiring a new power transformer, turned out to be a steal. Sure enough, the power transformer appeared to be open circuited in the primary, but upon removing

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*"Anything over 50 years old seems to be labelled 'antique'..."*

---

the transformer preparatory to installing a replacement, a particular situation occurred.

Ohmmeter continuity was observed on the primary wires coming out of the core of the transformer but no continuity was to be found on the primary output leads themselves.

Well, that thick wire located between the two primary leads had to be the answer, and it was. This 'thick wire' was not a wire at all, but a sneaky mini-fuse, the like of which I had never seen before.

No larger than a 1N914 or 4148 diode and silver coated, it was open circuited and had to be a fuse of some sort. What a sneaky place to locate a fuse, on the underneath side of the phenolic strip holding the primary connecting wires, and not even looking like a fuse!

By bridging the gap, we were in possession of a tape-playing AM, FM stereo receiver for practically nothing, although it had cost somebody a good few dollars.

Many are the tools and other goodies which I have been able to garner from garage sales this past year, along with the aforementioned treasures, many of which I would never have dreamed of buying due to their normal cost in the regular market place.

### FEAR OF ANTIQUES

Fortunately, or unfortunately, I am not a collector nor an antique buff, as I happen to be older than many of the so-called antiques sold today.

Anything over 50 years old today seems to be labelled 'antique', meaning it is in the high price range for a piece of 'junk', so labelled by *me*. Generally I give such signs a wide berth for fear of being sold off as an antique myself.

If collecting old radio gear is one's particular forte, then garage sales are of some interest, as I have seen a couple of old (meaning circa 1920-1925) cabinet radios which

might have been of some interest to collectors.

Another oldie was a cone speaker which we used to try to imitate by soldering a needle to a headphone diaphragm, the other end of which was attached to a stiff paper cone. While the idea worked, after a fashion, it was hardly the equivalent of today's hi fi, which I much prefer personally.

Anyway, if antiques are your thing, then garage sales are a good bet, just as I discovered that radio gear is not confined to Ham flea markets and auctions.

One word of caution regarding antiques or anything labelled as such. I found numerous articles with signs that should have read 'replicas of antiques' rather than

give the impression that the articles were actually antique in manufacture.

Be it garage sale or flea market, have fun and happy hunting, but *Caveat Emptor* as all goods are not returnable for refund. You pay your money and you take your chances, just like any Saturday morning DX pile up!

□

# Becoming an Amateur

By Don Meadows VE3LQS

*We all have fond (or not so fond) memories of becoming an Amateur. From the North Bay ARC Bulletin, NBARC News, comes this story:*

My introduction to Amateur Radio came when Rev. Charles Graham introduced me to Joe VE3VQ, who with kind consideration and interest allowed me to visit his shack on many occasions to see his equipment and to explain how it worked. He also related stories about his work in electronics and the projects he had completed.

Chuck VE3CEH, who lent me his gin pole for a job, asked if I was interested in coming to the Amateur Field Day in June. Many months passed before the Field Day, and through my friend Roland VE3KAH I met many other Amateurs on my travels throughout Northern Ontario.

Brother Robert VE3BWI, Rudy VE3DSX, both of Timmins, Henry VE3JII of Sault Ste. Marie and Herman VE3LX of Thunder Bay, by their invitations to visit their shacks, convinced me that Amateur Radio would be a fine hobby.

June 1980 and Field Day arrived. Off I went with the aim of seeing how a Field Day was conducted and finding out its purpose. First I was greeted by Muriel

VE3LQH, who had advised me previously by phone how to recognize her (as we had not met before). She would be sporting an apple green hat on which her call sign was embroidered.

Joe VE3VQ greeted me with a big smile, after which I went to the main tent to see Chuck VE3CEH. Well, his culinary prowess had depleted the larder, and hungry Amateurs arriving for breakfast the following morning would come up short of food. VE3CEH, the old smoothie, talked me into visiting the local grocery store for more supplies (mind you, I wasn't hard to persuade because of my own interest in the event).

After I returned with the necessary items, I was introduced at the 20-metre tent to 'Speedy' Gene VE5MC/3. After working with Gene, I nicknamed him the 'wolf'— a relentless hunter who would not leave a station alone until the contact was confirmed!

The first day of Field Day passed and new friends were made. Mike VE3LQJ and I sat up all night making contacts. Breakfast was superb at Chuck's wagon stop. Then and there I vowed to return in 1981. So ended Field Day 1980, but not before Muriel had said, "You will have to enter an Amateur course this fall."

Summer passed, and I had made many visits to Roland's

residence to watch and enjoy. When the Fall bulletin arrived from Canadore College I looked and looked. No Amateur course—I almost had a stroke!

A hasty phone call to the coordinator at Canadore assured me that indeed an Amateur course would be offered. I registered immediately (in fact, I was the first on that list). On reaching home, a concerned YL by the name of Muriel phoned to tell me about the course, and I assured her of my registration.

The course progressed and Hector VE3JHP, John VE3HKW, Ted VE3DXG, Bob VE3CDE and Andrew VE3LQM guided us to the big day: Feb. 4, 1981— Exams. The result of this intense study was a letter from DOC confirming a pass.

I have a recipe for the making of an Amateur. Take one heaping measure of kind Amateurs who are dedicated and care; add to this one measure of desire by the student, and finally add one measure of XYL, whose devotion and support gave me the strength to go on toward my goal.

The hours of study are long, but the reward is great, and well worth the effort. To all those folks, for their help, words of encouragement and confidence, TNX.

□

# QSLing and QSL Bureaus

You have received your station licence and call. Great Day, you are on the air and making contacts. You have ordered your QSL cards. A QSL card is an exchange card to verify a contact made on the air. Your QSL must show pertinent information about that contact... such as: call of the station worked, handle - operator's name, and country, province, state, of that station - (the destination to where your cards are going) **Please print clearly.** This helps to process your QSLs. The Bureaus sort the calls by call letters usually many pounds at a time. Then they go to the volunteer who looks after the calls assigned to her/him. To be sorted and filed. Then they are mailed out to you with the SASE (Self addressed stamped envelope) that every licensed Amateur should provide at the incoming bureau of his or her particular area.

The above information pinpoints the receiver of that QSL. When a station has a QSL manager, the manager's call must be shown, for proper routing, as well as the station worked. Other requirements on QSL are: date, time in GMT, band frequency, signal report and fone or CW. Your name, call and address is usually printed on the face of your QSL and need not be written elsewhere.

Now that you have made out your card, you may send it direct to the person as listed in the DX or USA callbook making sure you place sufficient postage on it to reach its destination, or you can send you QSL to World Wide QSL Bureaus listed on page 27 of the callbooks. At the beginning of each country's listing in the callbook, information is given regarding bureaus or radio clubs involved in handling QSL cards.

