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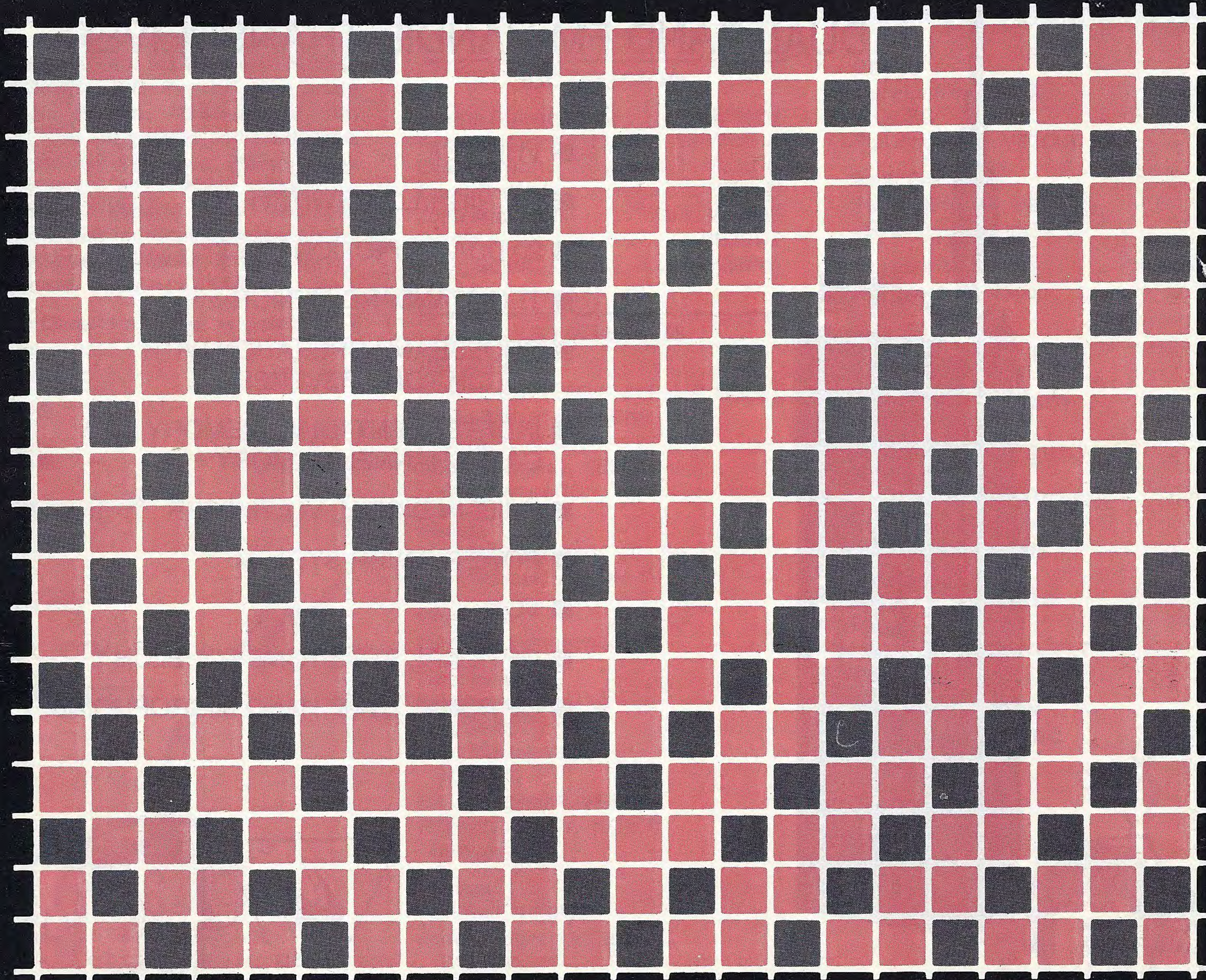


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The Ontario Amateur

Official Journal of Radio Society of Ontario Inc.

