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# The Ontario Amateur

Official Journal of Radio Society of Ontario Inc.

DECEMBER 1986 ISSUE

**In This Issue:**  
Georgian College Amateur Radio Page 5  
Nominations of Directors ..... Page 7  
VE 3 CNE Final Report ..... Page 9  
Annual Meeting Report ..... Page 12  
IARU Buenos Aires Report ..... Page 14  
DOC News ..... Page 16

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# Radio Society Of Ontario Inc.

The Ontario Amateur, published bi-monthly, is the Official Journal of the Radio Society of Ontario Inc. As one of the services of the Society, it is mailed free to members in good standing. It is printed in Canada by Seaway Printing Ltd.

To promote the interest of the amateur radio fraternity, and to improve communications between clubs and societies, material published in TOA may be reproduced in bulletins and newsletters of bona fide clubs. An appropriate acknowledgement of the source would be appreciated.

Advertising .....

All correspondence for the RSO should be sent to: **The Radio Society Of Ontario, P.O. Box 246, Port Credit Postal Station, Mississauga, Ont. L5G 4L8.** All articles and Club News should be sent to: **Editor, Russ Ormerod, 131 Perry Crescent, Islington, Ontario M9A 1K5.** All advertising inquiries or materials to: **Al Stevens VE3DQJ, 21 Ida Street, Toronto, Ontario L3T 1X4.**

The Ontario Amateur is published 4 times a year.

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## RSO DIRECTORS

Ron Bell .....	VE3BDZ
Marion Bolechowsky .....	VE3NLN
Robert Chrysler .....	VE3IEL
Pat Dopson .....	VE3HZQ
Evan Herriott .....	VE3IND
Merv Lemke .....	VE3CV
Peter Robertson .....	VE4OK
Al Stevens .....	VE3DQJ

## RSO DELEGATES

<b>Hamilton</b>	
Fred Cross, VE3DVI, N.P.A.R.C.	
Bruce Weber, VE3ACN	Oakville ARC
Andrew Rattray, VE3OIA	Brantford ARC
<b>Kenora</b>	
Lloyd Montgomery, VE3JYY	
John Russel, VE3JJH	
<b>Kingston</b>	
Open for volunteers	
<b>Kitchener</b>	
Fred Hick, VE3MTS	SWARC
Paul Cassel, VE3SY	KWARC
Bill Cruikshank, VE3NX	
Robert J. Seyler, VE3MTD	Guelph ARC
<b>London</b>	
Ron Bell, VE3BDZ	
James Cooper, VE3CR	BWARC
Horace Jones, VE3WH	
Joe Beverley, VE3VQ	NBARC

## Ottawa

Merv Lemke, VE3CV    Mike Turik, VE3BJK  
OARC                                  Chatam-Kent ARC  
Phil Robinson, VE3CUR

## Sault Ste. Marie

Patrick Dopson, VE3HZQ  
Sudbury, District ARC

## Thunder Bay

Open for volunteers

## Toronto

Bob Andrews, VE3RA  
PARC  
Libby Stevens, VE3IOT  
Thornhill ARC  
Dave Carothers, VE3MQV  
Nortown  
George Carothers, VE3ENL  
Nortown  
Paul Edgley, VE3PQ  
TFMCS  
Jean Evans, VE3DGG  
Trilliums  
Audrey Cuthbert, VE3ILT  
Bruce Carveth, VE3BC

Mike Turik, VE3BJK  
Chatham-Kent ARC







### PRESIDENT EVAN'S (LAST) REPORT

It has been an honour and pleasure to have served as President for 1985 - 1986. My appreciation is expressed to the Executive in this period. Without exception they have performed to the best of their ability. My special thanks goes to VE3DQJ Al, VE3HHL Keith, VE3DHL Audrey, VE3NLN Marion and VE3IEL Bob. I know there are many others and I hope they will forgive me for not mentioning all of them.

Not only my thanks, but I think yours too, goes to our esteemed Treasurer VE3NBQ Monty.

This year's executive worked hard. Our major problem developed with our computerized membership records. As you know we ran into serious record problems about the beginning of December '85. Consequently the renewal notices failed to go out, the result has been a serious temporary cash flow situation. Marion VE3NLN however, has undertaken this big job of putting things back in order so that we can once again balance the books. The ultimate responsibility for this situation of course, is mine, and I apologize for the trouble it has caused.

My major disappointment this year has been the Emergency Communications Directory. Despite Marion's work, and our almost constant pleas, we have had essentially NO, I say again NO, response from the membership, with the exception of the Thornhill, Barrie and Brantford clubs.

We have tried to make it known that the R.S.O. is an association of

Ontario hams working for Ontario hams with many good things accomplished. The reduction of the cost of Call Sign licence plates particularly comes to mind. By providing a Directory to the Provincial Government we also render a valuable service.

This is not a competing Emergency Service.

It does NOT conflict with COM-SONT, ARES, CARF or any other existing service. In fact, a GRS (CB) service, the Trans Canada Radio Club, have been most co-operative. Andy & Audrey have done a great job showing the R.S.O. flag at hamfests, Flea-markets, etc. Al (ably guided by Russ Ormerod, our consultant) has turned the magazine around. We are now proud to approach other advertisers. Al expects 2nd class mailing privileges for the first issue of next year, which will permit magazine expansion without additional costs!

Monty has given us a very professional service, despite the lack of membership renewals, he has kept the ship afloat through some rough seas. You of course, can really help, BY CHECKING YOUR EXPIRY DATE on the T.O.A. label. If it is wrong let us know, if You are in default, please renew, NOW!!

The R.S.O. is a valuable organization that has the capacity to effectively service some 8000 amateurs in Ontario. It does not compete with either of the National associations; nor does it compete with your own club. It works for you on a Provincial level. It must be nurtured and supported if it is to achieve its full potential.

As the out going President, I extend my best wishes to the new executive with the hope that 1987 - 1988 will bring renewed enthusiasm to all members to participate and help the R.S.O. grow in reputation and membership.

### LETTERS TO THE EDITOR

October 29th, 1986.

Gentlemen:

I wish to extend my sincerest thanks to all of those amateurs & other groups who have generously supported the JRSD Fund & provided words of encouragement at this time.

I further thank you for your invitation to attend the R.S.O. Annual Meeting which, on this occasion, I must decline.

If it is possible, during the meeting, to mention one specific individual whose efforts stand out among all others, that is Ralph Cameron, VE3BBM. The JRSD Fund is Ralph's brain child and without it we would not be in the strong position we are to-day.

We are still being forced to accept legal delays but have confidence in the ultimate outcome of this case. We must Win.

Sincerely,  
John Ravenscroft VE3SR

### BOOK REPORT

I was recently handed a book entitled, "AMATEUR RADIO IN CANADA, AN OVERVIEW", written by Bill Rork VE3MBF, of the Scarborough Amateur Radio Club. Bill lists this as a book for beginners, amateurs, and advanced amateurs. This is a book about the same size as an amateur radio study guide, with similar plastic ring type binding. It appears to be printed by the Xerox method, using dot-matrix computer produced lettering. There are 160 pages.

I read through this new book and immediately was made aware of how useful such a book would be to the new ham, code and theory student, or for reference through an amateur radio club library. Bill Rork has answered a bundle of questions that any newcomer to the radio hobby might ask. He has put forth a logical "overview" of our hobby as it is relevant to we Canadian amateurs. Sure an editors blue pencil might have been employed more in certain areas; and, some pertinent material could have been added. This book, though, mostly sets down information from the point of view of someone, who with minimal background in electronics or radio operation is considering, or beginning a hobby of amateur radio. Bill has written from his own experience of getting a licence, setting up, and enjoying the operation of his own amateur radio station.

This book provides plenty of worthwhile suggestions, facts, and

cont'd Page 5



# GEORGIAN COLLEGE AMATEUR RADIO

In 1969 Georgian College of Applied Arts and Technology was constructed here in Barrie. To enhance the extra activities of the students, coupled with the ability to Purchase Capital Equipment, the College acquired, with the support of many staff members, an Amateur Radio Station, comprised of a complete Collins S Line System, Tri-Band Beam and 60' tower. In addition, it Purchased several Heathkit receivers and associated hardware. The main objective, of course, was to involve as many students as possible in the Ham Hobby. Of course, it was not long before the word got out amongst the local hams about this equipment and facilities. With the assistance of some of the staff at the college and a few members of the old Barrie Club, it was soon decided to form a Ham Club under the auspices of the College.

The Georgian College Amateur Radio Club (now defunct) was organised with the call of VE3GCB. The call is still active today used by Barrie Amateur Radio Club. For the first time the hams have a permanent home for their meetings and also have the support of the administration and staff of the College. Starting with a small membership of 18 to 20 members, it has now grown to a club of 88 plus.

As the Club grew, several members became concerned over new legislation which, if applied to the letter, would make the Directors of the club legally responsible for the Club activities. This possibility was discussed and as a result, a new name was chosen. At the same time, it was incorporated to remove any possible liability from the individual members. Thus the Barrie Amateur Radio Club Inc., became the newly-named club and still meets and enjoys the College facilities. Co-operation with the College continues and every year for the past 12 years we have run a Ham Radio Course as part of the Continuing Education Extensions Night Courses. This project is instructed by members of the Club gratis and fees charged for the course are credited to the club once a year from the College. This

gives the Club an excellent financial base.

Included in the activities of the Club is the operation of VE3RAG Repeater, for local rag-chewing, and Phone Patch facilities, Field Day, Packet Symposium and Fleamarket and support of local public events requiring communication control. Some activities within the Club have caused small splinter groups to form such as the Hex-9 Packet Radio Group, originally formed to study Packet Radio. The goal of the Hex-9 group was to have each member pass the Digital D.O.C. exam. Many of the group succeeded, but as time was spent on this, the group found themselves involved in installing Digital-Repeaters and linking to Ottawa, Toronto, and Kitchener.

I should mention here that several of the BARC members are also members of the Lake Simcoe repeater Assoc. This connection allowed the location of the Digi's at the VE3LSR site at Edgar, Ont. and that is why this Digi is known as VE3LSR. To date this group is operating one of North America's finest Bulletin Boards, and has three Digipeaters to its credit. All financial work here has been done by re-assuring support of the BARC membership.

The BARC membership is currently attempting to make itself known amongst the younger students and local High Schools. It is hoped that this goal by our Club will become the same for yours.

Director, Barrie Amateur Radio Club Inc. - Bev Poste VE3NP  
P.O. Box 254  
Barrie, Ontario L4M 4T2

## SILENT KEYS

VE3JAO	Jack Osborne, Kingston
VE3KEM	George Weston, Prescott
VE3RD	Palmer Thompson, North Bay
VE3LEU	Horst Walker, Pickering

The book "AMATEUR RADIO IN CANADA . . . AN OVERVIEW", is available from Bill Rook VE3MBF, 4 Cudham Dr., Agincourt, Ontario M1S 3J6.

Book Report by:

Bob Chrysler VE3IEL  
Delegates Co-ordinator R.S.O.

## BOOK REPORT cont'd

insights, that would help a new ham to be knowledgeable of their new hobby. Think you might want to be a ham, or know someone who is seriously interested? Then this book is just the thing.

You'll find out about amateur radio, a little of its history, how to get a station licence; and, about what hams are doing today. You'll learn some of the associated elements, and get hints as to your first amateur radio station. Bill explains also what he sees on the horizon for amateur radio and tells it objectively.

Finally, Bill has added a weighty study aid which has more than half the space of the book. This study aid tackles the key points of what the DOC would expect an amateur to know for their licence today. he supplies also the reference key to the particular study guide, or guides, where more information on these subjects may be obtained.

For me it is difficult to find much fault with Bill's book. The dot-matrix print is a little bit of an eye strain. There are points that due to typos are left hanging; and, you couldn't call this publication fancy. It is, however, easily within the price range of any code and theory instructor, or budget of a teaching club. I paid ten dollars for my copy:

I recommend this book, as I have mentioned for amateur radio club libraries, code and theory classes, and, that special group of people who gather together to practice morse, study the guides, memorize the regulations, and, shiver at the prospect of not really being competent to become a true ham. Bill is helping you along the way by providing this "overview", and sharing all his hard won information with you.

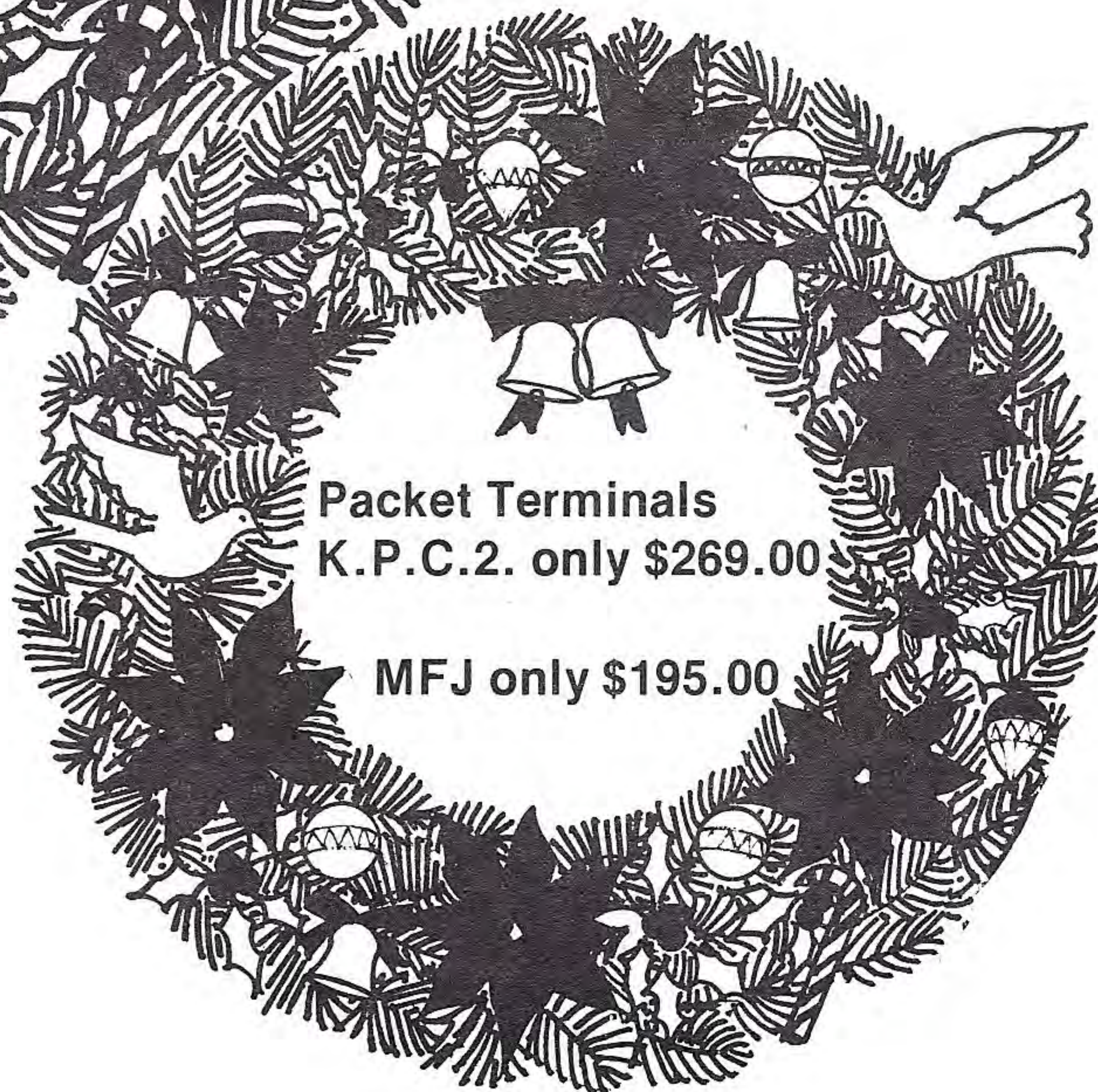




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The procedure for nomination of Directors of the Radio Society of Ontario, Inc. is as follows:

1. Prior to each annual general meeting of the delegates of the Society, the immediate past president, as chairman of the nominating committee, and the two past presidents who most recently preceded such person in office, as members, shall prepare a slate of nominee directors.
2. Candidates for the slate of nominee directors may be proposed to the committee by any member of the Society.
3. At least twenty days prior to the date of the annual general meeting of the delegates, the chairman of the nominating committee shall deliver to the secretary of the Society the committee's slate of nominee directors, together with brief personal particulars concerning each nominee and the nominee's written consent to stand for office.
4. The slate and personal particulars shall be included in the notice of the annual general meeting of delegates and shall be presented by the chairman of the committee to such meeting.
5. At the annual general meeting of delegates, additional candidates for the office of director may be nominated by any three delegates, provided brief personal particulars concerning each nominee and the nominee's written consent to stand for office are presented to the meeting.

The slate of proposed Candidates for 1986 - 1987 is as follows:

Ron Bell, VE3BDA  
Marion Bolechowsky, VE3NLN  
Robert Chrysler, VE3IEL  
Pat Dopson, VE3HZQ  
Evan Herriott, VE3IND  
Merv Lemke, VE3CV  
Peter Robertson, VE3DK  
  
Al Stevens, VE3DQJ  
Chairman, Nominating Committee

## RON BELL - VE3BDZ

Ron Bell was born in England and emigrated to Canada in 1920. He has lived in Forest, Clandeboye, Sarnia, Port Colbourne, and currently in London, where he retired from the Canadian National Railway in 1975, after forty-two and a half years of service.

After many years of interest in Amateur Radio, Ron became licenced in 1969 by taking a course at Fanshawe College. In 1978, he returned to Fanshawe and received his Advanced Certificate.

Ron's activities include building rigs, operating RTTY and the HF bands, as well as computerradio operation. He has been both a Delegate and a Director of RSO for many years. He has served on the Executive of the London Amateur Radio Club and is a member of the Southern Ontario Repeater Team (SORT).

## MARION BOLECHOWSKY - VE3NLN

Marion received her amateur radio licence in February 1982. She and her husband Alex, VE3NIV have been residents of Barrie since 1956 when they moved there from Kirkland lake.

Marion assembled her own boards to operate packet radio on two metres and also operates on ten metres. She is Emergency Coordinator for both the Barrie Amateur Radio Club, and the CRRL, and is a Net Controller for the Open Line Net. Marion enjoys traffic handling and wants to get members of her club trained in formal operating procedures for emergency and general traffic handling. Marion has been an RSO Director for the past year and is Chairman of the RSO Emergency Services Committee.

## BOB CHRYSLER - VE3IEL

Bob was licenced in 1976 and has been a member of the Scarborough Amateur Club for nearly ten years, during which time he has been involved with the public service aspects of our hobby, through participation in Red Cross emergency exercises and community fund drive marathons. He also acts as Communications Coordinator for the Robbie Amateur Soccer Tournament.

Bob is employed at CFTO Television as Technical Director and is presently experimenting with amateur slow scan TV. He has previously served as a Director, and Second Vice President of RSO and has been the Delegate Coordinator for the past year.

## PAT DOPSON - VE3HZQ

Pat was first licensed in 1976 and received his Advanced Certificate shortly after. He is active on 75 and 40 metre phone, CW, and RTTY, and is Past President of the Sudbury Amateur Radio Club.

Pat lives in Copper Cliff, Ontario, where he is employed by Falconbridge Nickel as an Instrument Technician. Pat has been an RSO Delegate for several years and is often found on the Laurentian Net.

## EVAN HERRIOTT - VE3IND

Evan has been involved with Communications since 1937. He received a commission as a Signal Officer in the Governor General's Horse Guards, where he served from 1950 through the early 60's. In 1977 he became a licenced amateur and has been a member of the North Shore Amateur Radio Club since then.

Evan is currently a Director and is the President of RSO. He is interested in Emergency Communications and took part in the Mississauga train disaster. During the last four years he has been deeply involved with the CNE Amateur Radio Exhibit and has served as its Chairman.

Evan lives in Scarborough where he works as a real estate broker, specializing in appraisals.