If you are a member of CARF (Canadian Amateur Radio Federation) you may send all of your outgoing cards anywhere in the world, free. You must place your CARF number on the package of QSL cards to prove membership. Sort them alphabetically by destination and mail to: CARF, Box 66, Islington, Ontario M9A 4X1.

The DX association provide privileges to their members for sending QSLs to various countries other than North America.

Now you have sent off your QSL card and you expect to get a card from him/her. They may not wish to send direct as postage for individual cards is expensive, so they will send your QSLs to you via the various bureaus. ARRL Headquarters QSL Bureau, CRRL Central Bureau of Canada, Box 51, Saint John, New Brunswick E2L 3X1. In Ontario: The Ontario Trilliums, VE3ARRL QSL Bureau,

Box 157 Downsview, Ontario, M3M 3A3. For Amateurs who live in Ontario - you should keep a couple of SASE's at this bureau. Every province, territory, USA call area 1,2,3, etc., Hawaii and Alaska have their own bureaus as well as every country to accommodate the Amateurs in their jurisdiction.

**Amateurs be sure to put your name and call on all SASE's.**

Since I am involved with QSLing and volunteer work with VE3 bureau, I have been asked to give an outline of procedure. I hope this write-up will help the Amateur understand the route to take.

RSO (Radio Society of Ontario) does not operate any bureau service. In Ontario, be sure you have SASE or funds for same at: The Ontario Trilliums QSL Bureau, Box 157, Downsview, Ontario, M3M 3A3.

Thelma Woodhouse VE3CLT  
Credit Peel ARC News

## Who will take his place?

We were saddened to learn last week of the death of one of our most valuable members: **Someone else.** Mr. Else's passing creates a vacancy that will be difficult to fill.

Else has been with us for many years and for every one of those years, Someone did far more than a normal person's share of work. Whenever leadership was mentioned, this wonderful person was looked to for inspiration as well as results - "Someone Else can work with that group".

Whenever there was a job to do, one name was on everyone's list: "Let Someone Else do it." It was common knowledge that Someone Else was always the one the organization called upon

to support a particular project. Everyone just assumed that Someone Else was a wonderful person, sometimes appearing super-human, but a person can just do so much.

Were the truth known, everybody expected too much of Someone Else. Now Someone Else is gone. We wonder what we are going to do. Someone Else left a wonderful example to follow, but who is going to follow it? Who is going to do the things Someone Else did? When you have a chance to participate in our organizations activities, remember we can't depend on Someone Else any more!

Lois, WA2RXO (via VE3JQW  
Via OUMRC Rambler.

# Code Practice

To how many groups across Canada does this apply?

Most of us have really put a lot of effort into learning the code for the examinations. Every night without fail, we would turn on a rig of some kind to practice. Practice, practice, practice. Some of us used HF gear and tuned in W1AW on various bands. Others listened to a VHF repeater on some kind of monitor or other. In any case, many of us would not have been able to obtain our certificates without the nightly stint at code practice.

For a number of years now, Lloyd Ferns VE3BZF has been providing code practice over a number of two metre repeaters. In the beginning, the code was originated mechanically with a model 19 teletype machine. Each letter was generated by punch tape on the TD. This was a very labourious and tedious system because dots, dashes and spaces had to be punched onto the tape as series of "Z's" for dots, "ET's" for dashes and single spaces between letters and three spaces between words.

The output of a modified TD would turn on a tone oscillator through a polar relay, and the whole thing would sound like Morse. For 15 words per minute, only one space between characters was required. For slower speeds, up to eight spaces were required.

Now, things have evolved and are greatly improved. Code text is input into a TRS-80 microcomputer, using 'electric pencil', a software word processor. Code is generated at the appropriate speed by a program that reads the text and toggles the relay that normally turns on the tape recorder in the TRS-80. The relay is

connected to an oscillator and the CW that results is transmitted.

This system is very easy to use and I suspect that a similar system could be developed for the Pet, Apple or what have you.

Why would anyone want to do that, you might ask? There is a need for volunteers to help with the code practice program. Code practice runs seven days a week from mid-October to mid-April. All that is needed is a few warm bodies who would like

to contribute some time. As long as you can put a reasonable signal into the VE3RSO repeater and have a system for originating code, we can use your help.

Amateurs have had a tradition of helping people who are interested in becoming Amateurs. If you feel so inclined, you too can participate in the RSO code practice program.

Paul VE3IAC  
in the Peel ARC Bulletin

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## 21 Amateurs provide Race communications

The Canadian Marathon Championships and Annual Molson Marathon Race were held in Regina on May 16. One hundred and fifty runners from Canada and the United States competed over a certified course of 26 miles, 385 yards.

A total of 21 Amateur radio operators from the Regina Amateur Radio Association provided communications, using VHF repeater VE5SS on 146.280 MHz in/146.880 MHz out. The net control station located at the finish line in Douglas Park Track and Field Facility, consisted of one mobile unit and two hand-held units.

Communications were maintained with other mobile and hand-held units located on the Emergency Measures Organization van and bus, an ambulance trailing the course, and eight timing and seven sponging stations spaced along the route of the course. All major areas were kept informed of race conditions as they happened.

The following Amateurs participated: VE5AAD, VE5ABF,

VE5ABS, VE5ACN, VE5ADK, VE5ADO, VE5AEK, VE5AEJ, VE5BW, VE5GF, VE5IG, VE5LV, VE5OI, VE5OQ, VE5QO, VE5RN, VE5TH, VE5TO, VE5WJ, VE5WM, VE5XU.

Bill VE5WM

---

### A PROBLEM WITH A PURPOSE

This is a question submitted by VE3DQB Frank Hughes of Hawkesbury Ontario. Can anyone supply an answer?

The aircraft in which you are flying force-lands on a desert island. You recover a transistor radio from the wreck. Describe how you would summon assistance with it. Discuss your choice of frequency, how you would determine it, the circuits you would use to attain and maintain it, the antenna system. Assume the tools available and limited to the contents of pockets and handbags - a knife, a nail file, eyebrow tweezers, matches or lighter, a flashlight with bulb and battery.

Remember that in an emergency any frequency, and any mode of transmission are legal.

# Stingy 'S' Meter

I am usually amused when I hear someone respond to a request for a signal report begin his commentary with, "Well, I have this stingy 'S' meter...". Apparently, "stingy or Scotch" "S" meters lend prestige and dignity to the old shack, for it appears that the greater the stinginess, the greater the pride. Rarely does one ever hear a report about a generous meter. I suppose that, if I were a psychologist, I could make all sorts of Freudian interpretations concerning the Amateur fraternity on the basis of whether their perception of their "S" meters is one of stinginess or generosity. As a matter of fact, I've always sort of wondered how anyone knew whether his S meter had either of these attributes. At times, my receiver comes through with a loud and clear signal and the "S" meter hasn't moved a bit. Rarely is anyone in any sort of a situation where "S" meters be compared - with the only variable in the system being the meter.