SEPTEMBER, 1986 ISSUE



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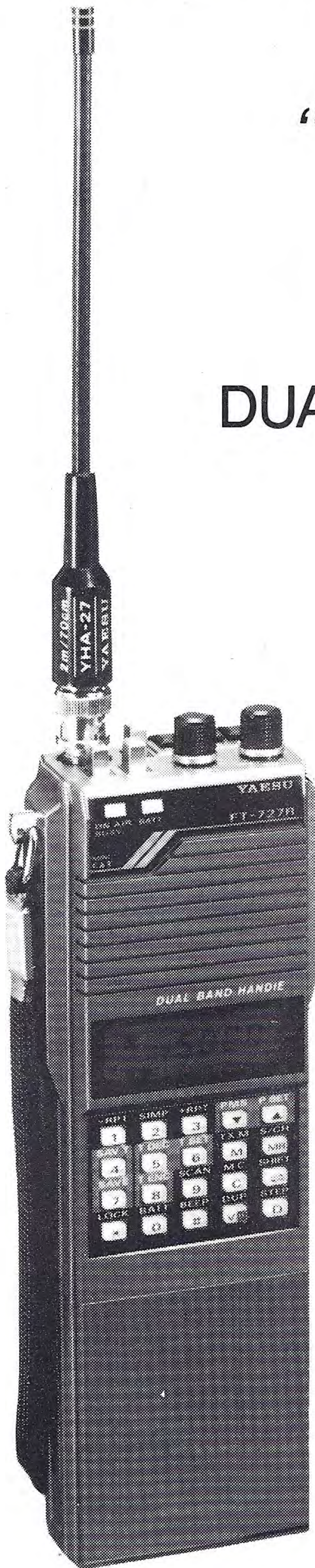
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The Ontario Amateur, published bi-monthly, is the Official Journal of the Radio Society of Ontario Inc. As one of the services of the Society, it is mailed free to members in good standing. It is printed in Canada by Seaway Printing Ltd.

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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.**

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Radio Society of Ontario



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Elsewhere in this issue you will read about this years Annual General Meeting and Bash. It will be at St. Andrew's College, Aurora; and held in conjunction with the Newmarket Ham-Fest. We think it will be exciting.

Well that is enough for now (maybe too much). I'm told I talk too much but it's nice when you are with friends. Until the next time.

73 Evan VE3IND

REMEMBER ----- HELP!!!!

people will ask "what is ham radio all about?", and we can bring them into the shack and give them a good demonstration. If enough people ask this question maybe code and theory classes can be started again to bring more young blood into this great hobby.

Acting President H.C. ARC

Michael deBoerSap VE3PKN

**NEW C.N.I.B.
MEMORIAL STATION
VE3AW / VE3NIB DEDICATED**

THE PRESIDENT REPORTS

Hello again - back with another account of our activity. As before it is a pleasure to be associated with the many fine hams in the R.S.O.

There is nothing further (at the end of July) to report about the Ravenscroft affair. By now you are probably aware that it is going to Appeal late this year, probably next year. I have heard many opinions expressed concerning this case, with varying degrees of support. **BE VERY CERTAIN, THIS APPEAL DEFENDS . . . YOU . . .** Our efforts are not now just to defend Jack, but to defend all amateur radio. For that matter, to defend all users of radio frequency plus, many other users who are assisting in the Appeal.

Our Directory of Emergency Communications is making **VERY SLOW** progress. Why?? Because **YOU** are not sending us the information requested. If you belong to an Emergency service - or know of an Emergency service - Please, **PLEASE, TELL US!!!** Contact myself or Marion VE3NLN, by telephone collect, or preferably by letter. Any Emergency Communications Service should be listed, including responsible GRS groups.

And boy, **DO WE NEED HELP!!!** We are in dire need of a Communications Manager; not a time consuming job but very important. Also we still need an Editor; one who can assist Ray and take over by the end of the year. Al, VE3DQJ was in a bad car accident (not seriously hurt, Thank God) but his magazine activities are now more restricted. Our most valuable technical advisor on publication, Russ Ormerod, has had to try and take up the slack.

**HUMBER COLLEGE
AMATEUR RADIO CLUB
BACK IN ACTION!**

The Humber College Amateur Radio Club located at the main north campus on highway 27 in Rexdale, has laid dormant for the past 4 years. Efforts are being made by myself, students who are interested in becoming amateurs, and several ham instructors, to get VE3HUM back on the air.