# MEMBERSHIP QUESTIONNAIRE

## MEMBERSHIP QUESTIONNAIRE for past, present or prospective members

CARF or CRRL for National or International matters  
your local club for local matters  
RSO for Regional or Provincial matters

1. Do you agree that the RSO should continue to exist?? YES NO  
(If you are a past or present member and do not return this questionnaire we will conclude that you do not care and RSO should be wound up)
2. Are you in favour of
  - a) ONTARS?? YES NO
  - b) The Ontario Amateur magazine YES NO
  - c) RSO Bulletin system YES NO
  - d) The method of selecting delegates YES NO
  - e) Local amateur radio clubs appointing representatives YES NO
    - i) Without voting privileges as at present YES NO
    - ii) With voting privileges YES NO
  - f) i) Directors elected as at present YES NO
  - ii) Directors elected for a 2 year term with 1/2 elected per year YES NO

IF ANY ANSWERS IN QUESTION 2 ARE NO, PLEASE GIVE YOUR SUGGESTIONS FOR IMPROVEMENT. (Use extra paper if necessary)

3. Do you think any of the RSO activities are inadequate IF YES TELL US HOW YOU THINK IMPROVEMENT CAN BE MADE (again use extra paper if necessary) YES NO
4. How do you think RSO can be improved other than above. (again - use extra paper if necessary)
5. Are **YOU** prepared to help - even a little bit??
6. Which do you prefer
  - This years Hamfest / Annual Meeting YES NO
  - combination with a full convention every few years (OR)
  - An annual full convention YES NO
  - Neither - If neither please make your suggestion on extra paper if necessary

IF YOU CHOOSE TO, GIVE CALL SIGN AND INDICATE PAST, PRESENT OR PROSPECTIVE MEMBER. This questionnaire is vital to the future of the R.S.O so please complete and mail to:

Radio Society Of Ontario Inc.  
box 246, Port Credit Postal Station  
MISSISSAUGA, ONTARIO L5G 4L8

Attention: Mr. E. Herriott

IN THE NEXT ISSUE:

## AERIALS A LOST ART

Light hearted but revealing article on the development of aerials.

## NOMINATIONS CONT'D

### MERV LEMKE - VE3CV

Merv was born in 1917 in Pembroke and was first licenced with his present call in 1935. After obtaining his commercial radio operator's licence in 1939, Merv spent a brief period of time in the radio sales and service field. In 1940 he was commissioned as a Radar officer in the RCAF where he spent 25 years in a military career. During that time he was involved in instructional duties, as well as engineering and design of the Pine Tree and Mid Canada radar systems. He retired from the services in 1965 as a Senior Officer.

After his military career, Merv spent 10 years with Raytheon where he assumed duties as Marketing Manager, and then moved to the Federal Department of Trade and Commerce in Ottawa as a Commercial Officer. Merv has been very active in the Amateur Fraternity in Eastern Ontario and in particular with the Ottawa Valley Mobile Radio Club where he served as President for sometime. He is very active on two metres and the HF bands, both in fixed and mobile modes. He can usually be heard each day on the CJ Net, ONTARS and the Quebec Radio Net. In the winter months he is co-controller of the Snowbird Net (Canadians in Florida) and is an active member of the QCWA, CARF, and the CRRL. He has been an RSO Delegate for several years and has been a Director and Vice President.

### PETER ROBERTSON - VE4OK

Peter was born in 1929 and was first licenced in 1957 as VE6DL. Since that time he has held calls VE5ZG, VE2PR, VE3QT, and VE3PR. Peter is a Professional Engineer and was originally employed with Canadian Aviation Electronics working on flight simulators. He later moved to the broadcasting field, initially with a private broadcaster in Alberta, and then in 1961, he joined the CBC Engineering Headquarters in Montreal. In 1973 he was appointed Director of Engineering-English Services. He recently moved to Ottawa, after a tour of duty in Winnipeg.

While in VE2 land, Peter founded the Westminister Amateur Radio Club which later became the Westminister Amateur Radio School. Along with VE2YU, he founded the West Island Radio Club in Montreal, and more recently he was a member of the Oakville Amateur Radio Club. Peter works on most bands and modes including slow scan, fast scan and RTTY.

Peter has previously served as a RSO Director and Vice President.

PLEASE CUT HERE AND MAIL WHEN COMPLETED





## VE 3 CNE 1986 FINAL REPORT

### FINANCIAL STATEMENT FOR VE3CNE

We are pleased to provide a Financial Statement showing how your money was used this year. In some cases it cost as much to rent an article (e.g. tables) as to buy it; so that is why purchases have been made. The expenses shown are for out-of-pocket disbursements only.

As previously reported VE3CNE participated in two parades. According to the local media over 150,000 persons watched these parades . . . and of course "Amateur Radio In Action".

The station's 'Send A Message Home' filed almost 400 messages. All were cleared and only a few were returned as undeliverable. These went to 9 countries, 20 states and 8 provinces. One message was sent and received across the continent to VE7EXPO by packet radio. In all 30 countries were worked by the station.

The Request Cards were extremely successful. Over 400 were received. Almost 40% of the respondents gave their age as being between 13 and 25 years. A very good sign.

As a result of the Packet activities we have been asked to operate a station at the World of Commodore show at the International Trade Centre, December 4th to 7th.

We are very grateful to Atlantic Ham Radio for providing the ICOM station equipment; and to Commodore Business Machines Ltd., for loaning the two C64 Commodore Computer systems. More particularly, we are very grateful to all the Amateur Radio clubs and operators who supported the station so much.

Brantford ARC Inc.	
Burlington ARC	
Cdn Radio Relay League	
Cdn Amateur Radio Federation	
Dufferin ARC	
Guelph ARC	
Hamilton ARC	
Kitchener/Waterloo ARC.	
London ARC	
Metro ARC	
Nortown ARC	
Northshore ARC	
The Ontario Trilliums	
Radio Society of Ontario	
Skywide ARC	
Scarborough ARC Inc.	
Thornhill ARC	
Westside ARC	
York Region ARC	
19 clubs contributed	\$1175.00
Interest	\$ 29.23
Balance from 1985	416.19
	<u>\$1620.42</u>
Expenses	\$1395.92
Expenditures;	
Ainsworth Electric	\$150.00
Insurance	300.00
Antenna 2 mtrs.	47.50
Rental of tables	127.35
Purchase of 2 coffee tables	53.50
Purchase of fire curtain	49.00
Purchase of rug 12' x 44'	173.42
Sign	196.36
Certificates	5.15
Expenses to VE3NID, KDU, LLR, NTK, IND	250.21
Sec't for stamps	38.18
Bank S/C	5.25
Rent	-----
QSL cards	-----
stationary, stencils etc.	-----
	<u>\$1395.92</u>

Balance to start off 1987 in Canada Trust, Pharmacy and Lawrence branch is \$224.50 as of Nov. 9, 1986.

Respectfully submitted,

Thelma Woodhouse VE3CLT  
Sec't/Treas.

### CAN THE RADIO AMATEUR PLAY A BIGGER ROLE IN CRIME PREVENTION?

Your editor received a promotional release from the Solicitor General of Canada concerning crime prevention week (Nov. 2 - 8th). In his letter to all news editors he stated and I quote - "Crime is a problem that touches all our lives in some way. Over the past decade we have seen that when all sectors of the community work together with police and governments, crime can be reduced. Programs such as Neighbourhood and Rural Crime Watch, Block Parent, Anti-Vandalism Committees, and Drug and Alcohol Abuse Prevention initiatives are growing in number and in strength.

Canada has recently celebrated its fourth National Crime Prevention Week, Canadians in all walks of life joined with police and governments to help promote greater public awareness of the part that every citizen can play.

The media has a particularly important role to play in the crime prevention partnership. Not only do they reach the largest number of Canadians but, through the facts and opinions they express, the media can also have a significant influence on their attitudes and behaviours.

Over the years, many in the media have received Solicitor General Crime Prevention Awards in recognition of their outstanding efforts all year round. Many more participate in National Crime Prevention Week and use the opportunity to join with others in their community to turn the spotlight on particular crimes and how they can be prevented."

Perhaps, here is a unique opportunity for the O.A. to further demonstrate how the Radio Amateur can play an important role as an interlock with the public, and the authorities in their fight against crime.

Certainly it warrants some thought on how ONTARS could be much more effective or the 'hot list' extended to include a broader range of reporting.

cont'd page 12



**YAESU** SUPER CHRISTMAS SPECIAL

HIGH POWER, FULL FEATURE, COMPACT

Frequency-Synthesized 2m FM Transceiver

**FT-270R/FT-270RH**

**DESCRIPTION**

**Compact Design**

The FT-270R/RH's extremely rugged construction includes a unique diecast aluminum duct-flow heat sink, which serves as the main chassis for the transceiver. This innovative design technique results in a 45-watt transceiver smaller than competing designs of much lower power capability.

The FT-270R provides 25W RF output, while the RH version provides 45W in the high power mode. The "LOW" switch on the front panel allows reduced output power, 3W or 5W, respectively.

**High Visibility Display**

Some transceivers have so much clutter in the digital display that it's hard to see what frequency you are on. The FT-270R/RH utilizes an easy-to-read backlit LCD that indicates frequency or CTCSS tone information in large 5mm digits for quick recognition. The latest wide-angle LCD and pleasing green illumination for the display assure you of readability day or night from most all viewing angles.

**Dual Microprocessor Design**

The FT-270R/RH's two 4-bit microprocessors offer a host of convenience features that save you operating time and promote highway safety through operating simplicity. Dual VFO capability, ten memories, programmable band scan limits, scanning steps, and CTCSS tone frequency

(option) are all selectable from the front panel with a minimum of effort and confusion.

**Superb Scanning Flexibility**

With the FT-270R/RH, you can memorize a number of scanning parameters to maximize performance. For example, you may set upper and lower limits for band scanning, or scan the memories looking for a busy channel. You may also watch a priority channel for keeping track of a favorite repeater.

Two scanning modes are also provided, allowing either fixed (6 sec.) or carrier-controlled scan resume after the scanner has halted on an active channel.

**SUPER SALE PRICE**

FT-270RH 45Watts

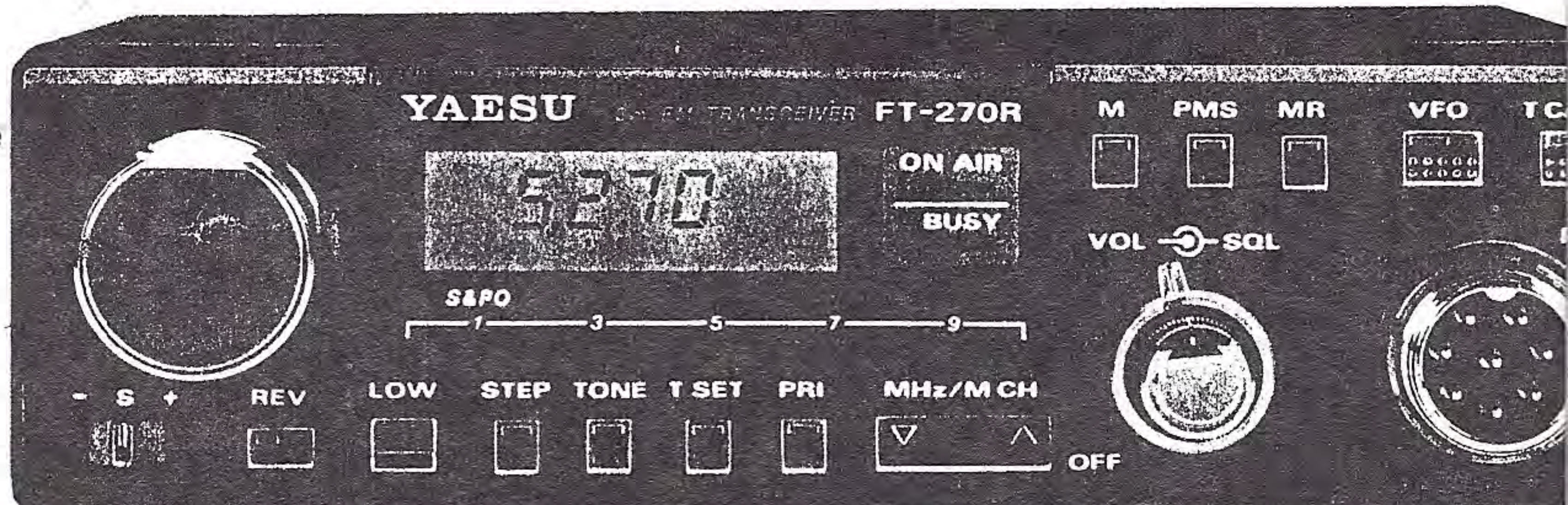
**\$599**

Reg. List Price \$849.00

Complete with T-Tone®Mike, DC Cord, Bracket, and Manual....

ADD \$12.00 for INS. S & H.

From Dec. 1st to Dec. 31st 1986 or until stock is gone. Since this price is LOWER THAN CURRENT DEALER PRICE sorry limit is one per customer and NO DEALER Sale stock at time this ad was made up is 20 units. Call now to reserve you



**Kantronics**

**KPC-2400**

"ALL THE FEATURES OF KPC-2 PLUS 2400 BAUD"

- Easy Direct Interface to PC Compatibles or the VIC/C-64 Series
- AX 25 Version 2 Software • Supports multiple connects
- Has both the KPC-2 modem for 300 Baud HF and 1200 Baud VHF work, and a new phase shift keying (PSK) modem for 2400 baud operation.

**PK 232**

- Make any RS-232 compatible computer or terminal a complete digital operating position.
- Morse, Baudot, ASCII, AMTOR, Packet
- Loaded with features.

**MFJ 1270**

- TTI serial port
- Latest AX 25 version 2.0 software
- True Data Carrier detect for HF
- 16K Ram

**NEW PACKET CONTROLLER PRICES :**

MFJ-1270 \$249; KPC-2 \$289; Kam \$559  
 KPC-2400 \$559; 2400 Modem only \$259  
 AEA PK-232 \$559; AEA PK-64A \$459  
 AEA PK-64 \$369; HFM-64 \$169; PM-1 \$299  
 AEA PK-80 \$369; GET ON PACKET NOW !!



**MFJ 24 HOUR LCD CLOCKS**

These MFJ 24 hour clocks make your DXing, contesting, logging and SKEDing easier, more precise. Read both UTC and local time at a glance with the MFJ-108, \$40 dual clock that displays 24 and 12 hour time simultaneously. Or choose the MFJ-107, \$20 single clock for 24 hour UTC time.

Both are mounted in a brushed aluminum frame, feature huge easy-to-see 5/8 inch LCD numerals and a sloped face that makes reading across-the-shack easy and pleasant.



MFJ-108 \$40

MFJ-107 \$20

You can read hour, minute, second, month and day and operate them in an alternating time-date display mode. You can also synchronize them to WWV for split-second timing. Both are quartz controlled for excellent accuracy.

They are battery operated so you don't have to reset them after a power failure, and battery operation makes them suitable for mobile and portable use. Long life battery included. MFJ-108 is 4 1/2 x 1 1/2 in. MFJ-107 is 2 1/4 x 1 1/2 in.

**Can you put a price tag on reliability?**

Now ICOM offers a ONE YEAR WARRANTY on its HF Transceivers & Receivers purchased after August 1, 1986.

**Buying Guide**

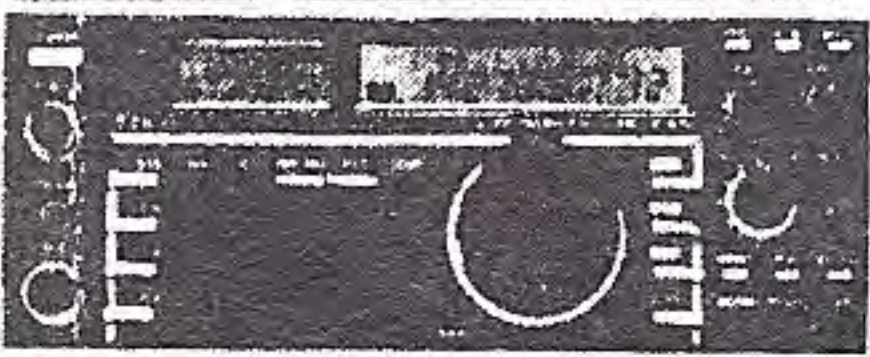
**1987 CALLBOOKS**

North American Callbook--\$45  
 International Callbook--\$45  
 Both 1987 Callbooks----\$85  
 Callbook Map Library----\$21

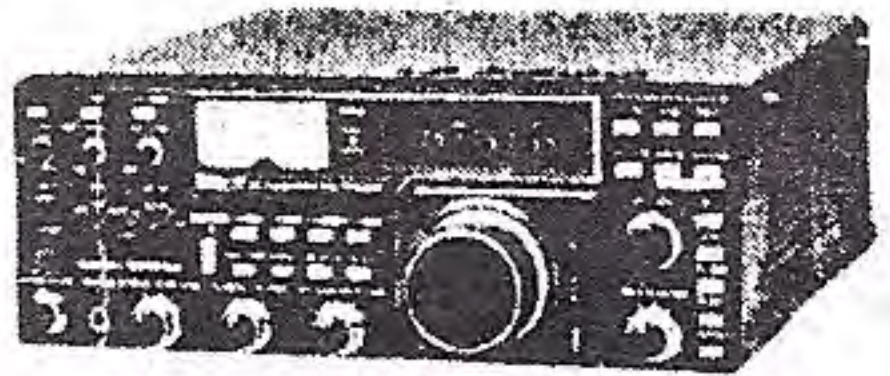
1987 ARRL Handbook Bigger Again \$12.95  
 Antenna Handbook-----\$4.95  
 Get Connected to Packet-----\$4.95  
 Sorry about book prices- NEW DUTIES



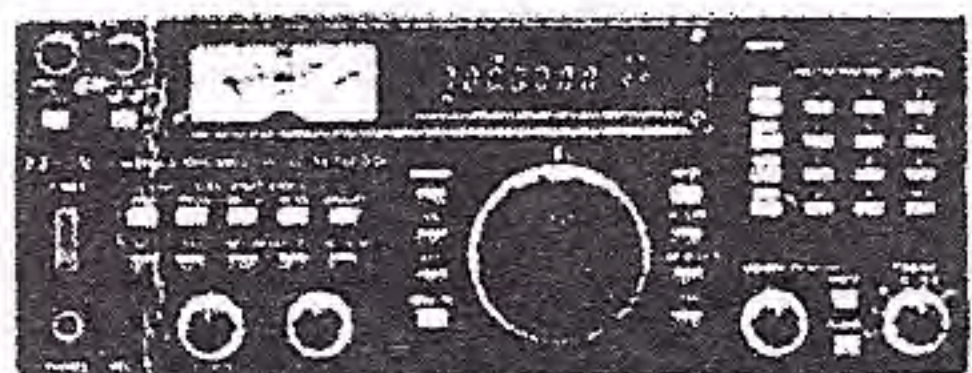
## ICOM



**IC735 NEW General Coverage HF Transceiver Full Featured Ultra Compact - Economical LIST PRICE \$1449 CALL FOR SPECIAL PRICE!**



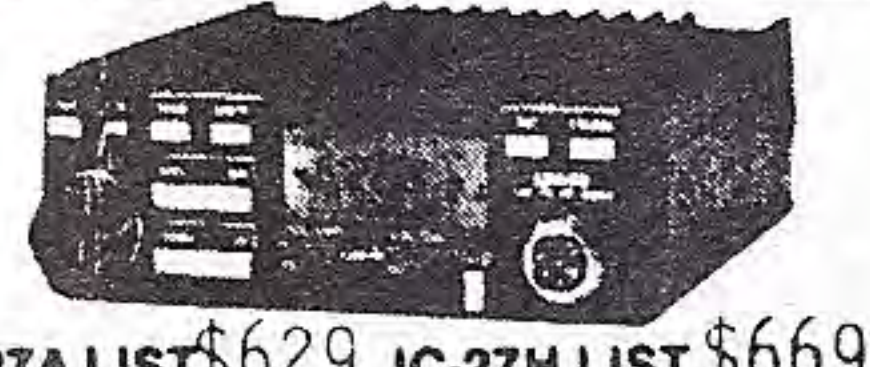
**IC-751A New Full Featured HF Transceiver. Top of the Line. LIST PRICE \$2299 CALL TODAY FOR LOW ICOM PRICE!**



**IC-R7000 25-1300+ MHz Rcvr. LIST 1599 IC-R71A 10 kHz-30 MHz Rcvr LIST 1379 CALL FOR SPECIAL PRICES!**



**IC271A LIST \$1229 IC271H LIST \$1499 IC471A LIST \$1429 IC471H LIST \$1769 IC1271A LIST \$1749 CALL TODAY FOR SPECIAL LOW ICOM PRICES!**