Pat Hawker, G3VA, makes mention of the problem in his column, Technical Topics, in Radio Communication, March 1981. In this article, Hawker reports that Hans Rueckert

VK2AOU, did a study reported in CQ-DL, December 1980, on antenna testing. The table below shows input signal, in microvolts, necessary to give the 'S' meter readings for the listed transceivers.

As G3VA says, "...it seems worthy of comment to discover that a signal which on one receiver results in the meter pointer flipping grandly up to S9, may on another barely move it beyond S1. Hawker wonders if the whole business is more to conceal certain aspects of receiver performance than to reveal the true strength of the incoming signals.

Another author and researcher, Sidney Kaiser WB6CTW, commented on "S" meters as a result of his research reported in Ham Radio of November 1979. When looking at this table, it is noticable that the increase in signal necessary to go from S1 to S2 to S3, does not follow a linear pattern. WB6CTW found the same lack. He also found that widely different input voltages, ranging from 8 microvolts to 250 microvolts, can give an S9 reading, for example. WB6CTW used the word 'dismal' when checking the linearity and comparability of

"S" meters.

As Hawker says, the "S" meter has been around for some forty-five years (like RST) and may be regarded as a useful rough and ready comparative guide rather than a precise instrument.

After having looked at a bit of the research literature on the subject of "S" meters, I am firmly convinced that anyone that mentions his receiver having a "stingy" S meter, ought to have a 0.01 uF capacitor across his lips.

Marvin D. Solomon WB8VNP  
Algoma Amateur.

## Breakfast in P.E.I.

In case anyone is driving down to PEI in the future, on the first and third Sunday of every month the island Amateurs have breakfast in the Kirkwood Motel in Charlottetown. Visitors are most welcome.

Also, every Sunday night there is a net on their repeater, VE1HI, 34/94 with the club station VE1PEI as NCS.

Model	S1	S2	S3	S4	S5	S6	S7	S8	S9+10	S9+20	S9+40
FT901	0.8	0.9	1.0	1.2	1.4	2.0	3.3	6.0	50	200	1700
TS820	0.5	0.7	1.1	1.7	3.4	6.0	12.5	25	200	1000	22,000
IC701	1.9	2.3	2.7	3.5	5.0	8.0	12	20	---	120	930
SB104	10	18	28	40	52	68	95	125	265	460	10,000
FT301	1.4	2.4	4.0	7.0	10	13	18	24	95	450	2700
TS520	0.55	0.7	0.92	1.25	1.9	3.0	5.6	12	110	500	15,000
FT7	1.5	3.0	4.0	6.5	11	15	21	28	130	1800	25,000
TS120V	1.5	3.0	4.0	6.5	11	15	21	28	130	1800	4200

all above figures microvolts.

## A Modified Two-Metre Quad

Tired of tripping a number of repeaters and not being able to talk on the repeater you want, or are you operating on limited power and just want to extend your range? The following might just be the answer!

My first attempt at a two metre antenna was a simple half-wave vertical dipole which I mounted ten feet in the air. With my limited power of 1 watt this antenna worked great for the local repeater, but I was unable to talk on any of the other repeaters that I could hear. After a few frustrating evenings of only being able to listen to these other repeaters, I decided I would have to improve either my power output or my antenna. The antenna seemed to be the easiest.

My first attempt was a two element quad which seemed to work better than the dipole. Next I added a third element which again improved my signals, but then I decided to modify this rather conventional three element quad. The first modification was to turn the quad on one of its corners so that it looked more like a diamond configuration rather

than a square. The second modification was to add extra elements in the form of quarter-wavelength pieces strung along the cross supports of the director and the reflector and the third modification was to feed the configuration from one or the side corners.

When the modifications were complete, I used a short piece of RG 59 coaxial cable run back along the centre support with a connector as my feed point. The result was a SWR of less than 1:5 to 1 and greatly improved signals, which now meant that I could talk on most of the repeaters that I could hear. Alas all is not well, as you can quickly determine from the tests I have included, I now need to know the direction of the repeater from my QTH and also I need to be able to rotate my antenna.

As a guideline of what to expect I did a relative field strength comparison of a quarter-wave vertical antenna that is mounted on my car versus the modified three element quad placed at the same height and position as the quarter-wave antenna. The results are as follows:

Quarter-wave antenna - 1 unit  
Modified 3 element quad

Front (forward) - 10 units  
Side with feed point - 1.5 units  
Side without feed point - 1 unit  
Rear - 1 unit

### CONSTRUCTION MATERIALS

1 broom handle about 3 feet long  
27 feet of stranded wire (I used Pos 'J' lamp cord)  
6 support pieces (I used ¼" fiberglass dowling 36 inches long)  
14½" of RG 59 coaxial cable and connector  
1 clamp for mounting antenna to a pole  
Fishing line used to secure wire to cross supports.

### CONSTRUCTION

- drill slightly under size holes in the broomhandle at 90° apart to accept the support members
- cut the support members (the support members were left longer than actually required) and drill small holes near the ends to accept the fish line used to hold the wire loops in place.
- place the support members through the holes in the broomhandle.
- cut and solder the wire loop for the reflector.

- check the dimensions of the loop and then affix it to the supports using the fish line, also attach the quarter-wave elements to the supports.

- cut and affix the driven element.

**Note:** vertical polarization is achieved by feeding the side of the quad antenna. I used  $14\frac{1}{2}$ " of RG59 coax and ran it back to the centre of the quad where I placed a connector.

- cut, solder and affix the director loop and the quarter-wave elements to the supports using fish line.

- attach the mounting clamp to the balance point of the broomhandle (boom) remembering to keep the feed point on the side of the antenna.

- connect feedline of RG 58 coax to the antenna.

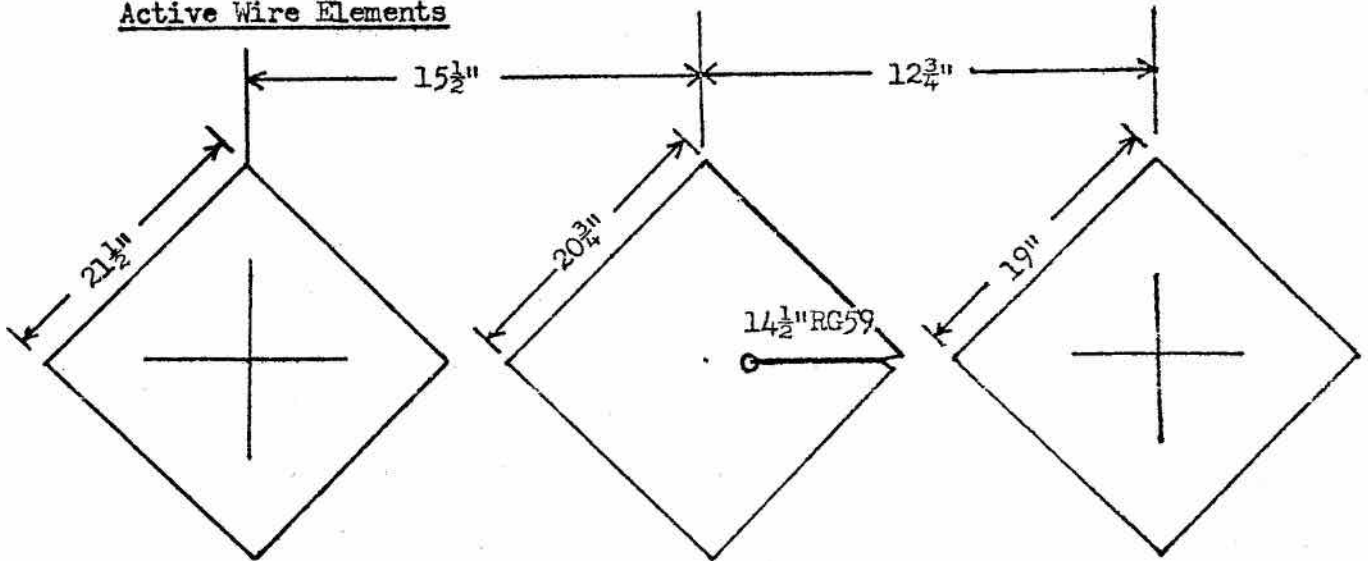
- check SWR (it should be less than 1:5 to 1 or less).