Much of the work to be done is in the area of antenna work. Although this is the wrong season for working on antennas (warm and sunny), dipoles that have been put up are now being fine tuned, and our Hy-gain TH6DXX beam is being repaired for the big punch when needed.

Our station currently consists of a Collins KWM 2 transceiver with external speaker and power supply, and an outboard VFO with a phone patch; and a YAESU FT 101 ZD. The College also owns a 2m FM repeater which is currently being repaired. That is pretty well the equipment presently available at the College.

Although I haven't been involved with the College very long (a second year Electronics Engineering Technology student), I have been able to find out that the Club was set up to give interested staff and students a taste of amateur radio. There were hour long classes for code and theory available for the serious contenders. As added incentive, there are also many awards from contests, too numerous to mention to be hung up on the wall.

For the future the most important point is to get the station back on the air. Hopefully enough interested

Late in the afternoon of May 21st, 1986 almost 20 years of amateur radio service at the CNIB climaxed with the opening of the new Memorial Station on Bayview Avenue, Toronto. The Rev. Ron Nickle dedicated the station which was then officially opened by The Honourable James Edwards, who was at that time Parliamentary Secretary to the Minister of Communications. Mr. Edwards has an extensive history in broadcast communications. He stated that he was a member of the Canadian Association of Broadcasters. (It is reliably reported that he was made fully aware of the implications of the Ravenscroft Judgement.)

But we digress. The involvement of the CNIB with amateur radio commenced in the early Sixties. In 1967 a group of illustrious amateurs undertook to assist blind persons in obtaining their amateur qualifications. Among the many volunteers, David Lloyd was perhaps the most dedicated. Through the co-operation of his family, his call sign VE3AW is perpetuated at the station.

In its early days, this program was called the NIBS club. As the number of "white cane" operators increased the CNIB amateur radio program evolved into one of the most important activities of the Institute. Through their ham activities, the white cane operators literally "talk to the world".

This memorial station is dedicated to the hundreds of volunteers who make it happen. These people teach code and theory; assemble or install equipment; provide technical advice; or sponsor blind amateurs. Some do all of these things.

cont'd Page 5

**VE 3 CNE 1986 . . .
ENTERTAINING AND EDUCATING THE PUBLIC!**



Tempus Fugit - Time flies - or so they say. The hours of daylight are declining, the fresh fruit stands have proliferated, the "corn is as high as an elephant's eye" and VE3CNE is here again - - - all signs that the year is well advanced. This year the station did all of the things it has in the past; plus a few more.

For anyone who doesn't know it, VE3CNE is a co-operative effort of the amateur radio fraternity in general - and of the President' Council in particular. This Council is composed of all of the Presidents of the Amateur Radio clubs, who wish to participate. While these clubs are generally within about 60 miles (an hour's drive) of Metropolitan Toronto, ALL PRESIDENTS ARE WELCOME, in person or by representative.

Again this year the station provided communications for the Opening Parade and the Warrior's Day Parade. In connection with the latter we helped to reduce response time for first aid. The latter was rewarding, but more about this in the next issue.

The station again had HF, VFH and Packet in operation. ICOM through the good efforts of Atlantic Ham Radio, provided all radio equipment. The 1985 operations had shown that the public were most interested in

CW (surprised?? it is more skilled and different from GRS (CB) or the TV handy talky); and on the other side of the coin, 'high tech'. This year we were able to enhance these things with 3 Commodore computer assemblies, to everyones delight.

To increase the public's awareness of the amateur radio hobby/service, and to provide some recognition of those amateurs specializing in traffic handling, people were extended the opportunity of sending a message. This proved very popular and a variety of modes were used.

The main purpose of the station is to entertain and educate the public about amateur radio and the various forms the hobby can take. By so doing we provide an 'attraction' for the CNE. The more we can interest the public in our hobby/service, the better the 'attraction'. This year we provided cards to the public, which they filled out, requesting more information about amateur radio. The CNE printed them and they were well received.

Amateur Radio has a great, mutually beneficial (you scratch my back and I will scratch yours) arrangement with the Canadian National Exhibition. For example, we don't know where they get it from but the booth space rent is not collected from VE3CNE!