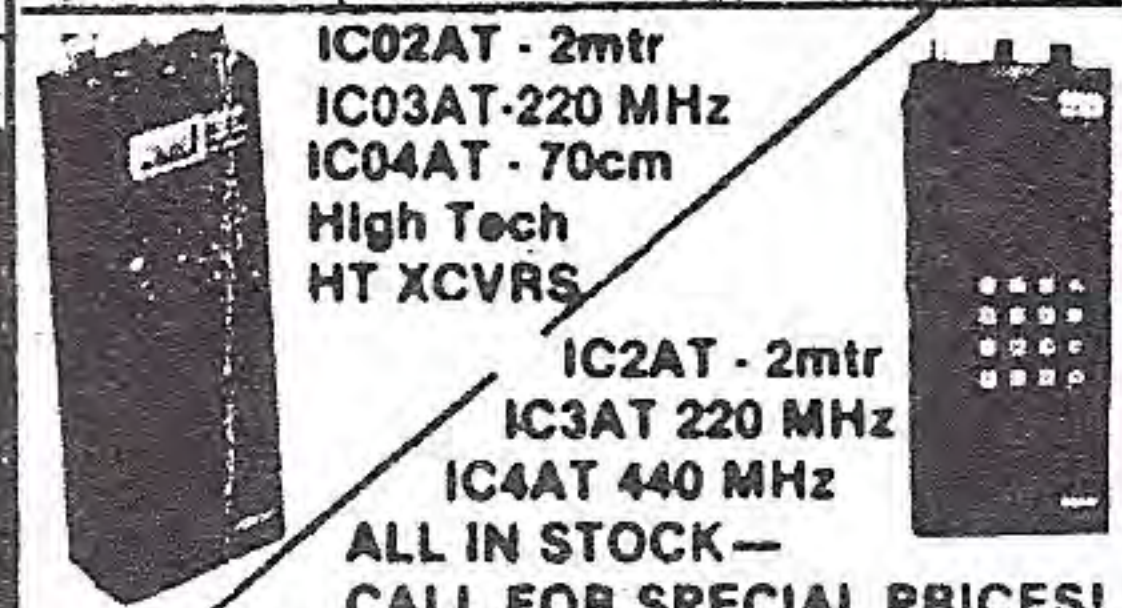


**IC-27A LIST \$629 IC-27H LIST \$669 IC-28A LIST \$629 IC-28H LIST \$669 IC-37A LIST \$699 IC-47A LIST \$789**

**CALL TODAY FOR SPECIAL ICOM PRICES!**



**IC3200 NEW 2M/70cm Dual Band Xcvr LIST \$855 CALL FOR SPECIAL PRICE!**



**IC02AT - 2mtr IC03AT-220 MHz IC04AT - 70cm High Tech HT XCVRS**

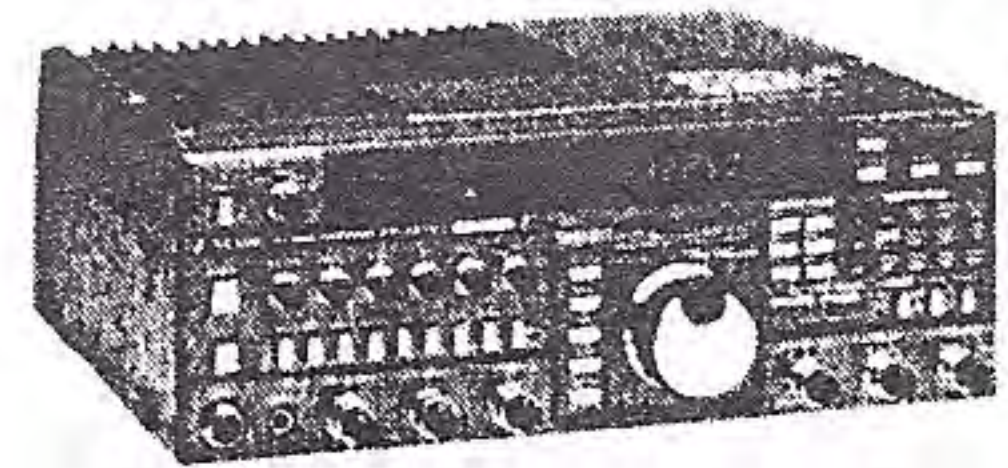
**IC2AT - 2mtr IC3AT 220 MHz IC4AT 440 MHz ALL IN STOCK - CALL FOR SPECIAL PRICES!**



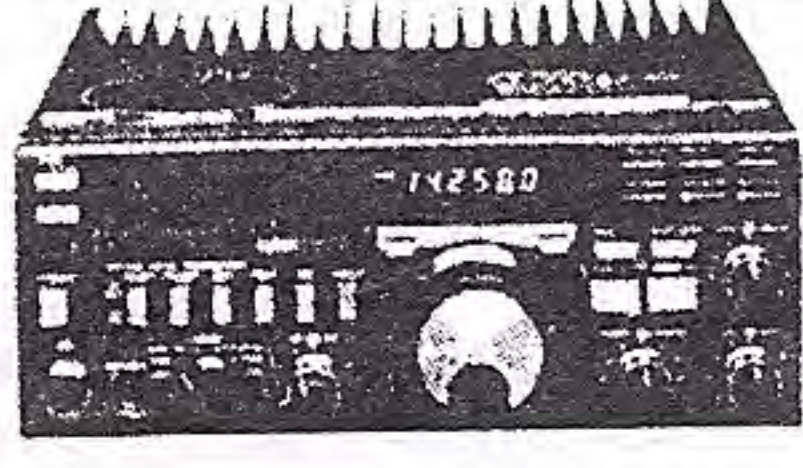
**NEW IC-2AT 2m HT • micro design • 10 mem. w/scan • LCD Readout CALL FOR SALE PRICE!**

## YAESU

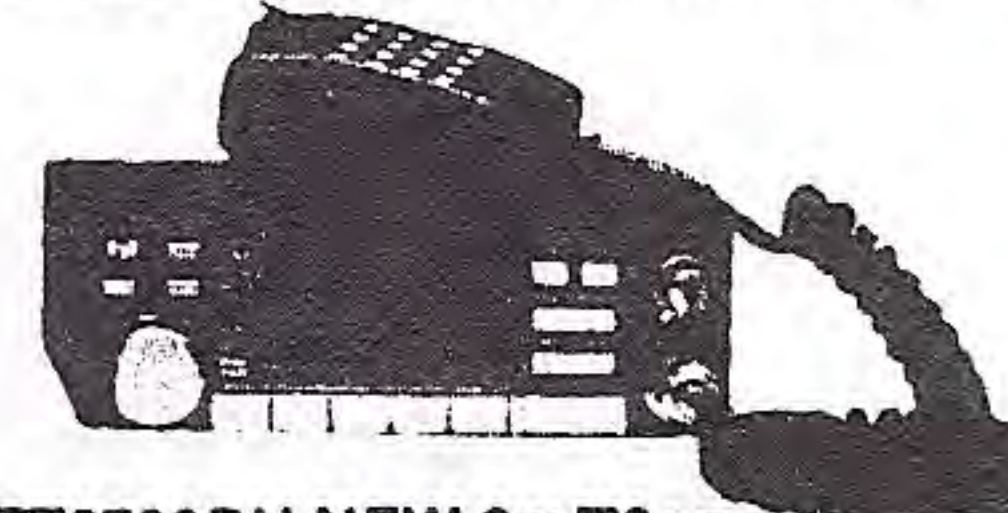
With PS & Auto Tuner



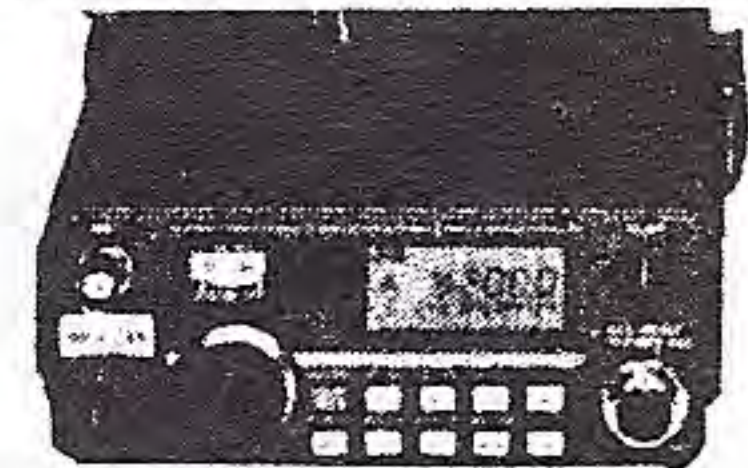
**FT 767 GX HF/VHF/UHF LIST \$2899 CALL FOR SALE PRICE**



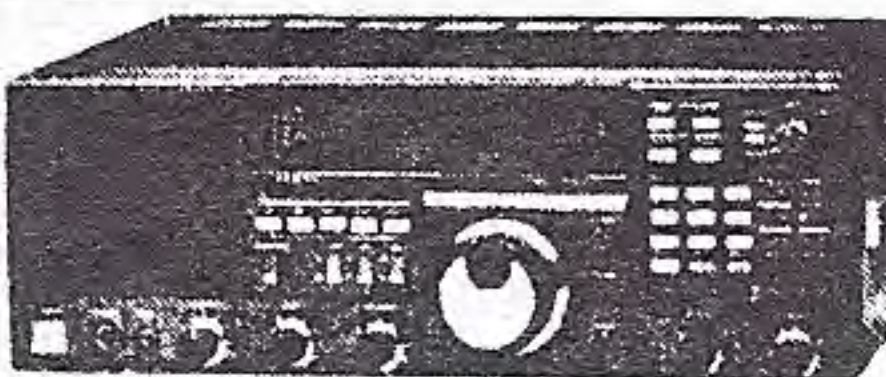
**FT-757GX LIST PRICE \$1799 CALL FOR SPECIAL SALE PRICE!**



**FT2700RH NEW 2m/70cm Dual Band Transceiver Full Duplex-Cross Band Operation LIST \$1049 CALL FOR PRICE-SAVE \$\$\$!**



**NEW FT290R 2m Portable LIST \$799 with ITone@Mike and FBA-8 Battery Case. CALL FOR SALE PRICE**



**FRG-8800 High Tech Shortwave Rcvr - LIST \$1099 FRG-9600 60-905 MHz Scanning Rcvr - LIST \$ 999 CALL FOR PRICES - SAVE \$\$\$!**



**FT 209/709 RH NEW HIGH Tech HT's 5W Output**

**New! FT27R RH 2m/70cm HT • 5w Output • 10 memories • Battery saver Call For Sale Prices**



**FT 23R 2m HT • compact size • 10 memories • up to 5 W output W/F-11 CALL FOR SALE PRICES!**

### NEW SMALLER HT's ARE HERE !!

Both Yaesu and Icom have announced NEW 2M MINIATURE HANDHELDS about the same size as Kenwood's TH-21AT..... Both Yaesu's and Icom's smaller HT's are microprocessor controlled to give you 10 memories which store offsets as well as frequency. These new small HT's have all the features of their big brothers except size.....

YAESU FT-23 with FNB-11 Nicad-----List--\$449  
 FT-23 with FNB-10 Nicad-----List--\$419  
 FTT-4 optional IT@Pad-----\$ 69  
 FNB-11 Nicad-----\$ 89  
 NC-18B or 28B AC Wall Charger FNB-11/10--\$ 15  
 MH12A2B Speaker Mike-----\$ 59

ICOM MICRO 2A-----List--\$419  
 MICRO 2AT-----List--\$469

CALL FOR INTRODUCTORY PRICES

### NEW FT-727R DUAL BAND HANDIE

The first shipment of the POPULAR YAESU DUALBANDER FT-727R has arrived.....

Get your order in now..It's the hottest transceiver since the IC-2AT.....

Just think, both 2M and 70cm in one HT and only about \$150 more than the 2M HT.

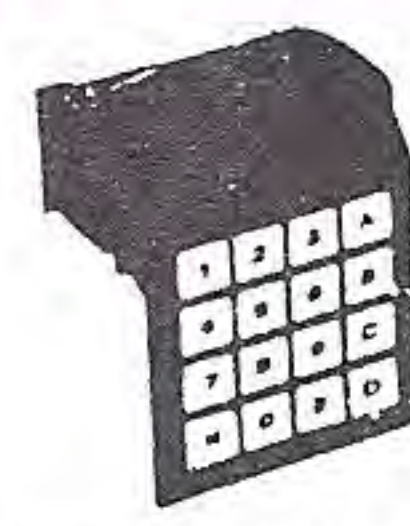
The FT-727R takes ALL accessories from the 209/709 series except the ducky...

FT-727R-----List--\$749  
 MH12a2b Spkr Mike----\$ 59  
 PA-3 DC-DC Adapter---\$ 49  
 NC-15 Quick Desk Chgr\$139  
 FNB4A 500mAh Nicad\*--\$ 95  
 FBA5A Dry cell Case\*--\$ 25  
 YH-2 Vox Head-set----\$ 49  
 MMB-21 Mobile Hanger-\$ 25  
 NC-18B AC Wall Chgr--\$ 19

FT-727 has 5W output on both VHF and UHF.....

CALL FOR INTRODUCTORY PRICES

## NEW PRODUCT



FTT-4

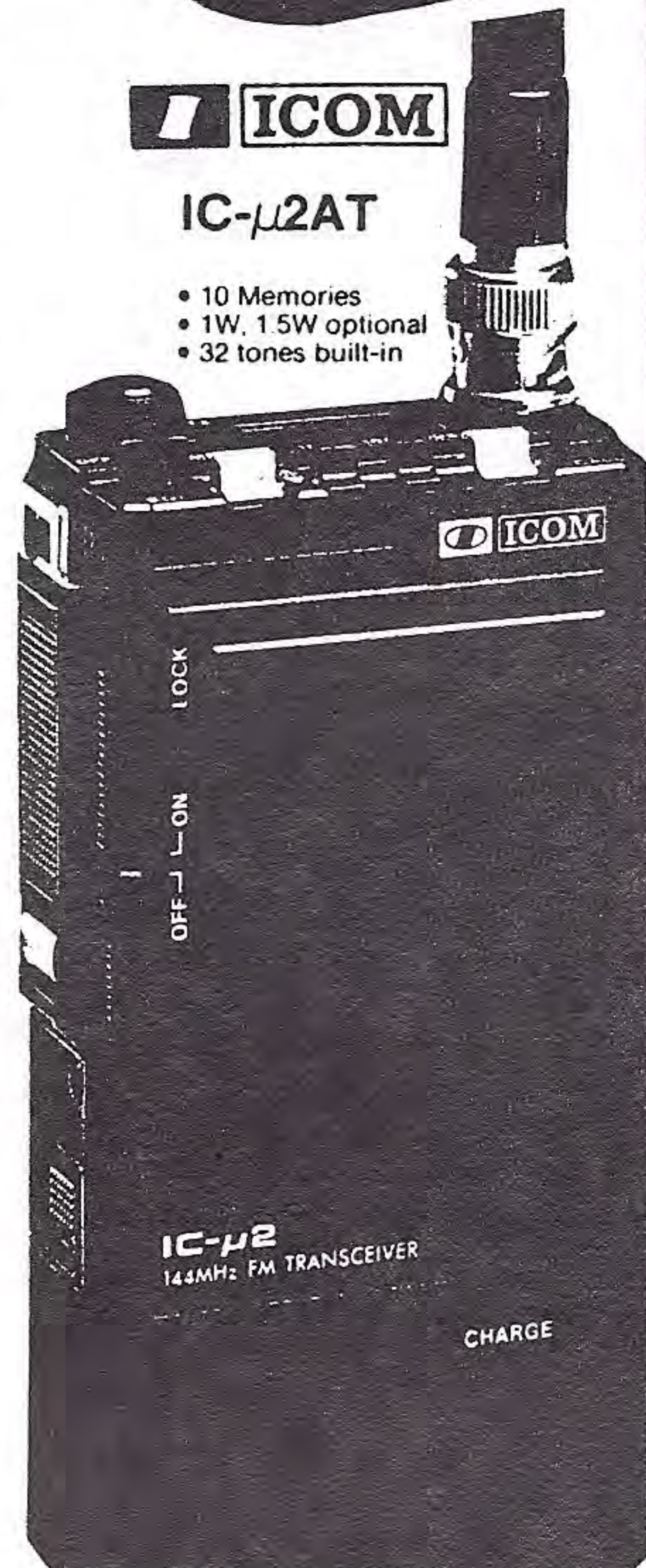


YAESU FT-23

## ICOM

### IC-2AT

- 10 Memories
- 1W, 1.5W optional
- 32 tones built-in



139-174MHz Receive IC-Micro-2A(T)

### Bearcat Scanners: NEW LOW PRICES !!

BC-145XL 16ch 29-54 136-174 406-512-----\$225  
 BC-174XL 16ch 29-54 118-136 136-174 406-512--\$335  
 BC-800XL 40ch 29-54 118-174 406-512 806-912-\$529  
 BC-50XL 10ch Handy 29-54 136-174 406-512----\$245  
 BC-100XL 16ch Handy 30-50 118-174 406-512----\$389

### SONY RECEIVERS:

ICF-4910 AM FM 7 Short wave Bands-----\$129  
 ICF-2002 153kHz-30MHz AM/SSB 76-108FM-----\$359  
 ICF-2010 153kHz-30MHz AM SSB 116-136AIR & FM-\$539  
 AN-1 Active Antenna for above-----\$149

Insured Shipping & Handling - Please add 2% (\$5 Minimum) to all orders. Some items are subject to freight collect..... Visa / Mastercard accepted at slightly lower discounts..... ONTARIO RESIDENTS - ADD 7% SALES TAX AFTER ADDING SHIPPING. PLEASE SEND 2 - 34¢ STAMPS FOR CATALOG & INFO REQUESTS..... NOTE: ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE..... SPECIAL PRICES BASED ON CHEQUE WITH ORDER. CREDIT CARDS ARE ACCEPTED AT SLIGHTLY LOWER DISCOUNTS - USUALLY ABOUT 2%....

## ATLANTIC HAM RADIO LTD.

Tues.-Fri. 10 a.m.-6 p.m. 378 WILSON AVE.  
 Saturdays 10 a.m.-2 p.m. DOWNSVIEW, ONT.  
 After 7 p.m. Call (416) 222-2506 CANADA M3H 1S9  
 For Orders. (416) 636-3636



# 1986 ANNUAL MEETING

An enthusiastic but very thoughtful group of delegates gathered at St. Andrews College on Saturday, the 8th of November. They heard the President's Report printed in this magazine.

Much intense questioning followed and the President provided the additional information requested. The gravity of the situation was fully explored. If the cash flow situation resulting primarily from delayed membership renewals is not corrected promptly, the next issue of this magazine may very well be the last one.

The treasurer reported your Society has been able to maintain a reasonable position for the present. It was the opinion of the meeting that, if we all dig in, the future is bright.

This year's type of Annual gathering was roundly criticized. It was pointed out that many members look forward to a Convention. It was suggested one or two principal locations should be selected. Andy (VE3OIA) Rattray reported that Brantford A.R.C. is looking forward to the 1989 Convention in conjunction with the opening of the Communications Museum in the city. Paul (VE3SY) Cassels has been asked to make a brief, early assessment of the convention situation.

To briefly summarize it was emphasized that R.S.O. concentrate on Regional or Provincial matters. It does not conflict with the National Associations. Similarly it does not conflict with local clubs but will help if requested (e.g. Zoning By Laws).

It was also emphasized that we must restore the membership and this can best be done by getting back to the local clubs and individuals. We will be stressing this in the upcoming year. One way will be to contact ALL amateur radio clubs to advise them of their right to representation.

Certainly it was a very frank and positive meeting.

The directory elected for the coming year are, Ron (VE3BDZ) Bell, Marion (VE3HZQ) Dopson, Evan (VE3IND) Herriott, Merv (VE3CV)

Lemke and Peter (VE4DK) Robertson. Monty (VE3NBQ) Erock will continue as Secretary. Marion is working on up-dating the membership records. Barry & Audrey (VE3ILT) Wade will continue their fine co-chairmanship of Promotions and Awards.

It was distressing to see the attendance at the seminars. However those who attended were extremely pleased. Our thanks is extended to Al (VE3AL) Lowery for the fine antenna seminar; and to Terry (VE3CAP) Darling for the equally outstanding Link System Seminar.

Our very sincere thanks is extended to Geoff (VE3KCE) Smith and St. Andrew's College for the gracious, delightful facilities; and to Chef Ernie and his staff for the superlative Sirloin of Beef Dinner, with all the trimmings.

After dinner the Radio Society of Ontario made the following awards:  
 Keith Russell Memorial Trophy . . . . . Nortown A.R.C.  
 Rusty Brennan Memorial Trophy . . . . . Scarborough A.R.C.  
 Clifford Marsh Memorial Trophy . . . . . John Ravenscroft VE3SR  
 Presidents' Award . . . . . Kitchener Waterloo A.R.C.