My construction practices could be improved upon, but so far this antenna works and has weathered a winter season. This might not seem like a long time for most antennas, but for a person who constructs, tests and dismantles an antenna in a weekend this antenna is almost a granddaddy.

Edward C. Jones VE3LNG  
79 Aurora Heights Drive  
Aurora, Ontario L4G 2X1.

MODIFIED THREE ELEMENT QUAD

Active Wire Elements

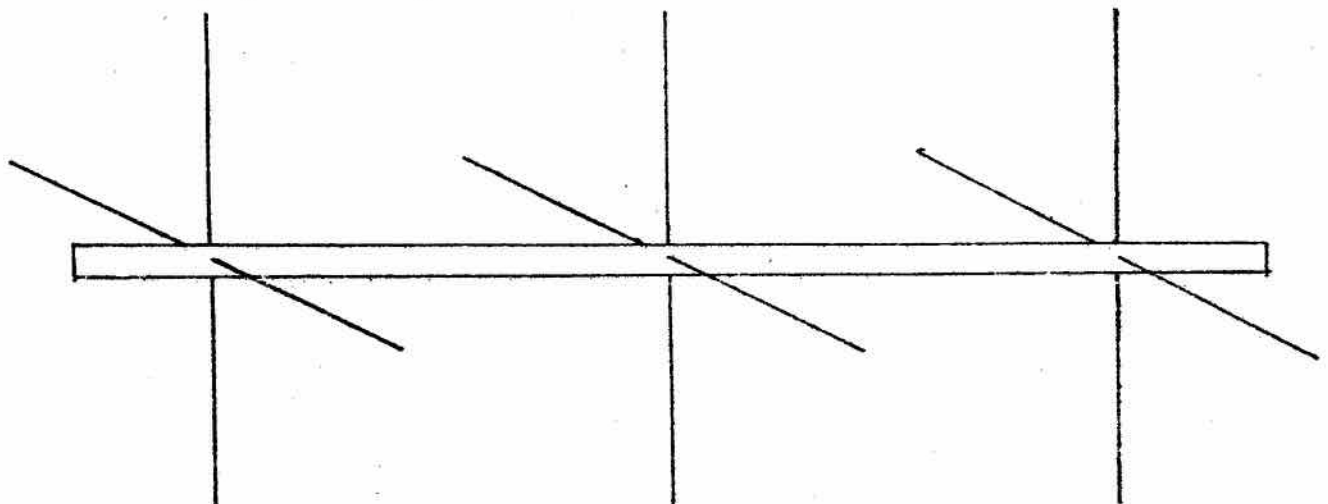


REFLECTOR  
cross elements -  $18\frac{1}{2}$ " each

DRIVEN ELEMENT

DIRECTOR  
cross elements - 17" each

Boom and Supporting Members





## The QRP Challenge

Two previous writers have issued a challenge for the Amateur to try QRP and, at the risk of over-emphasizing the subject, it is felt that some practical information would be of interest.

There are at least three groups who should be interested: a) the newly-licensed who have to serve a year's apprenticeship on CW

b) the person who cannot afford the typical FT101, or TS 520 equipment.

c) The "old-timer" who has worked it all on AM or SSB.

Ten Tec and Heathkit have kindly supplied sales information. The former's Argonaut has been sold to over 5,000, and the latter's HW7/8 to over 20,000. In case you do not know these models, the Argonaut is a "state of the art" transceiver, while the HW7/8 has a direct conversion receiver giving a very effective yet simple transceiver.

QRP clubs have a small, but enthusiastic, membership whose policy is to circulate technical information and sponsor awards and events i.e.; The G QRP(P) club has a growing membership, now near 1,000, and publishes a club magazine four times a year. Technical information is collated and available on commercial, and home-made equipment. Awards include - QRP Countries, QRP WAC, QRP Master etc. Of the former, G4BUE has

175 countries confirmed, GM3 OXX, 125, and VE5JQ 103, all with under 5 watt dc input. It should be noted that antennas used are typically dipoles and not necessarily big beams. Having visited Dr. John Dudley, VE5JQ, I can confirm that his biggest asset is enthusiasm.

Adrian Weiss, K8EEG/WO writes a monthly column in the CQ magazine, of world wide information, and in the issue of February 1980, details were given on the Michigan QRP Club, and the QRP Amateur Radio Club International, two American clubs. The latter originally defined QRP as 100 w maximum, but has now changed to 5w rf OUTPUT as maximum and is therefore a true QRP club. Both publish a newsletter. WAS and DXCC awards are offered, also DXCC Milliwatt (1w rf OUTPUT). N2AA holds a DXCC endorsement for 200 and W8ILC is nearing 300 with 1w.

As to equipment used - there is some difference of opinion on transmitting power - whether 5 watt dc input, or ac output. Europeans favour DC INPUT, while the USA favours AC OUTPUT. 1 watt dc input is not uncommon. In either case, 10 watt dc input, or 5 watt ac output are maximum.

A cw transmitter can be of extreme simplicity with variable crystal oscillator (VXO), or with highly stabilized VFO. The international agreed frequen-

cies are 3560, 7030, 14060, 21060 and 28060 kHz which makes crystal control practical.

The receiver design ranges from direct conversion to the typical SSB circuits. The DC receiver is a very sensitive, yet simple receiver with CW and SSB facility, Fig. 1, and as the VFO is on the normal transmit operational frequency, it can logically be used for the transmitter frequency control, making a simple transceiver, Fig. 2.