Those who staff the station seem to have a good time. Certainly most of them get to work with 'state-of-the-art' equipment; and to explore other facets of amateur radio. Without them there would not be anything. To everyone who assisted IN ANY WAY a very sincere thank you and our best wishes until we

73 VE3CNE AR

C.N.I.B. STATION CONT'D

Even so, the CNIB NEEDS MORE SPONSORS. It is a relatively simple responsibility requiring a small amount of time. Mainly it is just being a good friend and advisor to the white caner. Volunteers should contact Fred Roberts, VE3AFA, at the CNIB, Bayview Avenue, Toronto.

The CNIB does a lot for amateur radio. Several amateur radio groups, the R.S.O. Executive Committee included, have meeting facilities made available at the right price — free of charge. Whenever there is an emergency communications situation, many of the volunteers come from CNIB ranks. You may be sure of a welcome when you visit VE3AW or VE3NIB. Please call Fred and let him know you are coming.

73

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OF YOUR SHACK**

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Burma	XZ
ETHIOPIA	ET
GHANA	9G
IRAQ	YI
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PAKISTAN	AP
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SOMALI	6O
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.....	TC
YEMEN (NORTH)	4W
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PB21	43.00		SWC1	49.00		TM401B	639.00	619.00
PB21H	63.00		SWC2	49.00		TM411A	759.00	729.00
PB26	65.00		SWC3	55.00		TR2600A	579.00	559.00
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BC35	101.00		IC28A	622.00	599.00	IC751A	2250.00	2199.00
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BP3	48.50		IC290H	829.00	799.00	ICR71A	1376.00	1349.00
BP4	19.00		IC2AT	385.00	359.00	PS15	235.00	
BP5	87.00		IC2KL	2599.00	2499.00	PS25	167.00	
BP7	101.00		IC3200A	855.00	829.00	PS30	434.00	
BP8	101.00		IC37A	699.00	679.00	PS35	285.00	
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Restructuring The Amateur Radio Service In Canada . . .

The Canadian Radio Relay League, Inc. and the Canadian Amateur Radio Federation, Inc., herein referred to as the "national organizations", principal representatives of over 20,000 radio amateurs licensed by the Department of Communications, respectfully submit these joint comments in response to the Department of Communications Discussion Paper on a Possible Restructuring of the Amateur Radio Service in Canada.

Over the past six months, the national organizations have been flooded with comments on the Discussion Paper. These comments have come from individual amateurs and from amateur radio clubs and groups. The national organizations found that there were widespread support for the Department's objectives. However, the comments seemed to offer as many ways to reach those objectives as there were comments. For this reason, the national organizations used the comments first to identify the needs, the needs of the Department, the Department's own proposals, and suggestions from the amateur radio community, the national organizations proceeded to develop a proposed structure that would meet all needs and incorporate the best of the proposals and suggestions.

In a restructured Amateur Service, the needs of the amateur radio community would include the following:

1. More and younger radio amateurs,
2. High standards for all classes of certificate,
3. Strong incentives to upgrade to the highest-class certificate,
4. A continuing role for Morse code,
5. A continuing stress on the experimental side of amateur radio: this would preclude any ban on the use of homebuilt or modified commercial transmitting equipment,
6. Compatibility with structures in jurisdictions with which Canada has reciprocal operating agreements, and

7. Viability in the eyes of the international amateur radio community.

The needs of the Department would include the following:

1. Ease of entry into the Amateur Service,
2. Simplicity, resulting in less administration and lower costs,
3. Recognition of the fact that many amateurs and prospective amateurs are more interested in "communicating" than in the technical aspects of amateur radio, and
4. A structure that will remain viable into the next century.

The national organizations believe that the structure described below will meet these needs:

- The entry-level certificate would be called **Certificate B** or the **Basic** certificate.
- There would be a written test based on 40 hours of study of basic electronic theory, basic electronic circuits, receiving and transmitting systems, antennas and propagation, station setup and operation, and interference prevention, as well as a regulations test.
- Holders of **Certificate B** would be permitted to use all modes amateur frequencies above 30 MHz.
- Holders of **Certificate B** would be limited to 100 watts to the final stage of the transmitter, and would not be permitted to become licensees of repeater or remote-base stations.
Homebuilt or modified commercial transmitting equipment would be permitted.
- A 7 W.P.M. Morse **Code Endorsement** would be offered for **Certificate B**.
- Holders of **Certificate B** with a **Code Endorsement** would be permitted to use radiotelegraphy and radioteletype on amateur frequencies below 30 MHz, and radiotelephony in the 28-29.7 MHz amateur band.