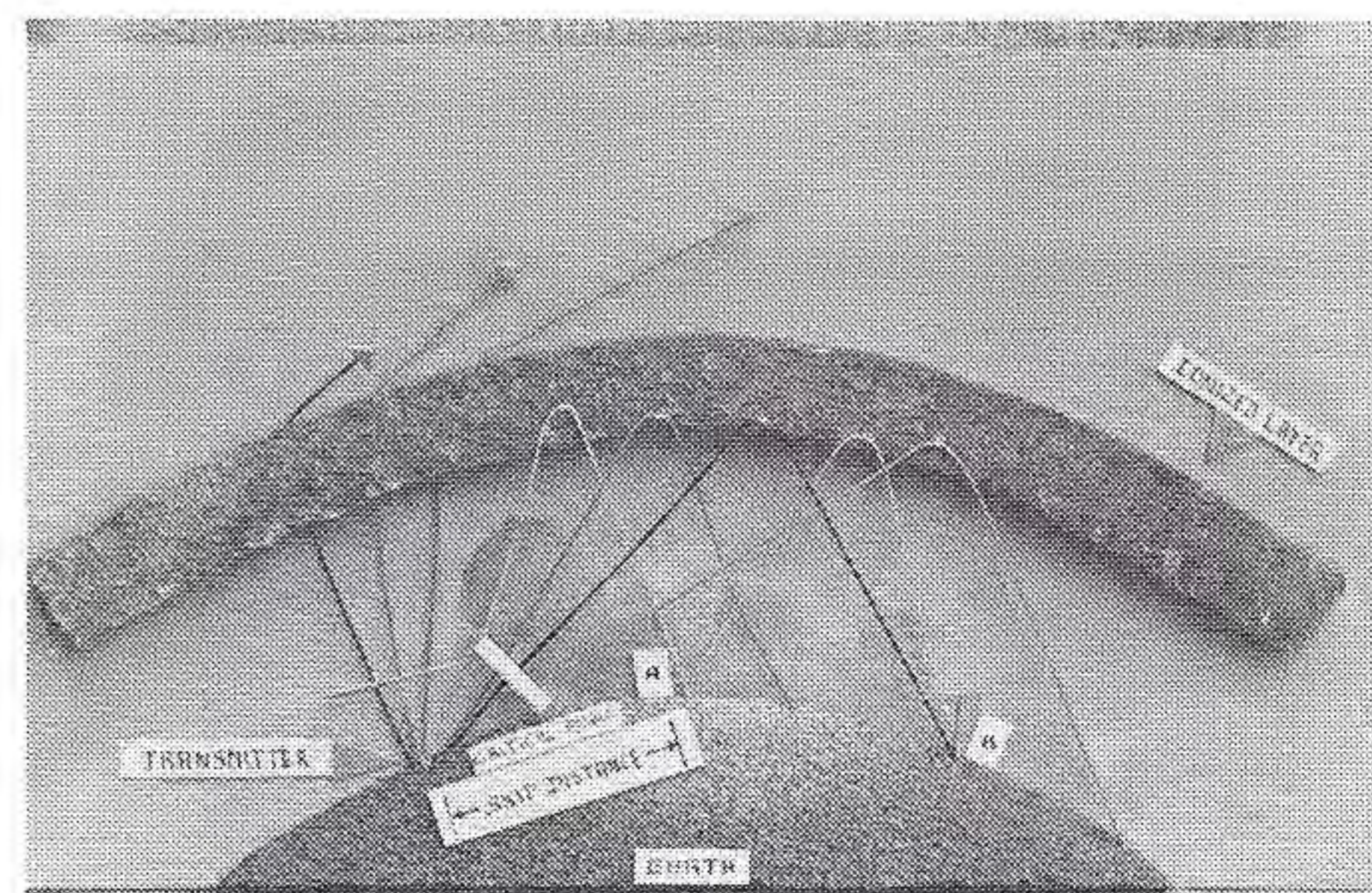
The evening continued in The Great Hall, in candle-light with an open fire in the stone fireplace. First the East Enders Barber Shop quartette entertained and then the rest of a delightful, relaxing evening was for dancing to music provided by Jack Strachan, and just plain good fellowship.

## AMATEUR RADIO TEACHES TEACHERS

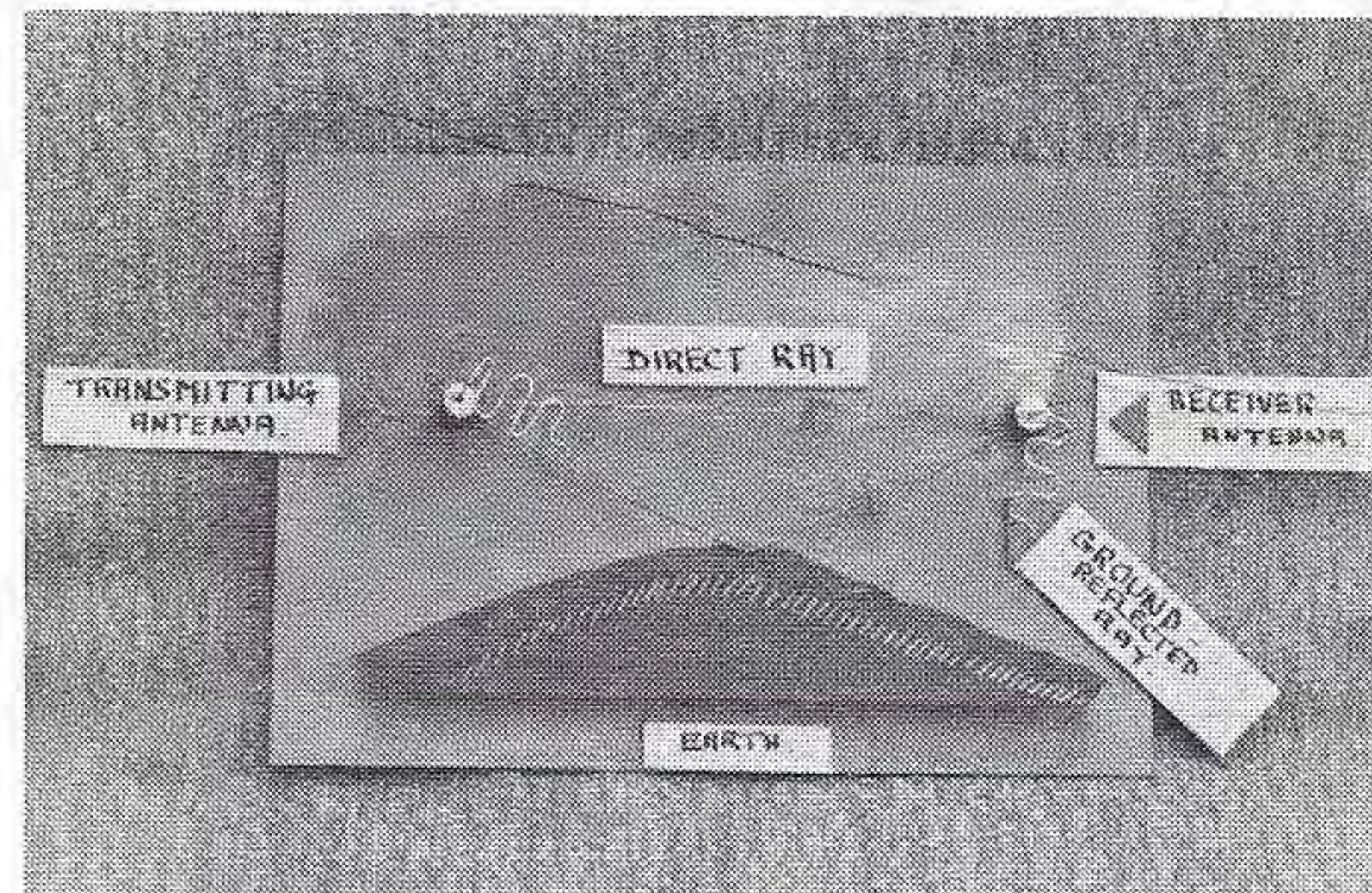
The Science Teachers of Ontario held their convention in the Skyline Hotel Nov. 6 - 8, 1986. VE3OGJ John Gibson, of the Scarborough Amateur Radio Club was Exhibit Chairman. It was his idea to have an Amateur Radio exhibit.

An SWL, Horace Caudrey is working hard to get his licence. He was a master craftsman for Bell Canada for over 30 years. He has completed a number of fine things for the SARC and one of these was a display, graphically illustrating the behaviour of radio propagation in space.

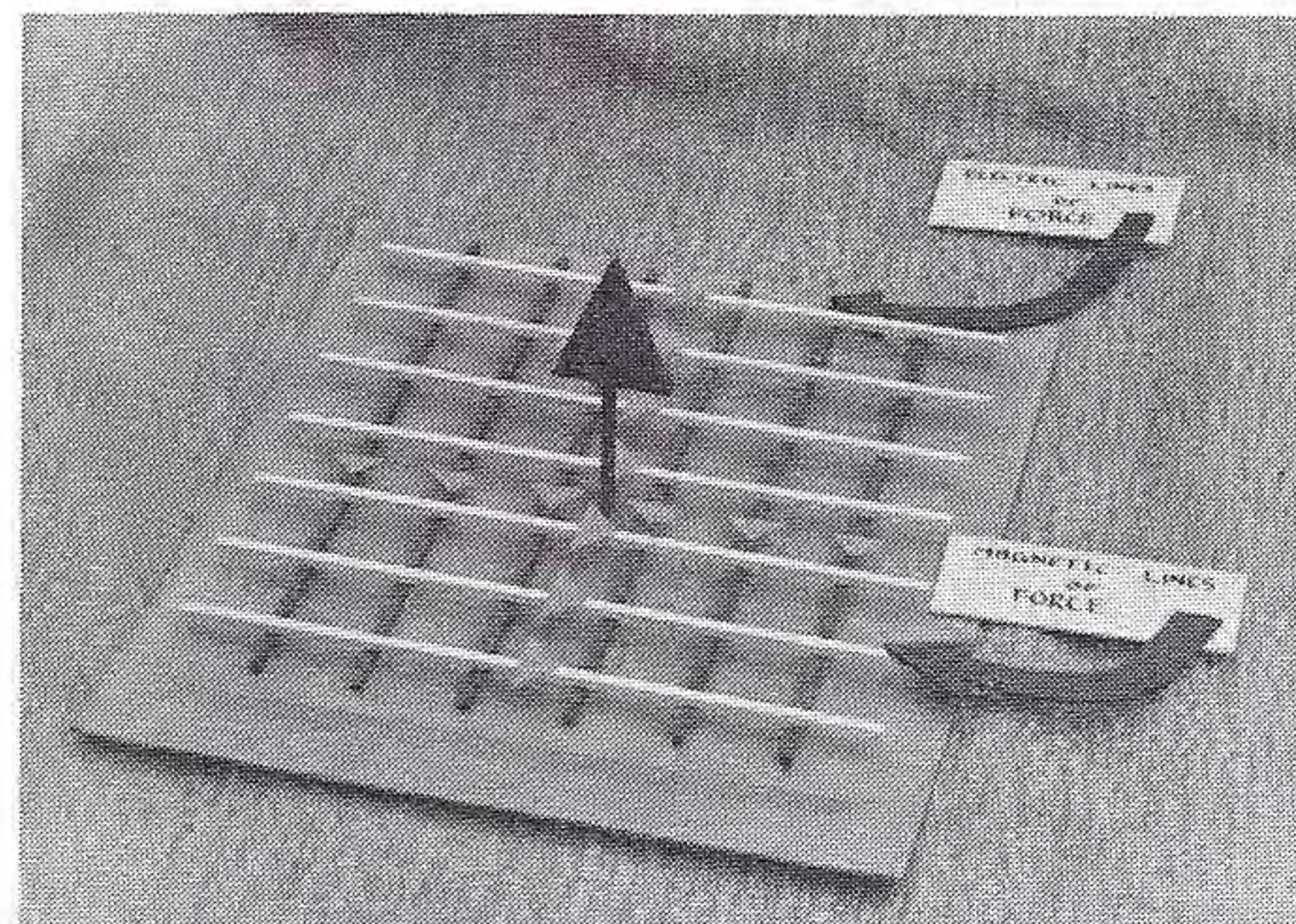
He prepared 8 models each with a card explaining what is illustrated.



These models are based on factual data in the ARRL Antenna Handbook.



These models will now be used by SARC for their Theory classes.



The exhibit was apparently a great success. Many science teachers have 'been educated' and have a much improved understanding, not only of radio waves behaviors, but of Amateur Radio in general. Thanks very much Horace and Good Luck with your licence.

Bill Rook VE3MBL

## CRIME PREVENTION CONT'D

Perhaps just knowing that there is an effective communication network available would be helpful to many local crime-fighting groups.

Areas of concern in every community include arson, bicycle theft, drug abuse, home security, impaired driving, spousal assault, vandalism, young offenders to name but a few.


In any case, our letting more people know what we can do in our communities at all levels of government, can only enhance their opinions of the radio amateur and his or her interest in societies well-being.

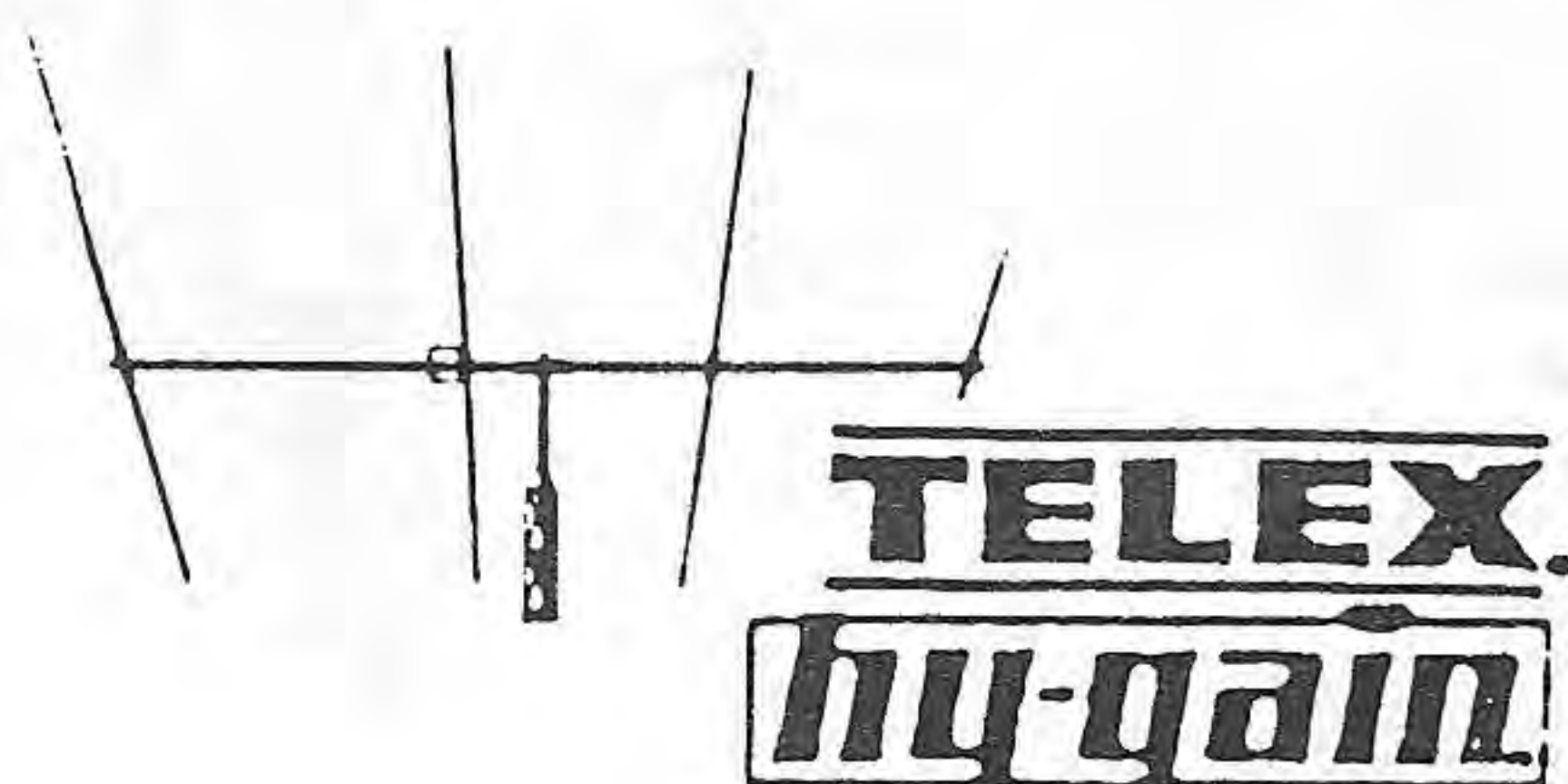


## Used Gear

- Collin "S" line  
 75S-3b & 32S-3 ..... \$595.00  
 Heath SB-303RX &  
 SB-40ITX (mint) ..... \$495.00  
 Heath SM-200  
 H.F. Linear ..... \$595.00  
 Ten Tec Century 21 70W.  
 CW Transceiver ..... \$239.00

 DELHI AND

 TRYLON  
ABC TOWERS



- 402BA 2el 40 mtr Beam ..... \$639.00  
 EX-14 4 el. 20-15-10 mtrs ..... \$678.00  
 TH7DXX 7el tri-band beam ..... \$995.00  
 TH5DXO 5 el. Tri-band Beam ..... 869.00  
 TH3Jr. 3el tri-band ..... \$389.00  
 204BA 4el 20 mtr beam ..... \$589.00  
 205 BAS 5el. 2 mtr beam ..... \$749.00  
 DB-10-15 duoband beam ..... \$359.00  
 18AVT/WBS 10-80 mtr vertical ... \$229.00  
 2BDQ Trap doublet 80&40 ..... \$149.00  
 5DBQ Deluxe 10-80 doublet ..... \$269.00

 **cushcraft**

- A3 3el Tri-band ..... \$495.00  
 A4 4el Tri-band ..... \$599.00  
 A744 40mtr.adapter re A4 .. \$149.00  
 R3 14,21,&10mtr. Ringo .... \$495.00  
 AV5 10-80mtr. vertical ..... \$209.00  
**FM ANTENNAS**  
 ARX-2B Ringo 2 mtr. .... \$79.00  
 A147-4 4el beam ..... \$59.00  
 A147-11 11 el beam ..... \$95.00  
 A-147.20T twist..... \$159.00  
 AFM-4D "four pole" ..... \$159.00  
**BOOMERS**  
 215WB 15 el. 144-148 MHz . \$179.00  
 32-19 deluxe 16.2DB ..... \$219.00  
 AOP-1 Oscar Satellite pack.. \$295.00

## CABLE AND WIRE

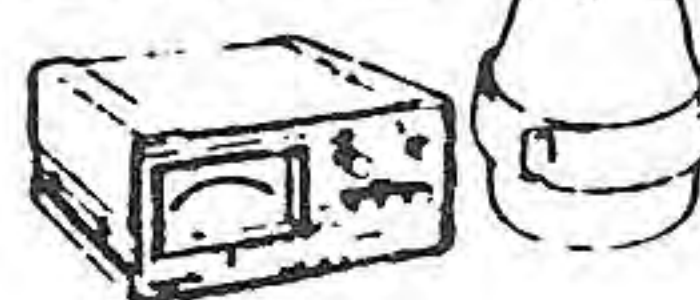
- RG-213 50 ohm coax ..... 75¢ft.  
 200-500 feet RG-213 ..... 65¢ft.  
 1000 ft. roll ..... \$550.00  
 RG8X coax 50 ohm ..... 50¢ft.  
 RG-58 50 ohm coax ..... 25¢ft.  
 #14 copperweld antenna wire .. 12¢ft.  
 Rotor cable ..... 50¢ft.

## BENCHER

- BY-1 Lambic paddle.. \$79.50  
 BY-2 Chrome paddle . \$94.50  
 ZA-1 super I.I balun .. \$37.00

**Mosley**

- TA-33Jr. 10-15-20 M beam ..... \$389.00  
 TA-33 10-15-20 M 1 KW ..... \$495.00  
 CL-33 Classic Feed Tri-band ..... \$549.00  
 MPK-3 Conv. high power TA-33jr ..... \$159.00  
 RV-4C @ RV-8C Vertical ..... \$229.00  
 S-402 2El. 40 mtr beam ..... \$639.00

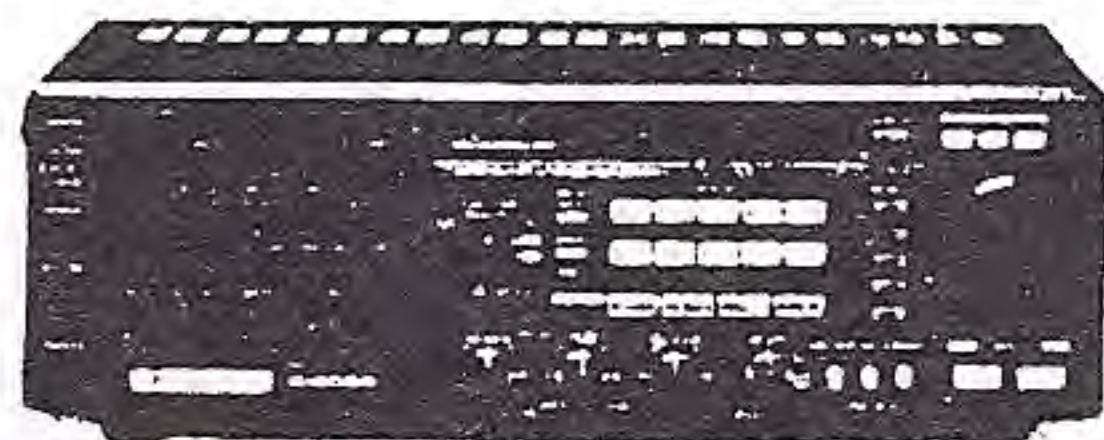
**Rotors**  


- CD-45-- 329.00  
 HAM IV-- 495.00  
 T2X-- 585.00

## KENWOOD



The TS-940S is a competition class HF transceiver having every conceivable feature, and designed for SSB, CW, AM, FM and FSK modes of operation on all 160 through 10 meter Amateur bands, including the new WARC bands. It incorporates an outstanding 150 kHz to 30 MHz general coverage receiver having a superior dynamic range (102 dB typical on 20 meters, 50 kHz spacing, 500 Hz CW bandwidth).