If the filter SSB approach is preferred, a modern "state of the art" receiver following the design by the Plessey Semiconductor (G3ZVC) (1)(2) using the Plessey series 600, or 1600, ICs will result in a top performance equivalent to commercial equipment at many times the price. Fig. 3. A PC board is available, as is full specifications on the ICs (3). Note that this is actually a transceiver and includes the TX SSB generator. The addition of a linear amplifier will complete a QRP transmitter.

In a review of Amateur Radio magazines, a very excellent design, and constructional article on a single conversion superhetrodyne receiver by K4DHC, was published by Ham Radio, September 1974, and in July 1974, a miniature transceiver for 7 MHz by W7BBX. Of particular note is "Solid State Design for the Radio Amateur" (ARRL) which might be con-

sidered as a reference book on QRP.

In many articles a full size template for the PCB is included, or a supplier quoted, which makes construction more like a kit project and guarantees results.

Should any reader be

interested in exchanging information a SASE would be appreciated.

References:

1) Plessey Semiconductors Radar and Radio Communications IC Handbook.

2) Ham Radio Magazine, August 1974.

3) Distributed by GEC Canada Ltd. 766 King Street W., Toronto, Ontario, M5V 1N7. Price; \$6 including postage.

L. Herrington, VE4QL  
42 Nolana Street  
Winnipeg, Manitoba, R2V 3B7

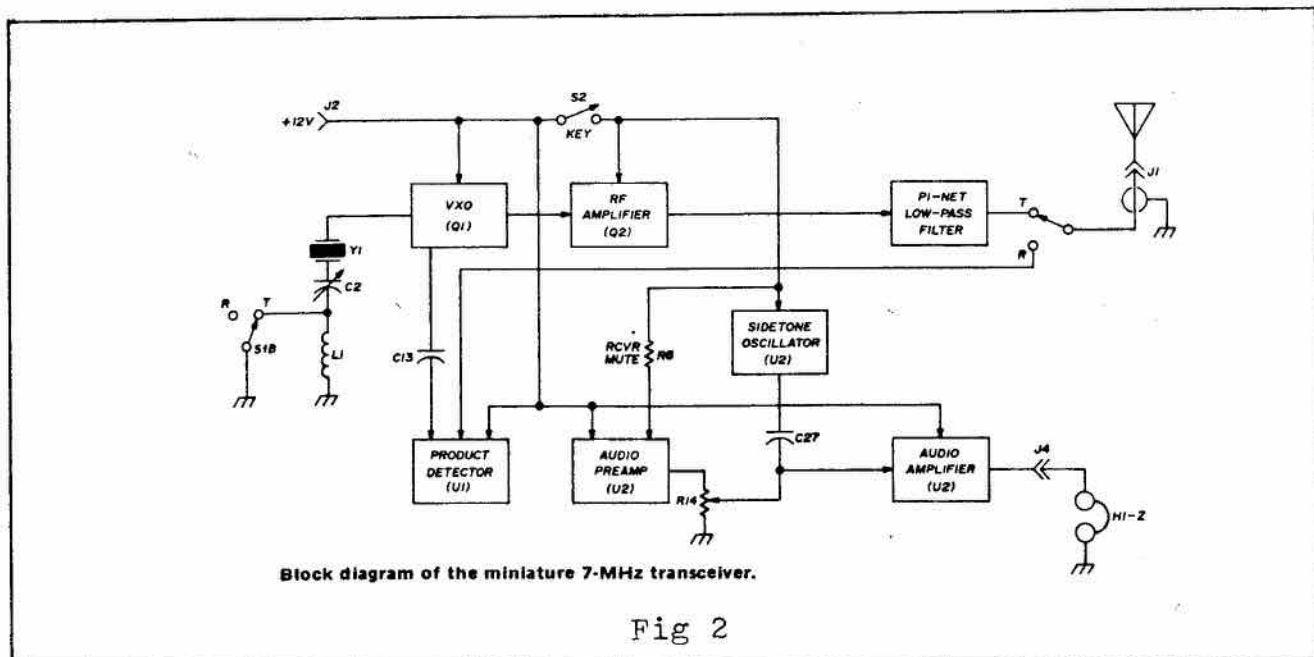
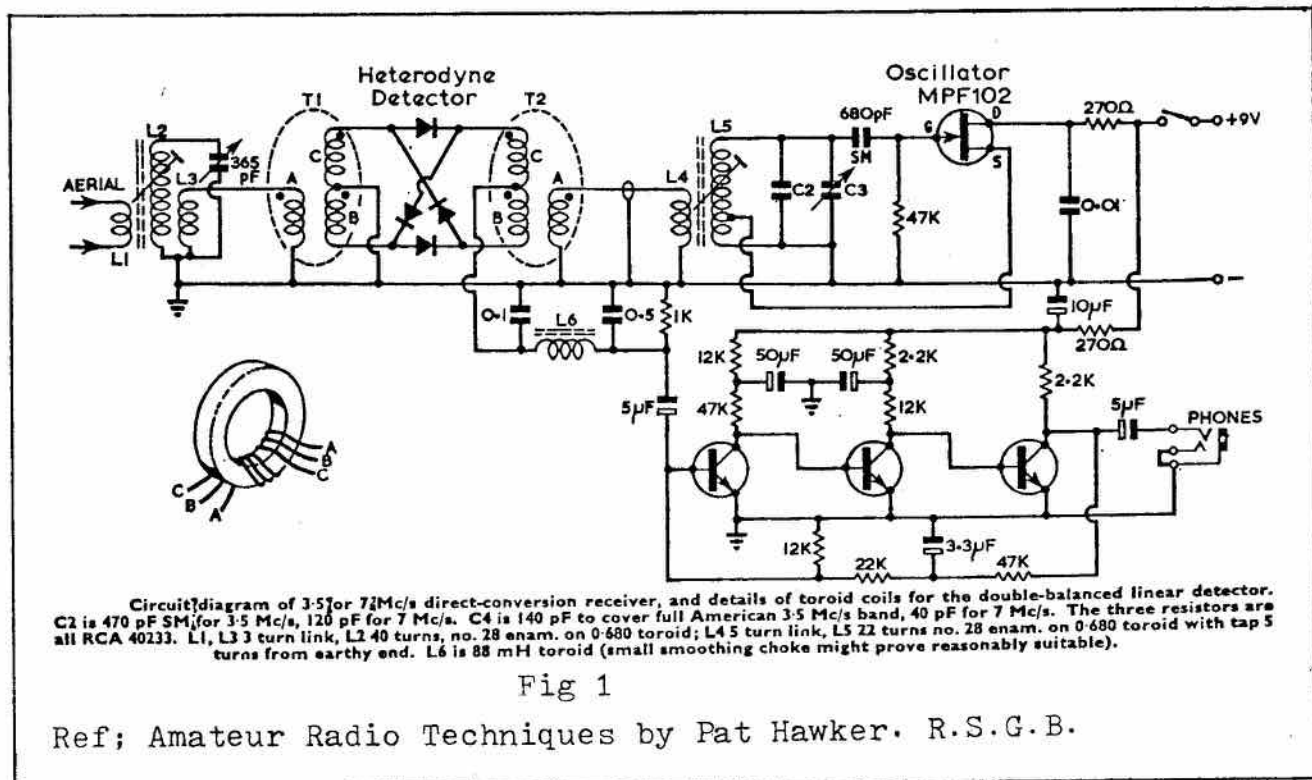
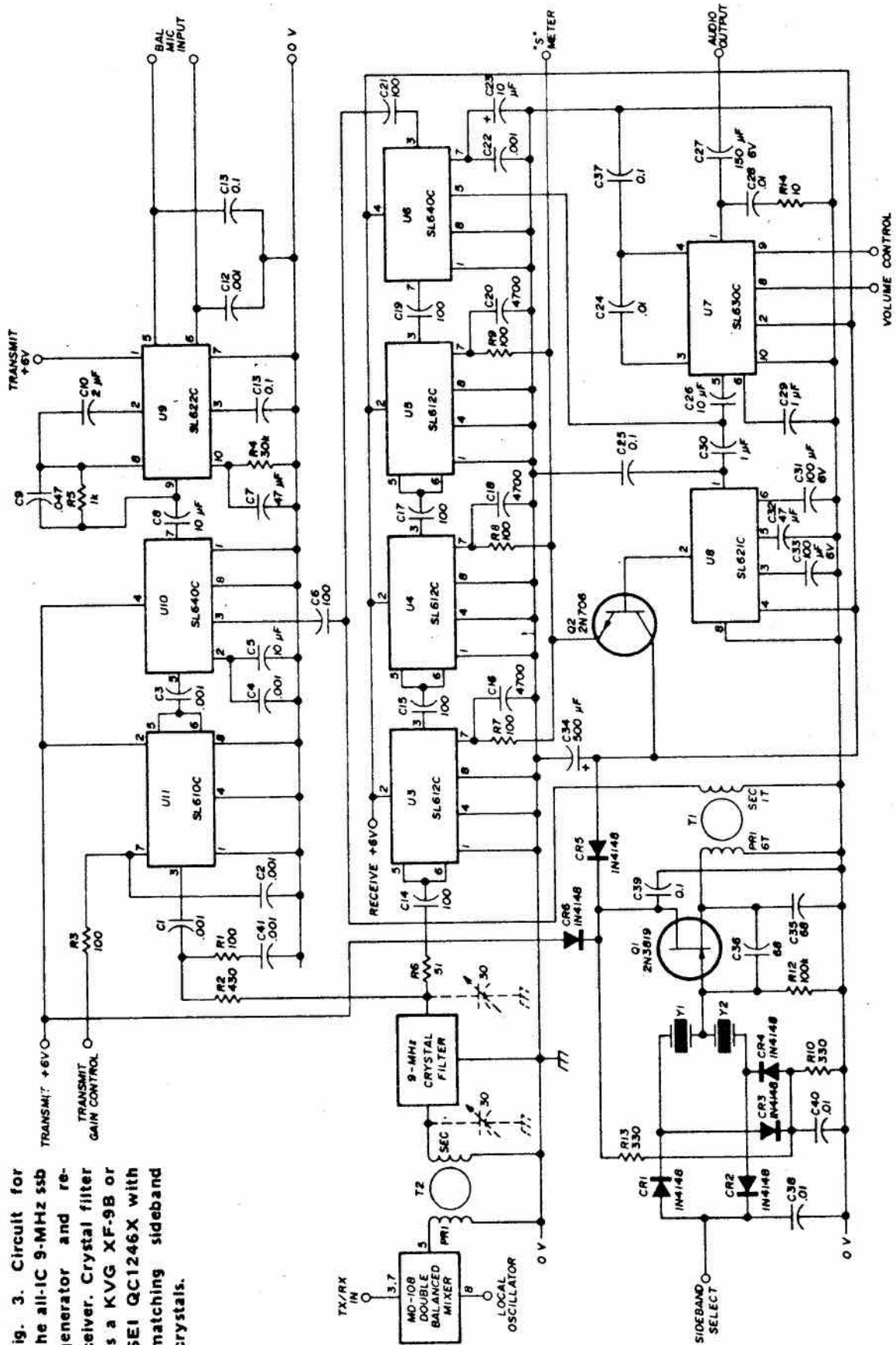


fig. 3. Circuit for the all-IC 9-MHz ssb generator and receiver. Crystal filter is a KVG XF-9B or SE1 QC1246X with matching sideband crystals.



# Zappp -- Ouch!

Many Amateur publications and some recent articles in TCA have dealt at length with the subject of lightning protection, but a recent news article in the Toronto Star (Jul 15/81) suggests that perhaps, when dealing with nature's thunderbolts, there can be "something even a Boy Scout couldn't be prepared for". The incident described has a decidedly humorous element in spite of the serious subject matter at hand.

It appears that a Boy Scout cabin in New Hampshire fell victim to a particularly mischievous lightning bolt during an early evening thunderstorm. The 21 Scouts and their leader had taken refuge in their cabin when the storm began, but the lightning, not to be cheated out

of a victim that night, entered the structure through a window, and struck one boy in the foot, and "came out his rear end and then blew his bathing suit right off". From there it tore a sneaker off another boy's foot. In the ensuing panic and confusion, "one boy dove out the door, taking the screen with him." Before departing the bolt stopped to quench its thirst, as the Scout leader described: "One of the boys had a full can of Coke with him; the Coke disappeared without making any holes in the can. It just disappeared."

Fortunately, none of the group was seriously hurt, though there were numerous burns and a well-remembered adventure to recount over the

years. The incident clearly demonstrated that lightning can not only knock your socks off, but may take a shot at your pants as well!

VE3GEA

## GEMS FROM THE JUNQUE BOX

Next time you put down one of those rubber-backed or indoor/outdoor carpets, save the scraps. Cut them into appropriate sizes and glue them to the bottom of your homebrew equipment. They make equipment feet that are cheap and hard to beat. If your bug, paddle or hand key wanders around, glue a piece of the rubber backed carpet on with the rubber side down. It won't wander anymore. □

SPARC Gap

## Still in the Fast Lane!

That's right, our TCA production staff is still moving at top speed to return our scrambled schedule to 'normal'.

As a result, this issue and the November issue will appear in your mailbox about two weeks apart. Then we will be back on schedule, and hope to have future issues in your mailbox at the first of each month.

Thanks again for your patience.