The R-2000 is an innovative all-mode SSB, CW, AM, FM receiver that covers 150 kHz-30 MHz, with an optional VC-10 VHF converter unit to provide coverage of the 118-174 MHz frequency range. New microprocessor controlled operating features and an "UP" conversion PLL circuit assure maximum flexibility and ease of operation.



**YAESU**

FULL LINE AVAILABLE

Check out our prices  
 on used gear



**BARKER & WILLIAMSON**

- AKS-160 Extra short Dipole 160M ..... \$179.00  
 AC-1 Dipole connector ..... \$13.50  
 TR-40 Antenna traps 80&40M ..... \$57.50 pr.  
 AT10 All band antenna (portable) ..... \$79.00  
 CS-3G 3 position Coax switch ..... \$47.00  
 CS-6G 6 position Coax switch ..... \$55.00  
 6 position Axial Mount ..... \$42.00  
 6 position Radial Mount ..... \$42.00

# H.C. MacFarlane Electronics Ltd.

R.R. #2 Battersea, Ont. K0H 1H0, Phone 613-353-2800 VE3BPM  
 IN BUSINESS SINCE 1958  
 Open Monday to Saturday 7:30 a.m. to 9 p.m., Closed Sunday.

SPECIFICATIONS & PRICES  
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YOUR ONE-STOP HAM SHOP  
 ANTENNA SYSTEMS INSTALLED WITHIN RADIUS 150 KM; EXPERTISE FREELY GIVEN ANYWHERE!  
 Dealer for Delhi Towers, CDE Rotors, Hy-Gain, Mosley, Cushcraft and Hustler Antennas, MFJ and B&W products.



**CENTURY 21**  
COMMUNICATIONS INC.

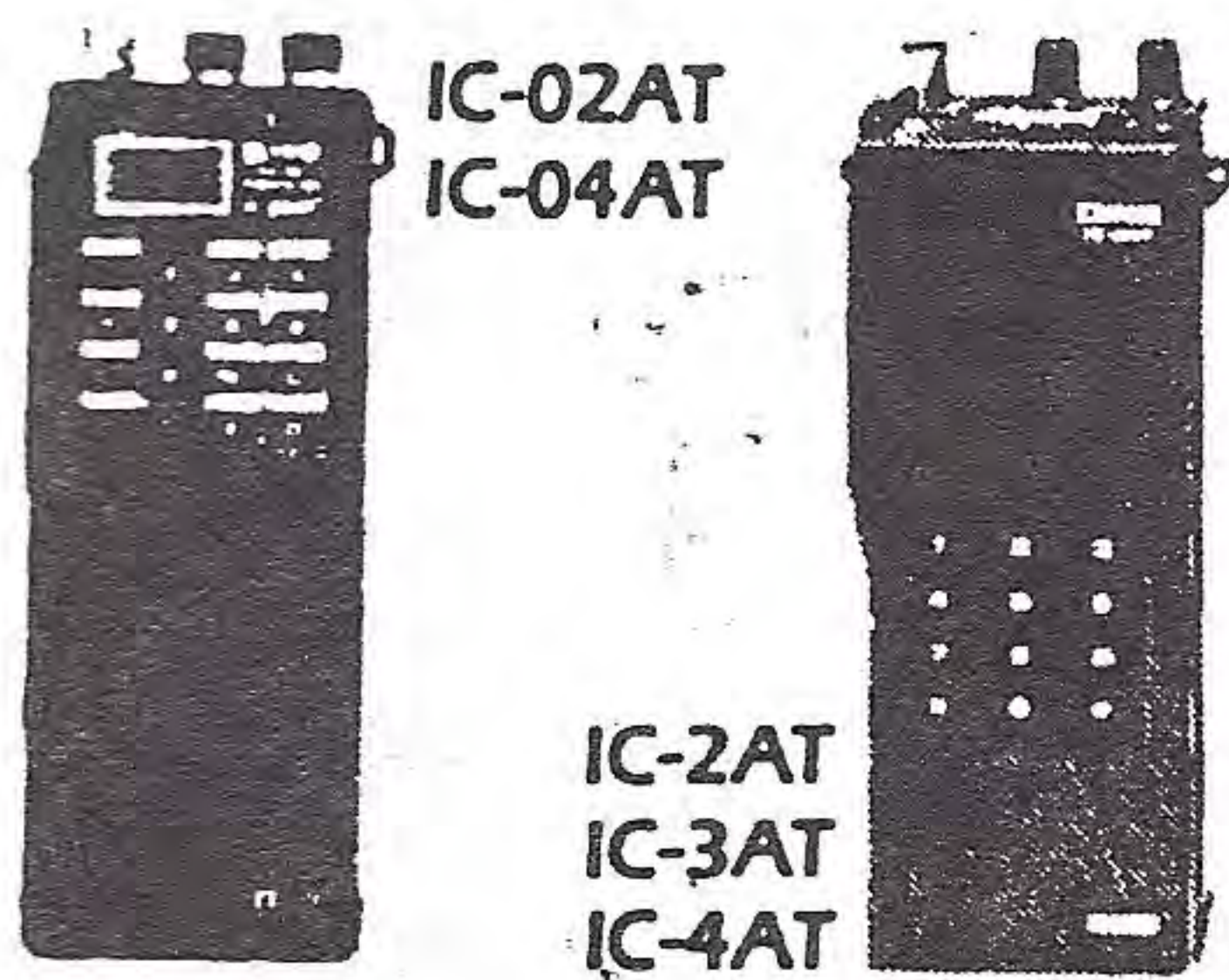
CALL US FOR...

**ICOM**

AUTHORIZED SALES & SERVICE CENTRE  
(Amateur and Commercial)

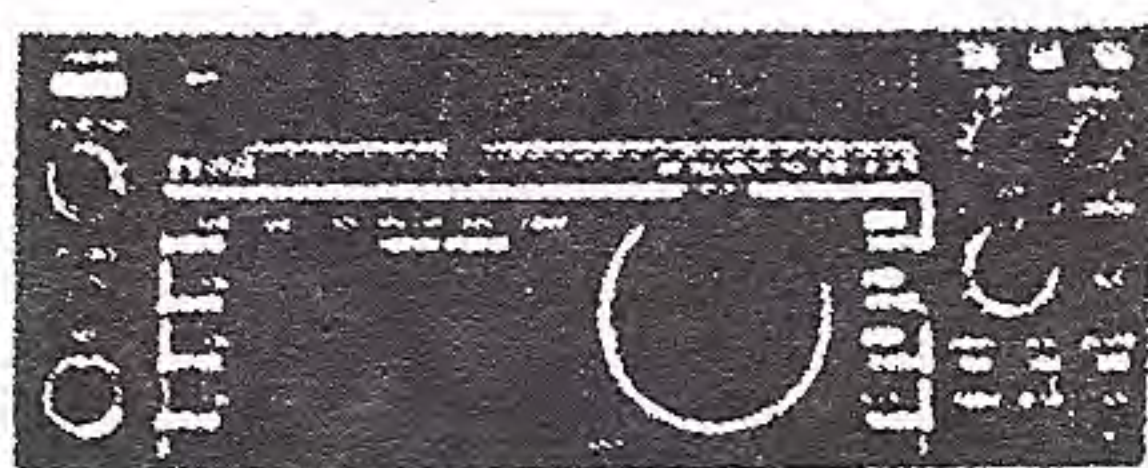
**THE HAM RADIO SPECIALISTS**

**ICOM**



**VHF/UHF  
HANDHELDS**

**ICOM**



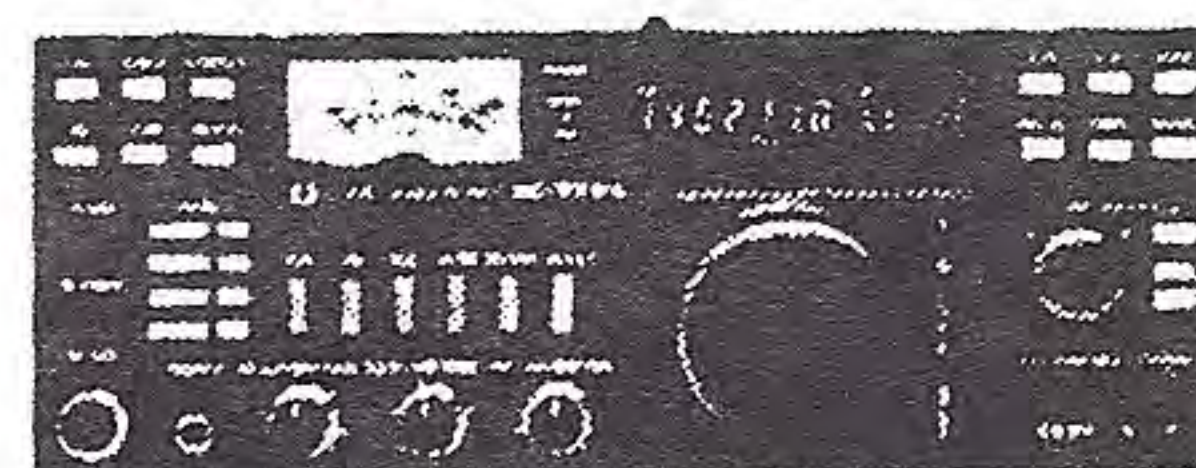
**IC-735**

New compact general coverage receiver/ham band transceiver.

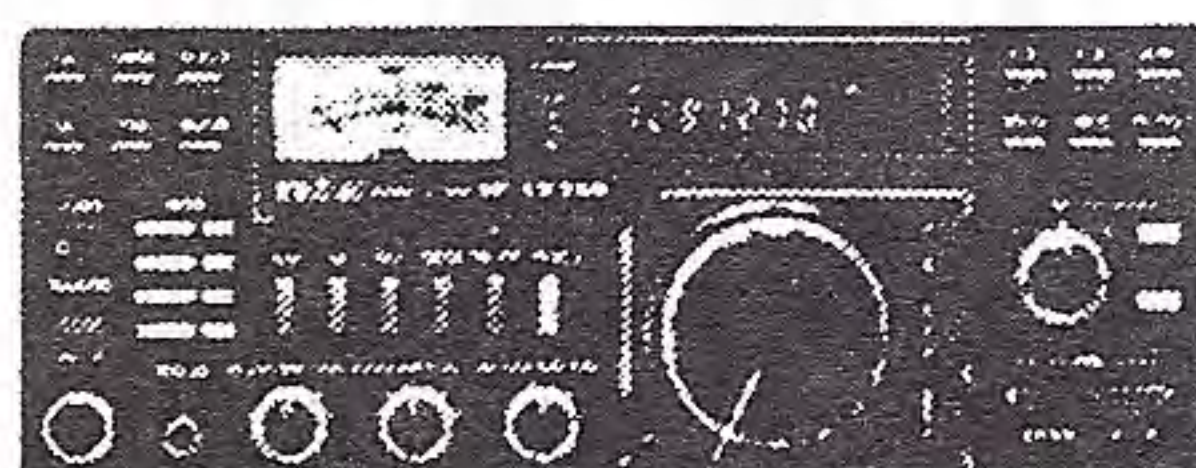
Call to Place Your Order

**ICOM**

**ALL MODE VHF/UHF  
BASE STATION**



IC-271A/H 2 Meter  
IC-471A/H 430-450MHz



IC-1271 1260-1300MHz

**Can you put a price tag  
on reliability?**

Now ICOM offers a **ONE YEAR WARRANTY** on its HF Transceivers & Receivers purchased after August 1, 1986.

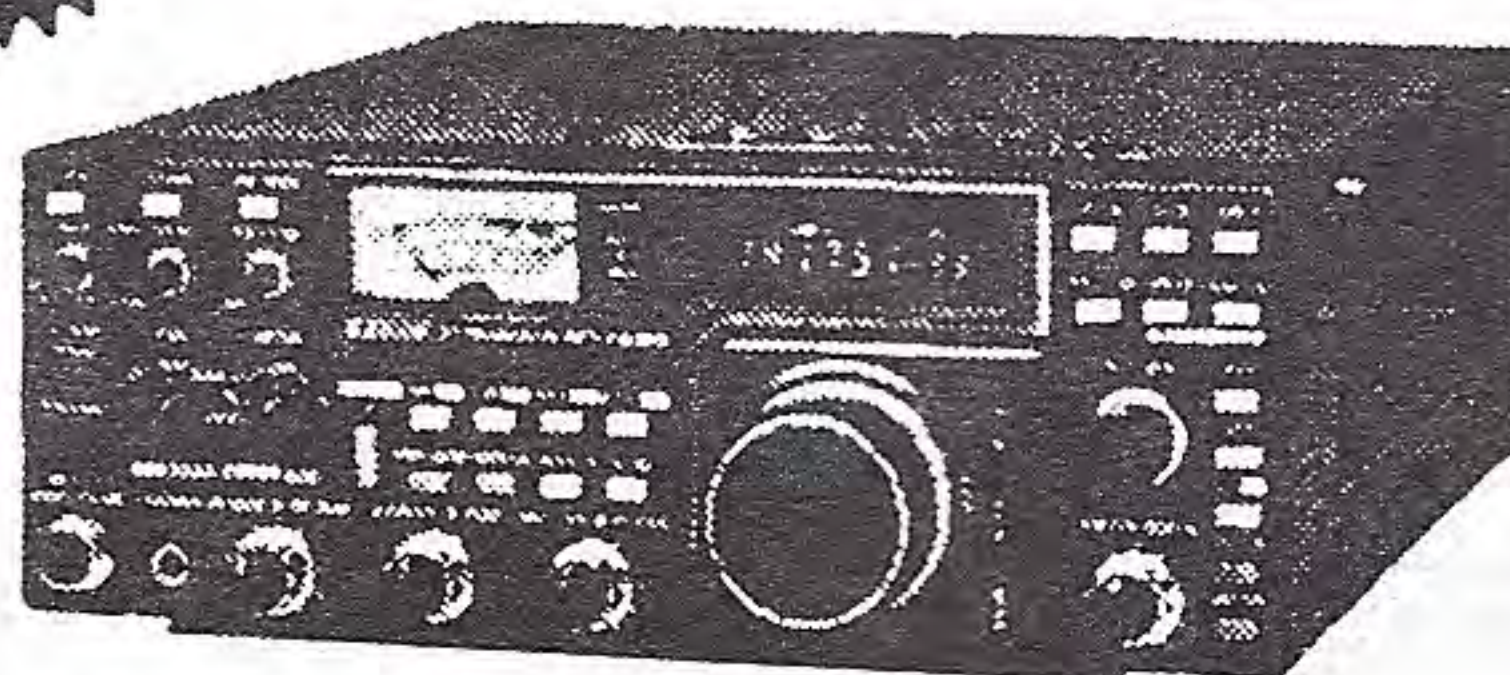
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**HANDHELD ACCESSORIES**

- IC-14 Vinyl Case for IC-02AT
- BC-35 Drop In Charger
- BP-2 425mA 7.2V NICAD Battery
- BP-3 250mA 8.4V NICAD Battery
- BP-4 Alkaline Battery Case
- BP-5 425mA 10.8V Battery
- BP-7 425mA 13.2V NICAD Battery
- BP-8 800mA 8.4V NICAD Battery
- HM-9 Speaker Mic
- CP-1 Cigarette Lighter Cord
- DC-1 DC OP Pack
- Leather Case for IC-2AT
- HS10 Headset for HTs
- HS10SA VOX Unit for IC-02AT
- HS10SB PTT Switch Box

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- 100 Watts Output
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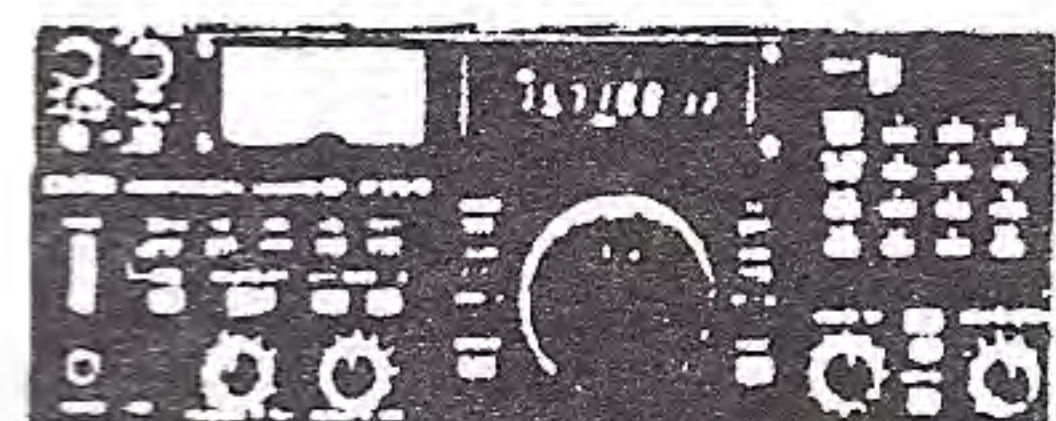
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**IC-3200A**

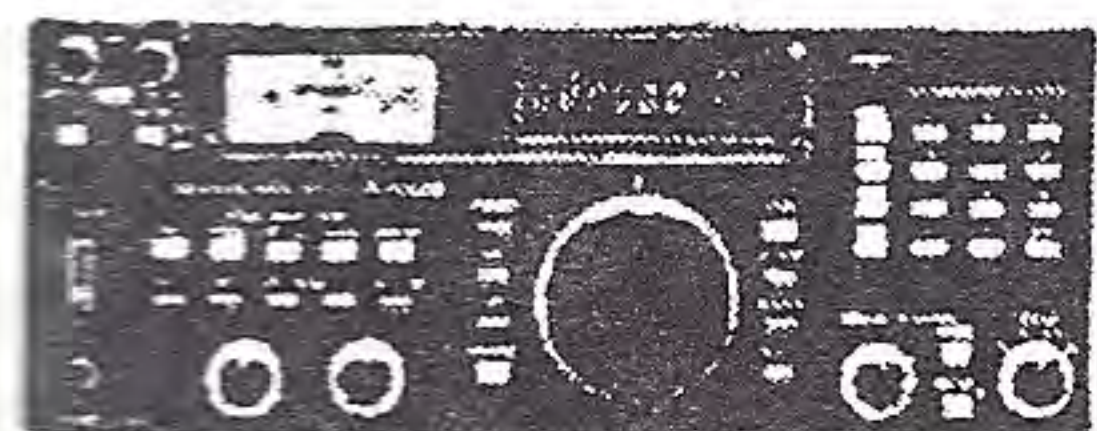
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2M and 70CM

**ICOM**



**IC-R71A**

.1 - 30MHz deluxe general coverage receiver

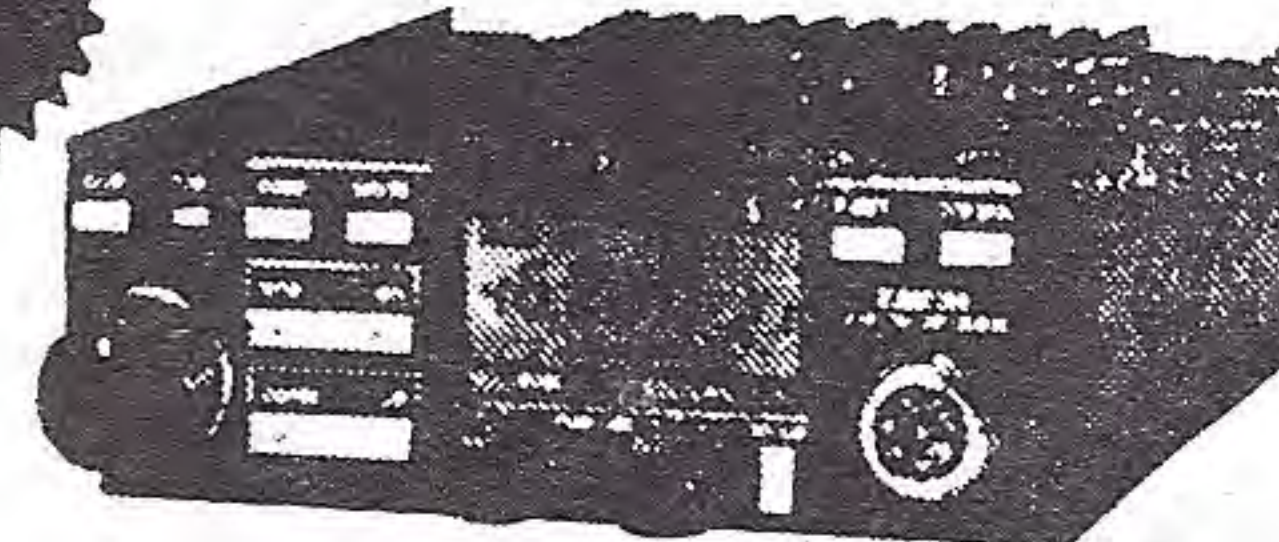


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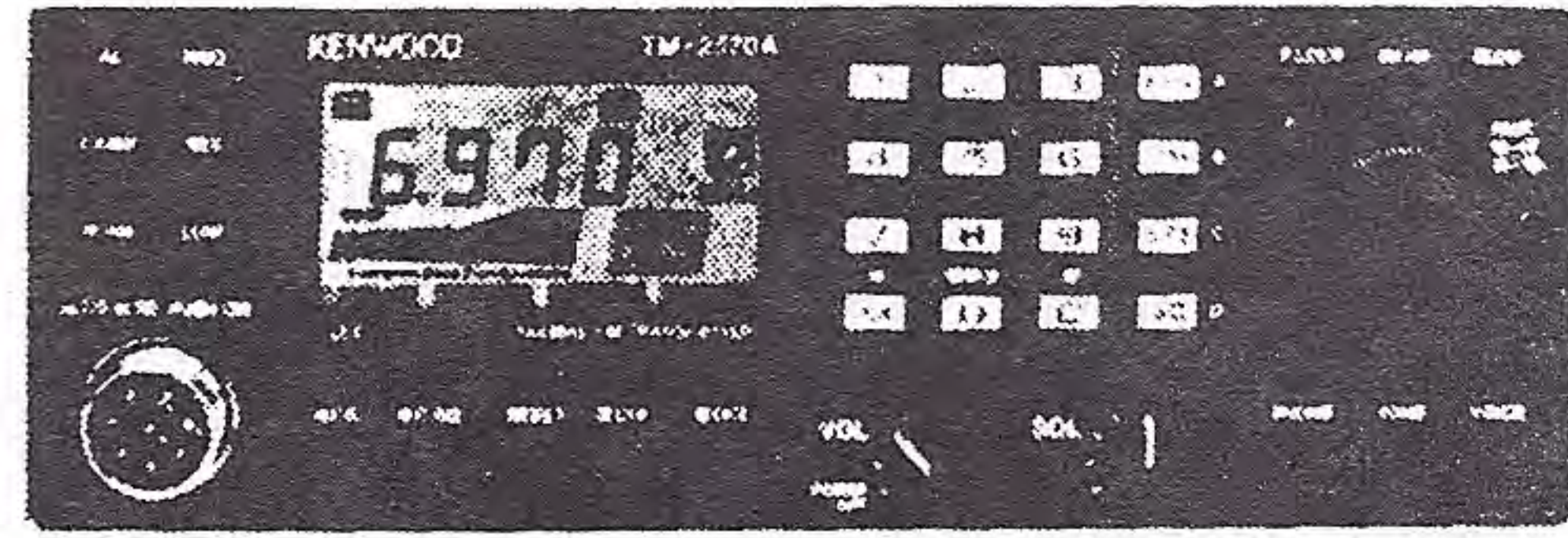
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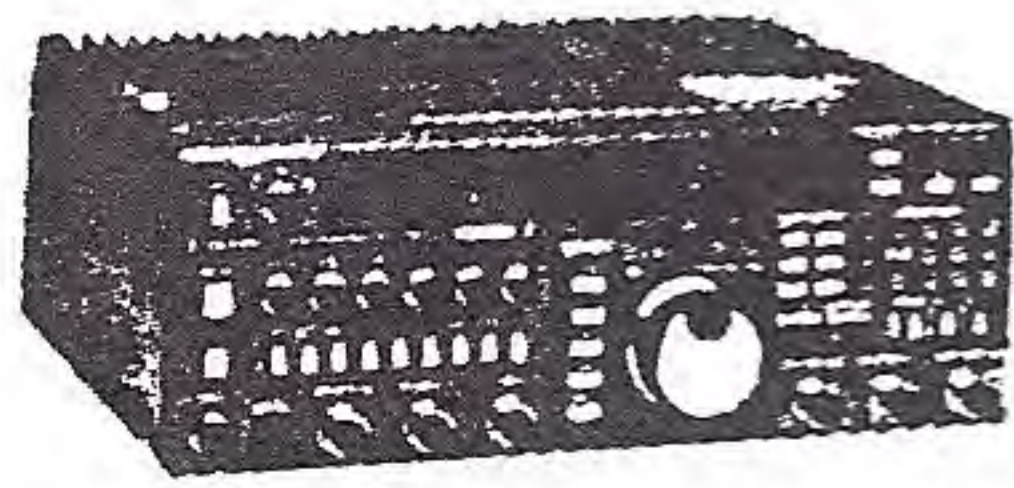


**TM-2530**

**TM-2550**

**TM2570**

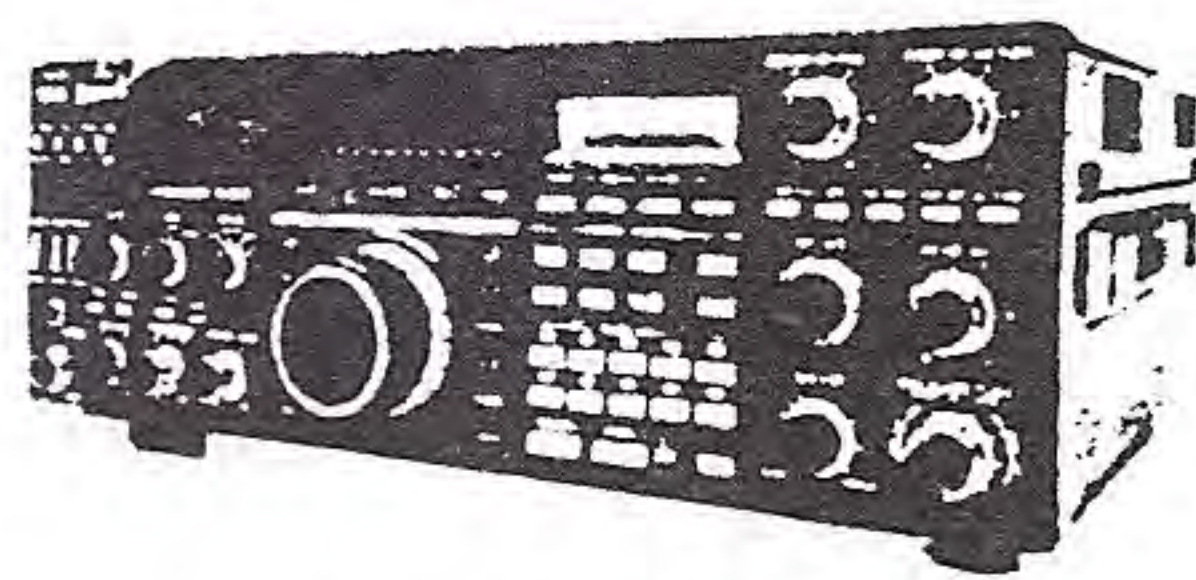
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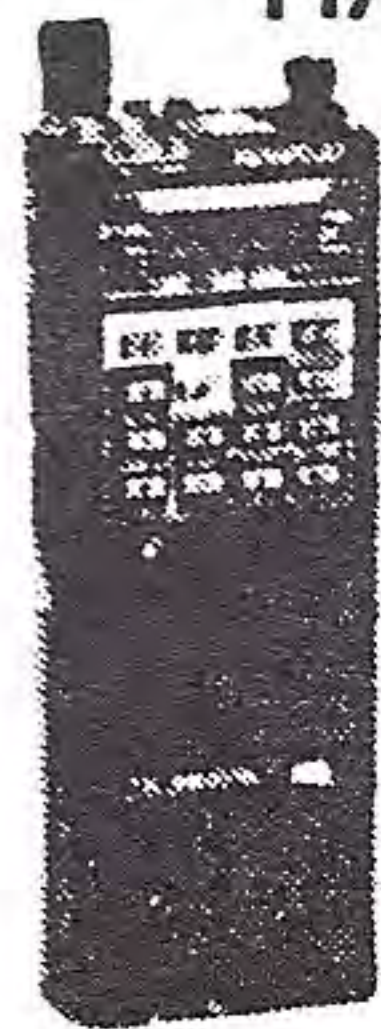
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- HMC-1 Handset w/VOX
- SMC-30 Speaker Mic
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- MS-1 Mobile Charger for TR2600
- PB-26 NiCd Battery for TR2600
- LH-3 Leather Case for TR2600
- SC-9 Soft Case for TR2600
- BT-3 Battery Case for TR2600
- PB-21 NiCd Pack for TH-21/41
- PB-21H 500 MAH NiCd Pack for TH-21/41
- BT-2 Battery Case for TH-21/41
- SC-8T Soft Case for TH-21AT/41AT
- BC-6 Two-Pack Quick Charger
- BC-2 Wall Charger for BP-21H
- AJ-3 BNC Adapter for TH-21/41

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**HANDHELDS**



**TR2600A  
TR3600A**



**TH21AT  
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## Audio Swamping Interference

### 1. WHAT IS AUDIO SWAMPING?

Audio rectification or audio 'swamping' is a form of interference which involves the introduction of strong undesired radio signals into an amplifying element of a receiver or other equipment containing an audio amplifier with the result that this element is driven into non-linearity and the receiver itself exhibits aural and/or visual distortion.

**2. WHAT DOES THAT MEAN IN PLAIN ENGLISH?** Audio swamping is the result of strong radio signals 'getting into' a receiver or amplifier.

**3. HOW COMMON A PROBLEM IS IT?** Very Common. Record players and stereo amplifiers, tape recorders, intercom systems, electric organs, AM and FM radios, hearing aids, telephones, PA systems, televisions and similar electronic equipment can all experience audio swamping. About 50% of complaints received by the DOC involve swamping interference and the number is increasing.

### 4. WHY IS IT INCREASING?

Swamping is related to strong radio signals and when radio transmitters and home entertainment equipment are brought closer together, it follows that more problems will occur. Smaller building lots, apartment and condominium living, the increased use of electronic home entertainment equipment, and the proliferation of GRS (CB) radio transceivers are all trends which contribute to the increasing incidence of audio swamping. Newer solid state electronic units are actually more susceptible to this problem than older tube-type equipment.

**5. WHAT ARE THE SYMPTOMS OF SWAMPING?** Voices, either clear or garbled are heard and one side of a conversation seems to be involved. With tunable receivers interference appears right across the dial. For television sets both the sound and picture may be interfered with on all channels. Volume controls may not change the level of the interference. Such symptoms are likely indicative of swamping.

**6. ONLY 'LIKELY'?** Yes, almost all such cases involve swamping but there are other interference problems which have similar characteristics. Two broad categories for these problems are (a) spurious emissions and (b) non-radio transmitter sources.

**7. HOW DO 'SPURIOUS' AND 'SWAMPING' SYMPTOMS VARY?** Spurious emissions appear only at

specific locations on the radio dial. In the case of television, some channels (often channel 2 and/or channel 5) are affected but others are not.

**8. WHAT ABOUT 'NON-RADIO TRANSMITTER' SOURCES?** These are too numerous to describe here but interference apparently not related to a radio conversation may involve something other than a radio transmitter.

**9. WHAT DOES THE DOC DO ABOUT INTERFERENCE?** As the regulatory body in Canada for the radio spectrum, the DOC investigates interference problems to ensure that no regulations are being broken. In addition to this service, the DOC often provides technical information to spectrum users in order to help them eliminate problems. This role is purely advisory however, and the actual cure of interference of problem as well as the cost of cures, is entirely the responsibility of the user.

**10. IF SWAMPING OCCURS WHAT DO I DO?** Either live with it or correct the fault(s) that cause it.

**11. WHAT FAULTS ARE INVOLVED?** Inadequate shielding/filtering within the electronic device which exhibits the interference. That is to say faults within the tape recorder, stereo, electronic organ, etc. which receives the undesired signal.

**12. BUT WHAT ABOUT THE TRANSMITTER INVOLVED?** Even if the radio transmitter is operating within the terms of its licence swamping may still occur. Unless spurious signals (See #7) are involved there is often nothing that can be done at the transmitter short of turning it off.

**13. BUT MY RECEIVER WAS FINE UNTIL THE TRANSMITTER STARTED.** Yes, but only because there were never any strong radio signals near it. Even expensive stereos and televisions often are built without adequate shielding/filtering because the manufacturer assumes that very few will ever be close to transmitters and shielding/filtering every unit would put his product at a cost disadvantage with his competitors. Today, as more and more swamping problems occur (See #3 and #4), this is becoming an inadequate excuse for avoiding action which, at the point of manufacture, would add little to the cost of entertainment units.

**14. SHOULDN'T MANUFACTURERS CORRECT THE FAULT THEN?** There is currently no law which would require

the manufacturer to do so. However, many reputable manufacturers will supply information and even some of the necessary components to shield/filter their projects. A letter to the manufacturer stating that your device appears to be highly susceptible to radio frequency interference and describing the symptoms may result in assistance. The DOC in conjunction with equipment manufacturers is now working towards voluntary standards for equipment immunity. In the long run, a regulation requiring improved shielding/filtering design in stereos, electric organs, and other amplifying equipment would help clear up the problem.

**15. DO I HAVE TO PAY FOR THIS PROBLEM CREATED BY A TRANSMITTER?** In all likelihood, yes. Remember, however, that the problem is not created by the transmitter. Local transmitter operation merely serves to bring to light a fault within the device receiving its signals. Blaming the transmitter for reception of undesired signals by an inadequately shielded/filtered receiver is analogous to blaming the weather for water damage due to a leaky roof.

**16. WHO WILL DO THE NECESSARY WORK?** Any qualified TV or Radio repairman should be able to make the necessary modification(s). The DOC is prepared to provide case by case advice to servicemen in instances where the standard solutions noted in the DOC publications fail to resolve the problem.

**17. DO ALL SWAMPING PROBLEMS REQUIRE EXTENSIVE MODIFICATIONS?** No. Each case is unique and in some instances merely repositioning external speakers, moving the electronic device (stereo, electric organs, etc.) or relocating the GRS (CB) antenna may clear up the problem by reducing slightly the received level of interfering signal. Other cases will require extensive modification... no two problems are the same.

**18. IS FURTHER INFORMATION AVAILABLE?** Yes. The following publications prepared by the DOC may be of interest:

For Better Television Reception:  
How To Identify And Resolve Radio-TV Interference Problems  
TRC19: Suppression Of Inductive Interference Cross Modulation And Swamping



KENPRO KT-220ET  
IDENTICAL TO  
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A SUPER VALUE AT  
\$459.00

COMPARE TO \$600 for  
other HT's & Features



WHICH OTHER HT CAN:  
MEMORIZE 2 PHONE NUMBERS  
TELL THE TIME (24hr CLOCK)  
RUN ON 12VDC, ETC., ETC.

KENPRO KT-220ET	VHF FM TRANSCEIVER MODEL ST-20T
<b>General</b>	
Frequency Range	142.000 to 150.995 MHz
Type of Emission	F3
Memory Channels	10 Channels
Antenna Impedance	50 ohms
Power Source	9.6V NiCd battery pack 9V Dry battery pack D.C. 8.4-16V
<b>Transmitter</b>	
RF Output Power	5.0 Watts (H), nominal at 12V 3.5 Watts (M), nominal at 10.5V 0.5 Watts (L), nominal at 10.5V
Modulation	Frequency modulation
Maximum Deviation	± 5 KHz
Transmit Spurious	- 60 dB
Microphone	Electret Condenser Microphone
<b>Receiver</b>	
Receiving Methods	Double superheterodyne
I.F.	1st 16.9MHz 2nd 455KHz
Sensitivity	Less than - 0.25uV at 12dB SINAD
Band Width	± 7.5 KHz at 6dB down
Selectivity	± 15 KHz at 60dB down
Audio Output Power	400mW at 8 ohm

• TWO SEVEN-DIGIT AUTO DIAL MEMORIES • ONE HAND, ONE FINGER SIMPLIFIED KEYBOARD ENTRY OF INFORMATION • 142-150.995 OPERATION FOR M.A.R.S. AND OR C.A.P. • TEN MEMORY CHANNELS FOR 10 DIFFERENT REPEATER OPERATIONS PLUS 'SCANLOCK' FOR LOCKOUT OF ANY ONE CHANNEL OR MULTIPLE CHANNELS WITHOUT REPROGRAMMING • SANTEC'S MULTIPLE MODES OF SCANNING • 3.5-5 WATTS OUTPUT • DIRECT 12 V.D.C. OPERATION • SUB-AUDIBLE TONE COMPUTER CONTROLLED • MICROPROCESSOR CONTROLLED ENCODE/DECODE OPTION AVAILABLE • TIME OF DAY QUARTZ CLOCK • ANALOG METER MOUNTED FOR BEST D.F.ING • AUTOMATIC ENTRY OF STANDARD OFFSET FOR BAND WITH EACH NEW ENTRY • ANY CTCSS TONE IN ANY MEMORY CHANNEL • SLIDE ON/OFF BATTERY PACK COMPATIBILITY

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Remember just a few years ago, how it took a roomful of equipment just to work RTTY. And if you wanted more than one mode it took a dedicated computer system costing thousands of dollars. The new AEA Pakrats are proving it doesn't take lots of equipment or money to enjoy working all bands in five different modes.

### First. A Good Idea

The idea behind the Pakratt is very simple. One controller that does Morse, Baudot, ASCII, AMTOR, and Packet, and works both HF and VHF bands. Of course the decoding, protocol, and signal processing software must be included in the unit, and connection to the computer and transceiver have to be easy. The unit also has to be small and require only 12 volts, so it will work both in the shack and on the road.

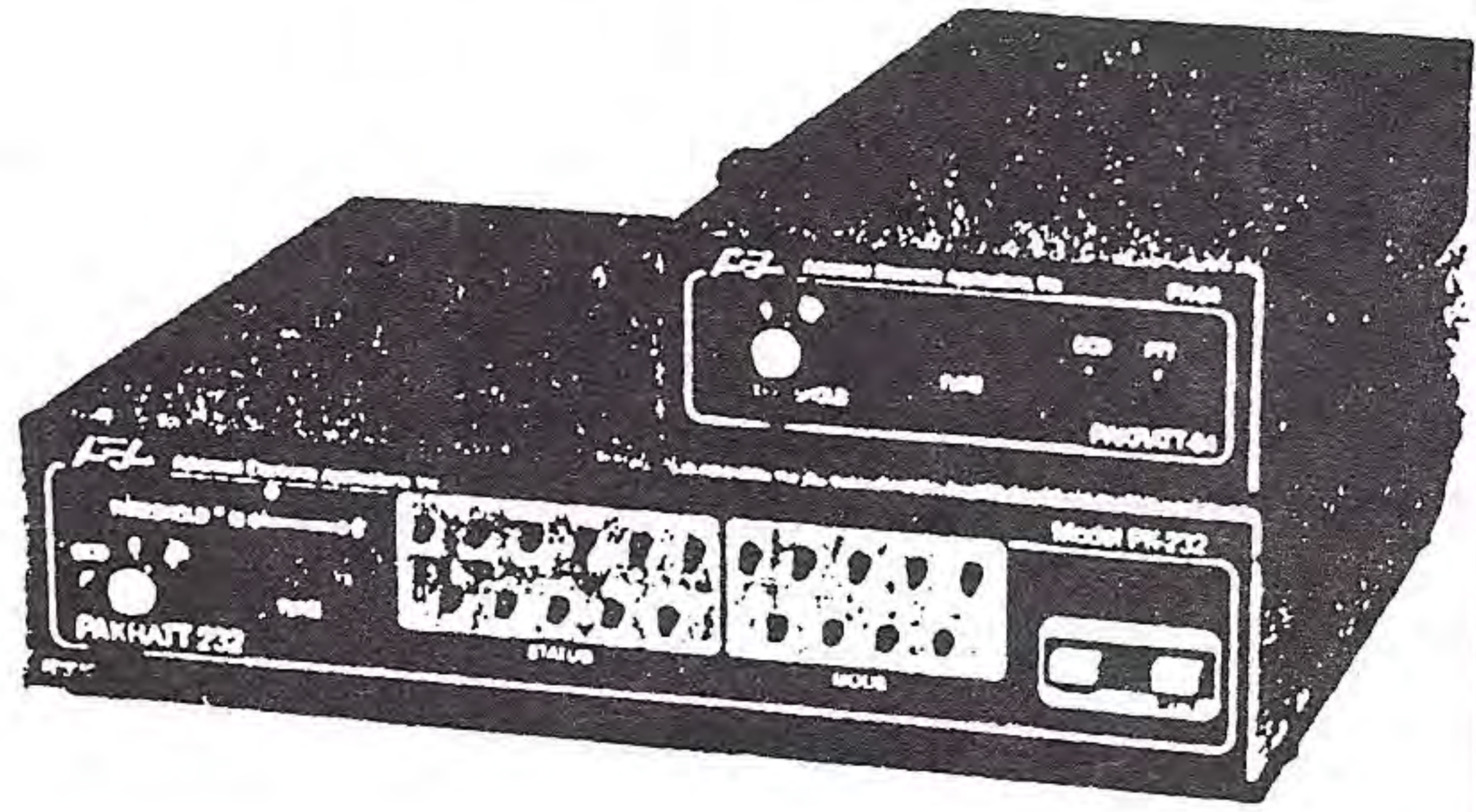
### Second. Computer Compatible

It doesn't matter what kind of computer you have, we have a Pakratt for you. The PK-64 works with the popular Commodore 64 or 128, and the PK-232 works with any other computer or terminal that has an RS-232 serial port. The PK-64 doesn't require any additional programs. Simply connect to the computer and transceiver and you're on the air. The PK-232 needs a terminal or modem program for your computer. The one you're using with your telephone modem will work just fine.