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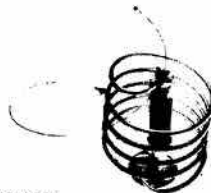
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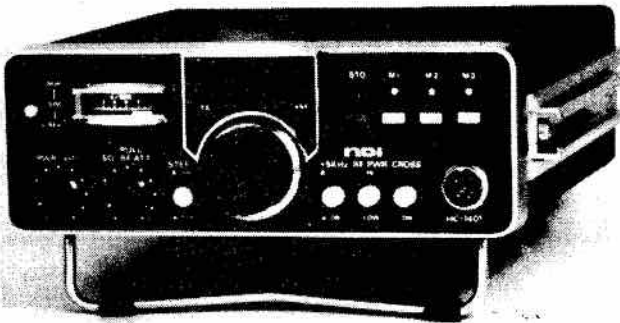
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## QSL Cards

### FEATURE OF THE MONTH



STYLE 6

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Canadian QSL Printing Service offers to Canadian Amateurs a distinctive two colour QSL card for only \$14.25 per 500 gram lot (approx. 200 cards). Ontario residents add \$1.00 sales tax. The price INCLUDES insured parcel post anywhere in Canada. The card is available in your choice of three colour schemes: (A) Map in silver with flag and printing in red; (B) Map and flag in red with printing in blue; (C) Map in silver with flag and printing in blue. Please specify which colour scheme you desire; A, B, or C. Card is printed on lightweight Buff Bristol stock. Make all cheques or money orders payable to: Canadian QSL Printing Service; Bruce McCoy VE3GDZ. Send all orders to:

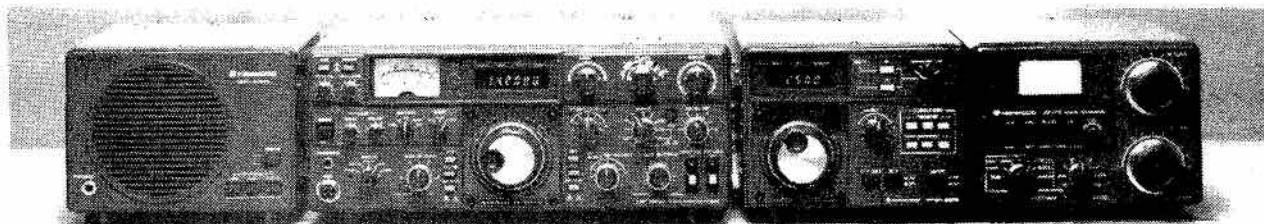
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Either a 500-Hz (YK-88C) or 270-Hz (YK-88CN) CW filter may be installed in the 8.83-MHz first IF, and a very sharp 500-Hz (YG-455C) or 250-Hz (YG-455CN) CW filter is available for the 455-kHz second IF.

##### 6146B final with RF NFB

Two 6146B's in the final amplifier provide 220 W PEP (SSB)/180 W DC (CW) input on all bands. RF negative feedback provides optimum IMD characteristics for high-quality transmission.

##### More flexibility with optional digital VFO

VFO-230 operates in 20-Hz steps and includes five memories. Also allows split-frequency operation. Built-in digital display. Covers about 100 kHz above and below each 500-kHz band.

##### Built-in RF speech processor

For added audio punch and increased talk power in DX pileups.

##### RIT/XIT

Receiver incremental tuning (RIT) shifts only the receiver frequency, to tune in stations slightly off frequency. Transmitter incremental tuning (XIT) shifts only the transmitter frequency.

##### SSB monitor circuit

Monitors IF stage, while transmitting, to determine audio quality and effect of speech processor.

##### 160-10 meters, including three new bands

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##### Wide receiver dynamic range

Junction FETs (with optimum IMD characteristics and low noise figure) in the balanced mixer, a MOSFET RF amplifier operating at low level for improved dynamic range (high amplification level not needed because of low noise in mixer), dual resonator for each band, and advanced overall receiver design result in excellent dynamic range.

##### Built-in digital display

Six-digit large fluorescent tube display, backed up by an analog dial. Reads actual receive and transmit frequency on all modes and all bands. Display Hold (DH) switch.

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# Infosection

## CARF Head Office

The CARF Office in Kingston, Ont. is open from 9 a.m. to 3 p.m. on weekdays; Phone 613-544-6161. Below is listed the names and positions of the CARF Office Staff for your convenience.

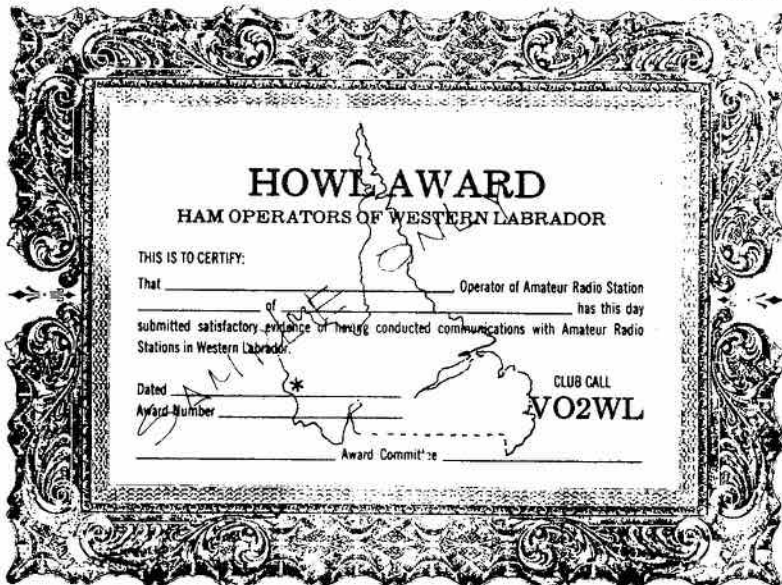
Office Manager ..... Andy Cieszewski  
Accounting ..... Mary Watts  
Secretary ..... Hazel Holland  
Membership ..... Brian Juniper

We the Hams of Western Labrador have recently revised our Award and would appreciate it if you would run it in TCA to advise Amateurs across Canada.

Ben Kean VO2CZ  
Secretary

Club: Hams of Western Labrador

Requirements: Amateurs must work four operators in western Labrador. All QSOs must be after December 31, 1980. No charge. Include 8½ x 11 SASE. Application: Send log data to R. White, 119 Howley Ave., Labrador City, Labrador. A2V 1Z6.



## Swap Shop

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

**FOR SALE:** SB200 linear in fine condition but needs new tubes. \$250<sup>00</sup> FOB. HW8 QRP with power supply both almost new \$250<sup>00</sup>. R.L. Cowan, VE3DCT, Box 2194, Bracebridge, Ont. P0B 1C0.

**FOR SALE:** Heathkit radio control equipment Model GD-47, 5-channel with manual; Navajo RC plane Super Tiger .60 engine (to be sold as package deal with control equipment); Tiger Moth 68" wing space .55 engine. Contact Ed Butcher, Box 239, St. Basile le Grand, P.Q. J0L 1S0.

**FOR SALE:** Heath SB220 never used, less tubes \$575. HP23B power supply \$65, IT17 tube checker \$50, IT28 capacitor checker \$40, DSI 5500 50Hz-512MHz frequency counter \$95. Hustler mobile resonators and mobile antenna hardware negotiable. H. Barber VE3AWP, 30 Silver Aspen Cr., Ottawa K1B 3C5. 613-824-4665.