### PACKET CONTROLLERS and Accessories:

A.E.A. PK-232 \$559; PK-64A \$459; PK-64 \$369; PK-80 \$369; PM-1 \$299; HFM-64 \$169  
KANTRONICS KPC-2400 \$559; KAM \$559; KPC-2 \$289 Modem-2400 \$259  
M.F.J.-1270 \$249. Extra 5 pin cable \$12

### PAKRATT™ Model PK-64



### PAKRATT™ Model PK-232

#### Third. Performance and Features

The real measure of any data controller is what kind of on-air performance it gives. While the PK-64 and PK-232 use different types of modems, both give excellent performance on VHF. The optional HF modem of the PK-64 uses independent four-pole Chebyshev filters for both Mark and Space tones, and A.M. detection. The HF option can be factory or field installed.

The PK-232 uses an eight-pole bandpass filter followed by a limiter discriminator with automatic threshold correction. The internal modem automatically selects the filter parameters, CW Fc = 800 Hz, BW = 200 Hz; HF Fc = 2210 Hz, BW = 450 Hz; VHF Fc = 1700 Hz, BW = 2600 Hz.

The PK-64 uses on screen indicators to show status, mode, and DCD (Data Carrier Detect) while the PK-232 uses front panel indicators. Both units use discriminator style tuning for HF operation. And that's just the tip of the iceberg. Features like multiple connects on packet, hardware HDLC, CW speed tracking, and other standard AEA software features are included in both the PK-64 and PK-232.

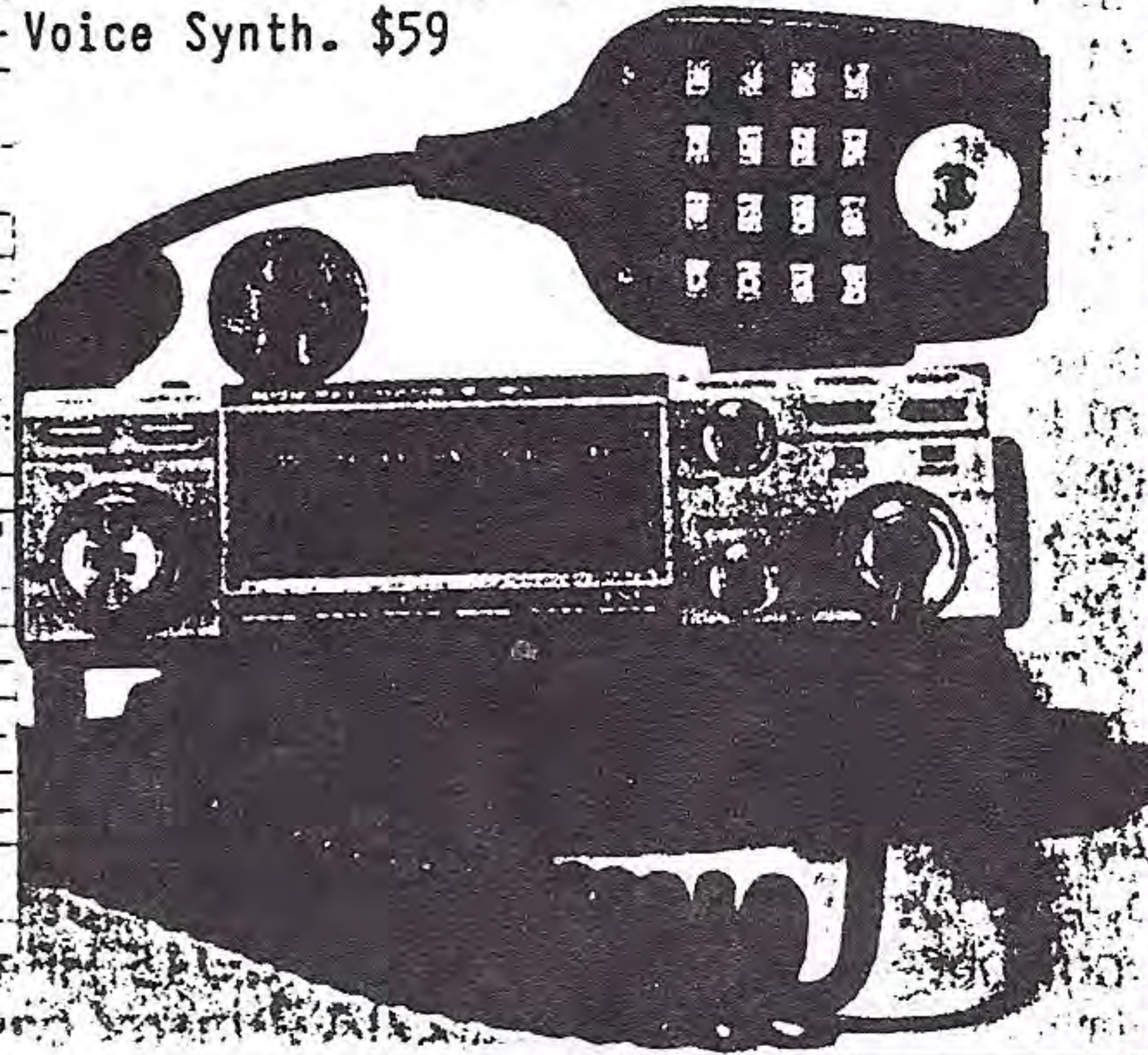
**KDK** FM-240  
\$449.00

Specifications KDK FM-240 (and FM-740)

General	
Supply Voltage	13.8v ± 15%, negat. vs ground
Consumption	Transmit: 1.5A @ 5w, 5.5A @ 25w Receive: 4A @ 0 sig., 6A @ max volume - 10 deg. C to 60 deg. C
Temp. Range	- 10 deg. C to 60 deg. C
Dimensions	40H x 140W x 170D mm (Body only)
Weight	1.0Kg (Body only)
<b>Transmitter</b>	
Freq. Range	FM-240 142.000 - 150.00 MHz (FM-740 440.00 - 449.975 MHz)
Output	High = 25 watts, Low = 5 watts (High = Low, Low = 1W) (FM-740 High = Low)
Modulation	Variable reactance frequency modulation
Max. Deviation	± 5KHz
Spur. Emms	More than 60dB down from carrier
Duplex Offset	Programmable ± 1 to 12.7MHz (set at ± 6KHz ex factory)
Tone	Programmable 74-250.3 (34 EIA tones) Encode and Decode
<b>Receiver</b>	
Int. Freq	1st = 10.7MHz, 2nd = 455KHz (1st 21.4MHz 2nd 455KHz)
Sensitivity	Better than 12dB SINAD @ 2uV
Squelch Sens	Better than 15uV
Bandwidth	± 6KHz @ - 6dB
Selectivity	± 12.5KHz @ - 60dB
Image Ratio	Better than 70dB
Audio Output	More than 2w, 8 ohms load, 10% THD
<b>Standard Accessories</b>	
Speaker Microphone	Speaker = 8 ohms, Mike = Condenser type. SM 34A UP/DOWN plus tone encoder
Power Cable	2 meters, with 7A fuse

- Superior features, simpler to use for 2 meters. MARS. CAP
- Compact size for better fit in today's automobile
- 16 fully programmable memory channels, plus priority call channel
- 2 VFOs for today's user
- Subaudible encode and decode standard for today's 2 meter bands
- Subaudible frequency programmed by freq. no chart needed
- Speech synthesis option for voice VFO

with TouchTone, Speaker Mike  
Voice Synth. \$59



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# CANADIAN AMATEUR RADIO REPRESENTED AT INTERNATIONAL AMATEUR RADIO UNION BUENOS AIRES

The Canadian Radio Relay League CRRL Representing Canadian Amateur Radio was among the twenty five national amateur radio societies represented at the recent 9th General Assembly of IARU Region 2 held in Buenos Aires October 20-25, 1986.

The General Assembly was opened by officials of IARU Region 2, the Argentine Minister of Communications and the President of the Radio Club Argentino.

Then followed three days of intensive Committee work, reviewing almost one hundred submissions, followed by a one-day plenary session at which the recommendations of the committees received final approval.

## Highlights of the recommendations:

1. That the top 10 khz of the 15 and 20 metre bands be the initial meeting place for amateurs in time of international emergency.
2. That a type of emergency net, proliferating in South America, occupying spot frequencies in the amateur bands, up to 24 hours a day, 365 days a year, be discouraged in favour of emergency nets that operate only during actual emergencies, or for training and practice.
3. That there be no phone operation on the 10 mhz band.
4. That contacts on the 10 mhz band, not count for contests and awards.
5. That April 18th, the anniversary of the founding of IARU in 1925, become World Radio Amateur Day.
6. That June 17th become World QRP Day.
7. That AX.25 be the international preferred protocol for amateur packet radio and
8. That IARU Region 2 work with the ARRL Digital Committee to establish a packet radio network for North and South America.

The General Assembly also approved a set of HF Bandplans, not binding on anyone but offered as guidelines, for North and South America.

It also approved three important recommendations initiated by CRRL:

1. A set of guidelines for net operation which includes the concept that nets, while they should be given every courtesy, do not have the right to a particular frequency to the extent that they can interfere with or displace QSOs already in progress.
2. That IARU consider establishing some professionally-equipped monitoring stations to increase the effectiveness of the IARU Monitoring System (formerly called Intruder Watch)
3. That IARU member societies throughout the world press their communications authorities to concern themselves with RF susceptibility of non-radio electronic products, and to make manufacturers of such products repair them without charge, whenever the products malfunction in an RF field.

Two relatively minor items created much heated debate. In split votes the General Assembly approved recommendations:

1. That the standard way of dating QSL cards should be year, month, day. (CRRL has been dating all CRRL Bulletins in this manner for years)

2. That amateurs operating portable in a foreign country should place the prefix of the country before, instead of after, their own call sign. eg LU/VE3QST.

There were many more items discussed which will appear in a subsequent full report in a forthcoming issue of QST...

The Canadian Delegation to Argentina was headed by CRRL President Tom Atkins, VE3CDM, who was re-elected for a further three year term as a member of the IARU Region 2 Executive Committee, and CRRL Vice-president Harry Maclean, VE3GRO assisted by CRRL Assistant Director Al d'Eon, VE3AND.

A special presentation to the Radio Club Argentino commemorating their 65th Anniversary, was made by CRRL President Tom Atkins, on behalf of the radio amateurs of Canada, at the closing banquet.

The Tenth General Assembly will be held in the United States in 1989.

Canadian Radio Relay League, Inc. November 2nd, 1986.

## Here We Go Again . . .

Well, the President's report was not my last, as you will read in the report of the Annual Meeting in this issue. I'm willing to dig in for another year (to the dismay of my XYL Veronica and my business associates).

The R.S.O. **MUST** have your direction; and your help too, I hope.

Please answer the questionnaire in this magazine (numbered question answers will do). If you are able to answer and don't, it can only be

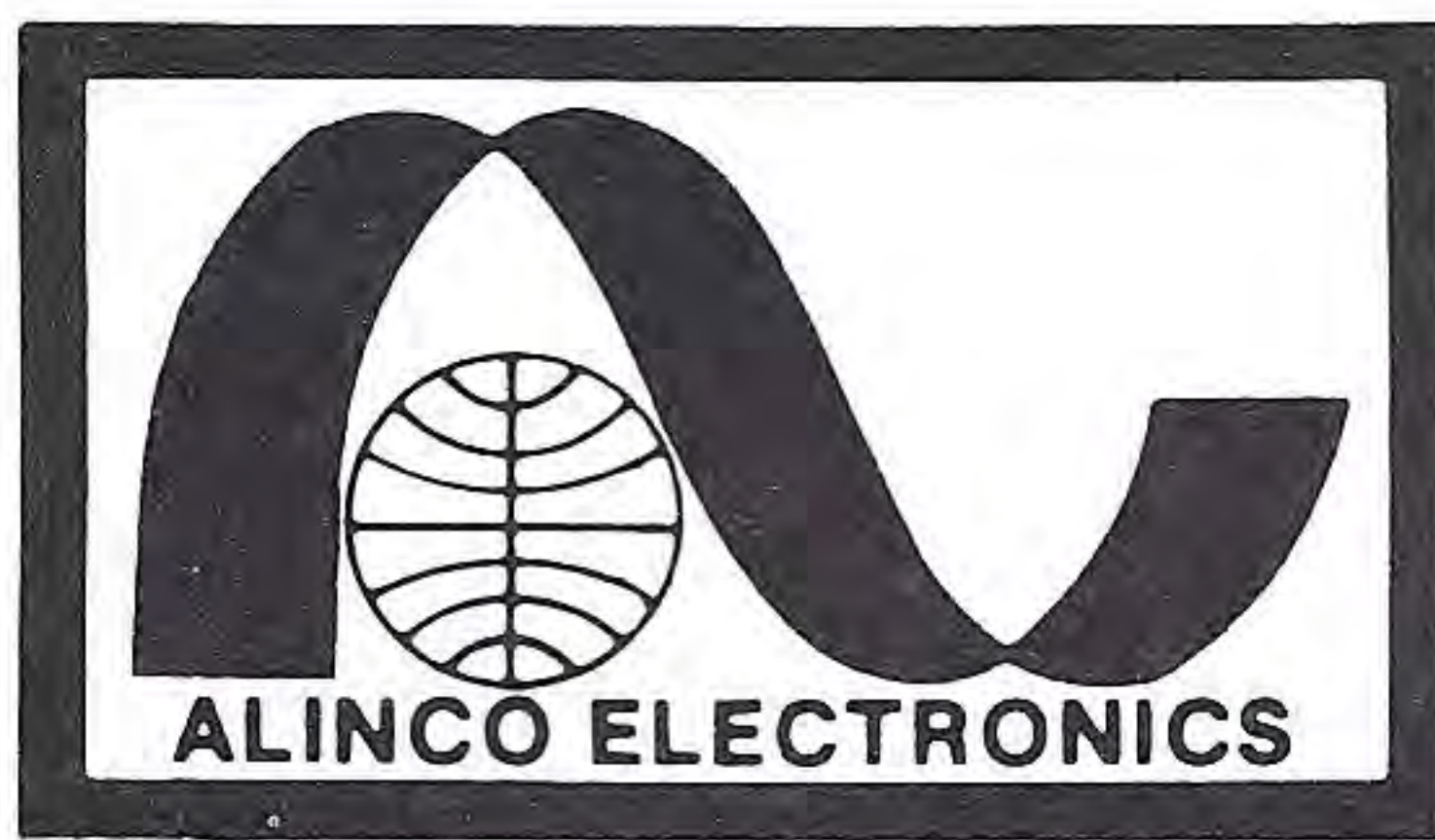
presumed that you don't care what happens to this Society.

I am very encouraged by the positive attitude demonstrated by the questionnaires returned at St. Andrew's. The future looks a lot brighter.

At this time I wish you and your loved ones, a very happy Holiday Season and a healthy, happy New Year.

73 Evan VE3IVD





# COM- WEST Radio Systems Ltd.

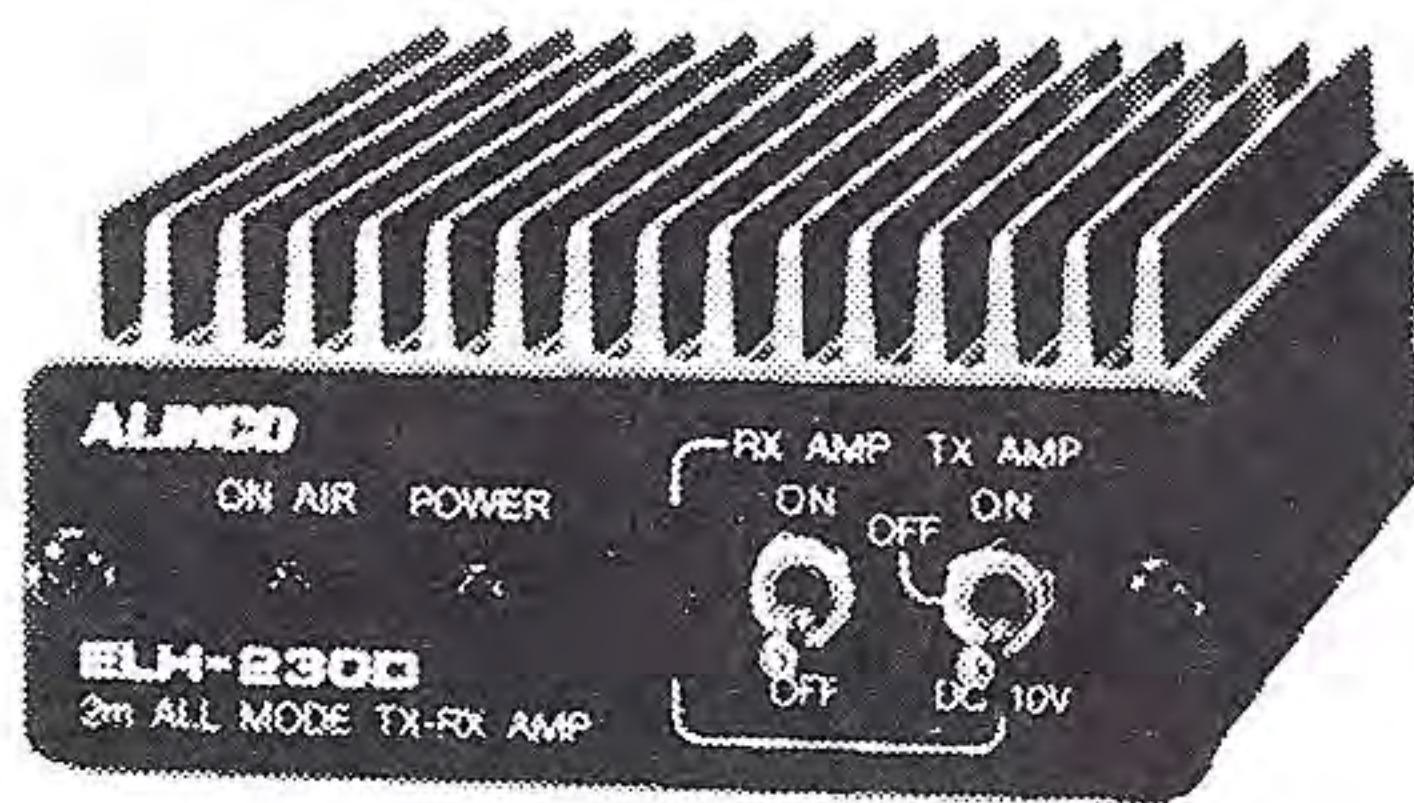
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A new compact, rugged, miniature, RF power amplifier is being introduced to the market. The silver grey anodized chassis with the black front will compliment your shack or mobile.

The many features are:

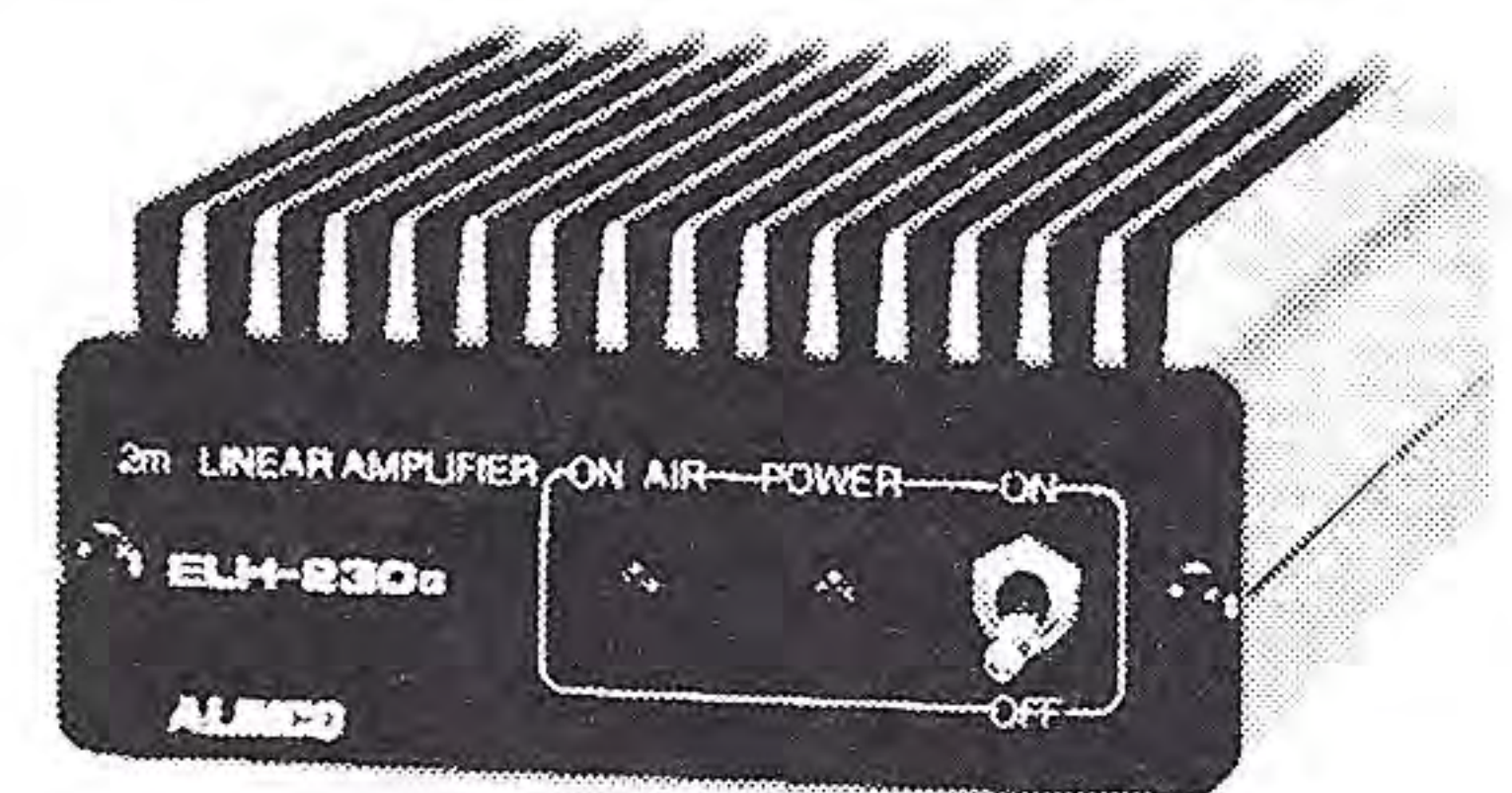
- Heavy duty heat sink for longer transmissions
- Low pass filter installed for a cleaner signal
- All units include a protection circuit
- ELH-260D, ELH-230D, ELH-220GF and ELH-730D include a gain Rx Pre-Amp
- ELH-260D includes an RF meter and Protection Circuit L.E.D.



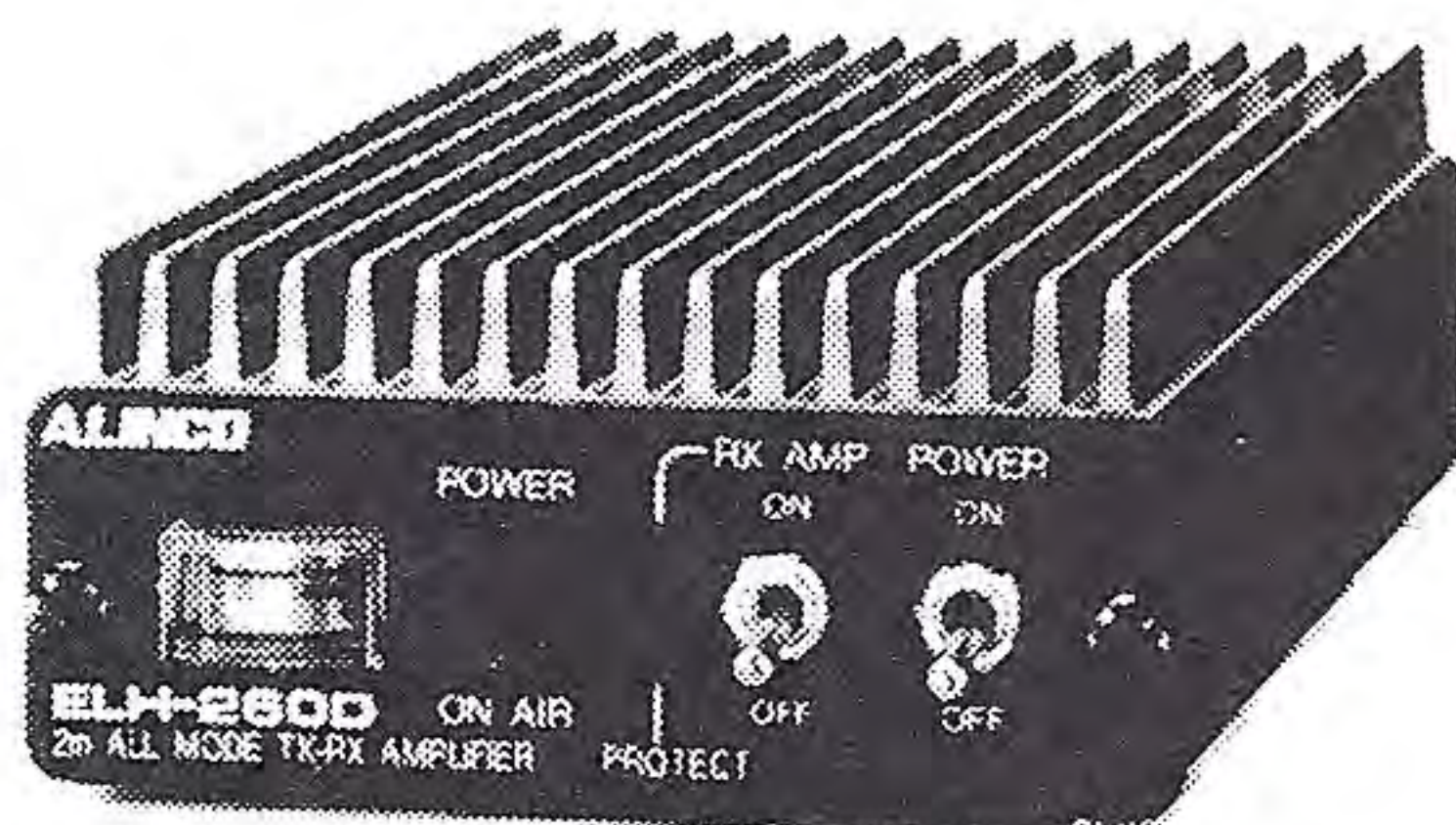
**ELH-230D**  
**\$165**

ELH-230D
140-150MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 30W Output Power
DC13.8V/4.5A
10dB Gain Rx Pre-Amp
50 ohms
3.58" x 1.61" x 6.42"
1.12 lbs.

ELH-230G
140-150MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 30W Output Power
DC13.8V/4.5A
50 ohms
3.58" x 1.61" x 6.42"
1.12 lbs.



**ELH-230G**  
**\$135**



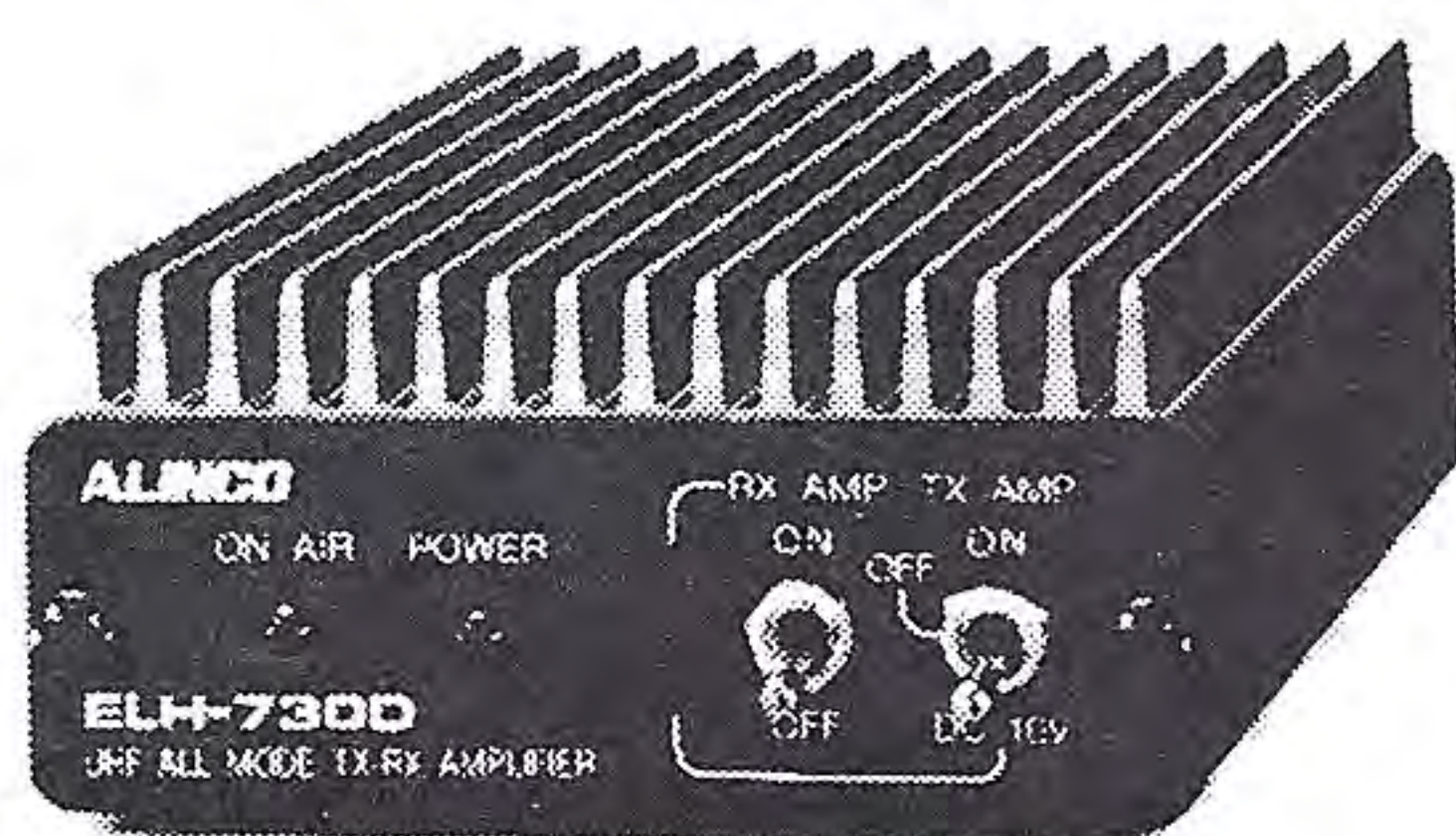
**ELH-260D**  
**\$259.**

ELH-260D
140-150MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 50W Output Power
DC13.8V/10A
10dB Gain Rx Pre-Amp
50 ohms
3.58" x 1.61" x 8.50"
1.50 lbs.

ELH-220GF
220-225MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 30W Output Power
DC13.8V/4.5A
15dB Gain (GaAs FET)
50 ohms
3.58" x 1.61" x 6.42"
1.12 lbs.

(Picture Not Available)

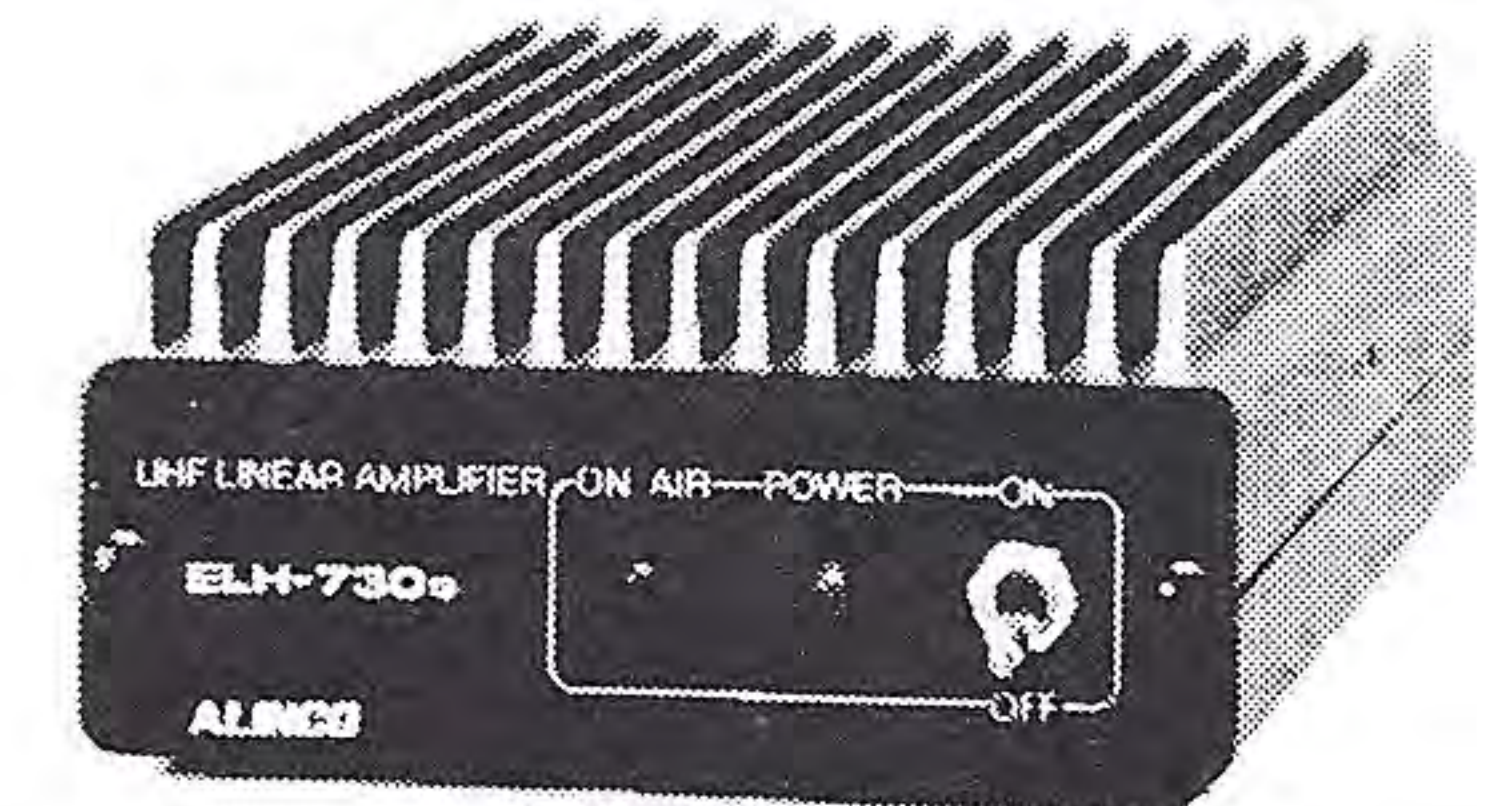
**ELH-220GF**  
**\$199**



**ELH-730D**  
**\$289**

ELH-730D
430-450MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 30W Output Power
DC13.8V/7A
15dB Gain (GaAs FET)
50 ohms
3.58" x 1.61" x 7.68"
1.19 lbs.

ELH-730G
430-450MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 30W Output Power
DC13.8V/7A
50 ohms
3.58" x 1.61" x 6.81"
1.19 lbs.



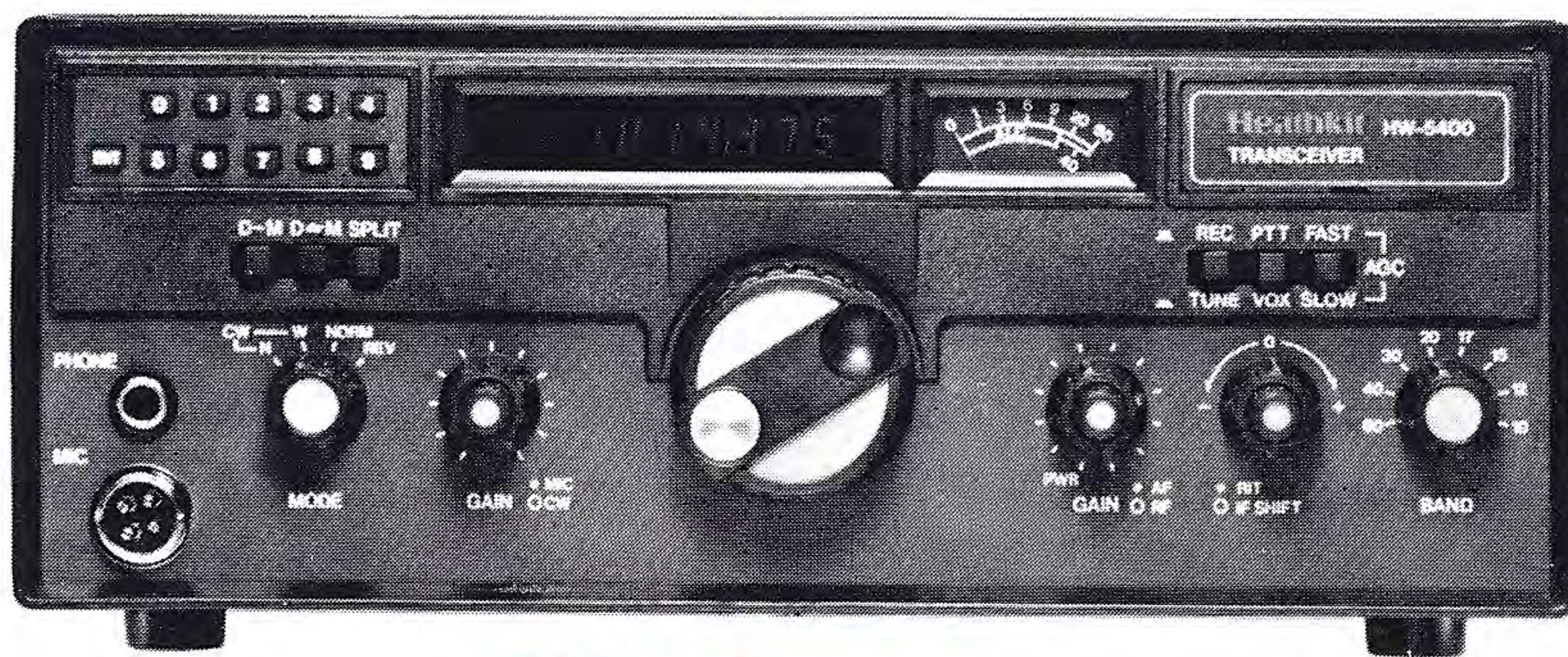
**ELH-730G**  
**\$249**

Dealer Enquiries Invited



# More kit quality

A triumph of price and performance — Heath's new HW-5400 Synthesized HF SSB Transceiver kit makes high technology affordable. With more versatile, far-reaching capabilities, it puts the original skill and adventure back into Amateur Radio...



HW-5400 Transceiver

control when used with the Split Memory function. The matching HWA-5400-1 Power Supply/ Speaker & Digital Clock (not shown) provides a double-fused source of 13.8 VDC from 120 or 240 VAC.

Heath breaks the price barrier on sophisticated transceivers, offering the highest value for your hamshack dollar. The slim, new HW-5400 is a marvel of kit-form engineering that performs like a dream on 80-10 meters.

## MORE ADVANCED IDEAS

Solid state and broadbanded, the HW-5400 incorporates more performance-improving features at a lower price than any comparable transceiver. It's fully synthesized for crystal stability and accuracy. Operating in USB, LSB and CW with automatic sideband selection, it has full break-in (QSK) for proficient keyers, two memories per band, power supply activation at the Transceiver, defeatable amplifier relay, reverse and over voltage protection as well as high VSWR forward power cut-back circuitry for the finals.

A custom microprocessor yields flexible, fingertip control over all phases of T/R operation.

## MORE CONVENIENCE

This perfection-packed kit has many benefits. A unique dual-speed tuning system can extract new QSOs or fly through a band in 1 kHz increments with 50 Hz resolution! *Split-Memory Access* lets you review and change the transmit frequency while in receive, without missing a single word or fragment of code. With it, you can beat the QRM every time. Essential vox and sidetone controls are located behind the front panel nameplate. Seven mode and function symbols confirm transceiver status at a glance.

The HW-5400's Frequency Entry Keypad option allows directly-synthesized QSY to any point in the band, and permits fast DX

## MORE ENJOYMENT

Novice or active pro, the HW-5400 is perfect for operators who want a Transceiver that's second to none, plus the pride, knowledge and satisfaction that come from building it yourself with our world famous step-by-step manuals. You may find it to be the first microprocessor-controlled rig with enough potential to match the level of professionalism in every radio amateur!

## MORE DETAILS IN CATALOG

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



## There's more for the Ham at Heath

Also see our State-of-the-art SS-9000 Deluxe HF Synthesized Transceiver (pictured below), which can be controlled by a computer or ASCII terminal.

Visit your nearest **Heath/Zenith Computers and Electronics Centre**. Our Centres, located in Vancouver, Calgary, Edmonton, Winnipeg, Mississauga, Ottawa and Montreal sell, display and service the complete Heathkit product line.



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Heath  
Company