**WANTED:** Wireless Set No. 19 MKII or MkIII and accessories in good (unmodified) condition. Write giving details and prices asking. D. Mungham, 36 Burnett's Grove Circle, Nepean, Ont. K2J 1N6.



## Canadian Amateur Radio First!

### WHAT IS CARF?

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

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

### OFFICERS

President	VE3BID	Don Slater
Imm. Past President	VE3NR	Bill Wilson
Secretary	VE3KJW	Don Emmerson
Treasurer	VE3IWH	Lorna Hill
General Manager	VE3AHU	Art Blick

### BOARD OF DIRECTORS

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

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

**VE6HO** Jim McKenna, Box 703, Ft. McLeod, Alta., T0L 0Z0. 403-234-4068.

**VE3HWN** Craig Howey, No. 304 598 Silverbirch Rd., Waterloo, Ont. N2L 4R5 519-885-4545.

**VE2BIE** Raymond Mercure, 208 Bourque St., Hull, Que. J8Y 1Y4. 776-6495.

**VOINP** 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.

# How to use the CARF QSL Service

The CARF Outgoing QSL Service will forward your QSL cards to anywhere in the world. This service is **free to CARF members**. If you send a lot of cards, a CARF membership will soon pay for itself in view of the high cost of postage when cards are mailed direct.

**Please observe the following rules when using the CARF Outgoing QSL Service:**

1. Sort cards alphabetically by prefix.
2. Sort Canadian cards numerically by call area.
3. Place small lots of cards in strong, heavy envelopes and seal securely. Wrap heavier packages in strong paper or put in cardboard box. Tie securely. Do not staple!
4. Address your package as shown in the diagram.
5. **Do not register the cards.** This only delays them, costs more and is not really necessary.
6. If you want proof that CARF received your cards, enclose a self-addressed, stamped postcard or envelope with 'Receipt' marked on it.
7. If a package should be damaged on arrival (very rare), CARF will send you a list of cards received so that you can check if any were lost.

(For an explanation of QSL Bureaus in general, see the CARF Regulations Handbook chapter on QSLing.)

Name, call	<b>PRINTED</b>	Correct Postage
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CARF National QSL Bureau P.O. Box 66 ISLINGTON, ONTARIO M9A 4X1		
Use this address <b>NOT Box 356 Kingston</b>		

### BANNED COUNTRIES LIST

The following countries have notified the International Telecommunications Union that they forbid radiocommunications with Amateur stations under their jurisdiction:

Democratic Kamuchea, Iraq (Republic of), Libya (Socialist People's Libyan Arab Jamahiriya), Somali Democratic Republic, Turkey, Viet Nam (Socialist Republic of), Yemen (People's Democratic Republic of), Zaire (Republic of)

### 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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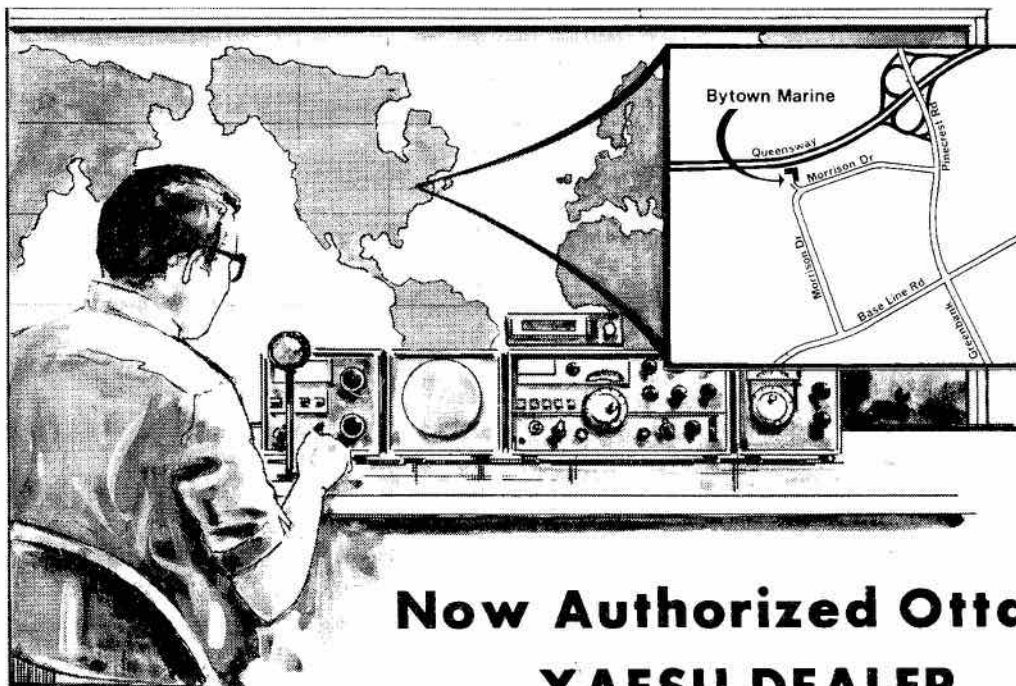
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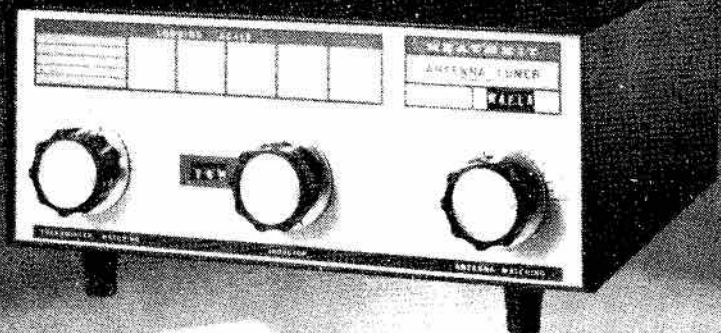


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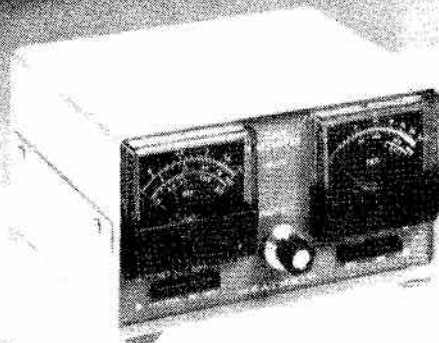
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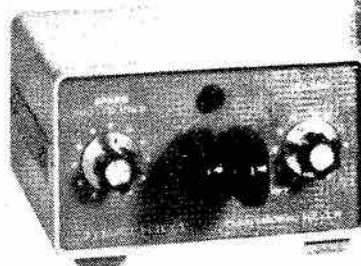
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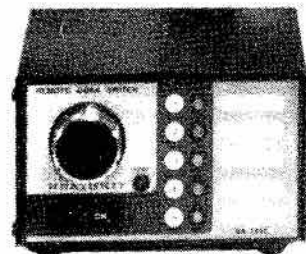
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