- Holders of **Certificate B** with a **Code Endorsement** would be permitted 250 watts input to the final stage of the transmitter.

Homebuilt or modified commercial transmitting equipment would be permitted.

- The highest-class and only other certificate would be called **Certificate A** or the **Advanced** certificate. There would be a written test based on 20-30 hours of study of advanced electronic theory, receiver and transmitter circuitry, and antenna systems. There would be a Morse code test at 12 W.P.M.
- Holders of **Certificate A** would be permitted to operate all modes on all amateur bands using maximum legal power. They would be permitted to become licensees of repeater or remote-base stations.

A candidate for **Certificate A** with no previous accreditation would be permitted to try the written tests for **Certificate B** and the written and Morse code tests for **Certificate A** at a single sitting. Upon passing, the candidate would be granted **Certificate A**. There would be no time limit on the validity of any certificate.

Compatibility with Present Certificates

1. Holders of the present **Amateur** certificate would be deemed to have the same qualifications and be given the same privileges as holders of **Certificate B** with a **Code Endorsement**, except that the right to use maximum legal power and any privileges permitted by an endorsement (such as 160-metre radiotelephone privileges) would continue.

2. Holders of the present **Advanced** certificate would be deemed to have the same qualifications and be given the same privileges as holders of **Certificate A**.

3. Holders of the present **Digital** certificate would be given the same privileges as holders of **Certificate B**, except that the right to use maximum

RESTRUCTURING CONT'D

legal power would continue. Holders of the present **Digital** certificate would be deemed to have all qualifications for **Certificate A** except the code. They could qualify for **Certificate A** upon completion of the 12 W.P.M. code test.

The national organizations realize that some of the above recommendations may be difficult to implement. The Department may have no choice other than to give a **Certificate A** to every holder of the present **Amateur** certificate. The national organizations have a concern that this may cause resentment among amateurs who received their full privileges only after considerable extra study and a second examination. Whatever the Department decides, it will be important that no amateur, as a result of restructuring, lose any privilege that he or she previously enjoyed.

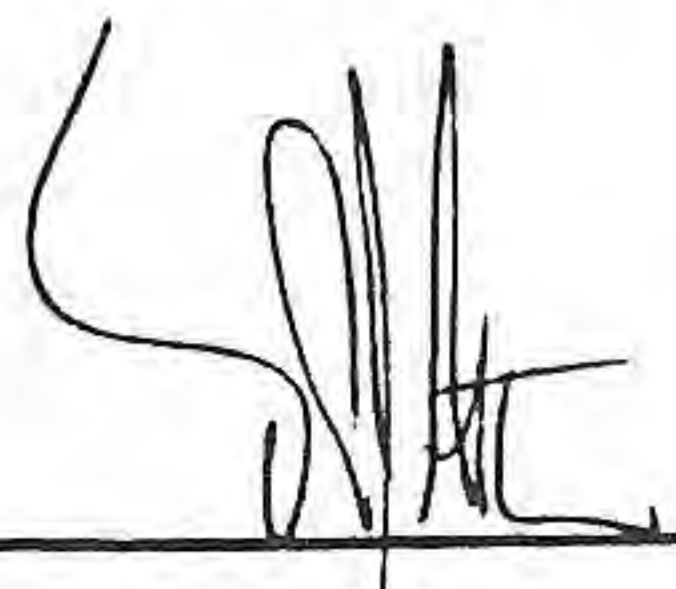
The national organizations offer this proposal as a point of departure for future discussions with the Department. There is a strong hope that the Department will involve the national organizations in every aspect of the development of a restructured Amateur Service, including the syllabus for examinations.

The Canadian Radio Relay League, Inc. and the Canadian Amateur Radio Federation, Inc. would like to thank the Department of Communications for its continued interest in the welfare of the Amateur Service, and for this opportunity to help shape its future.

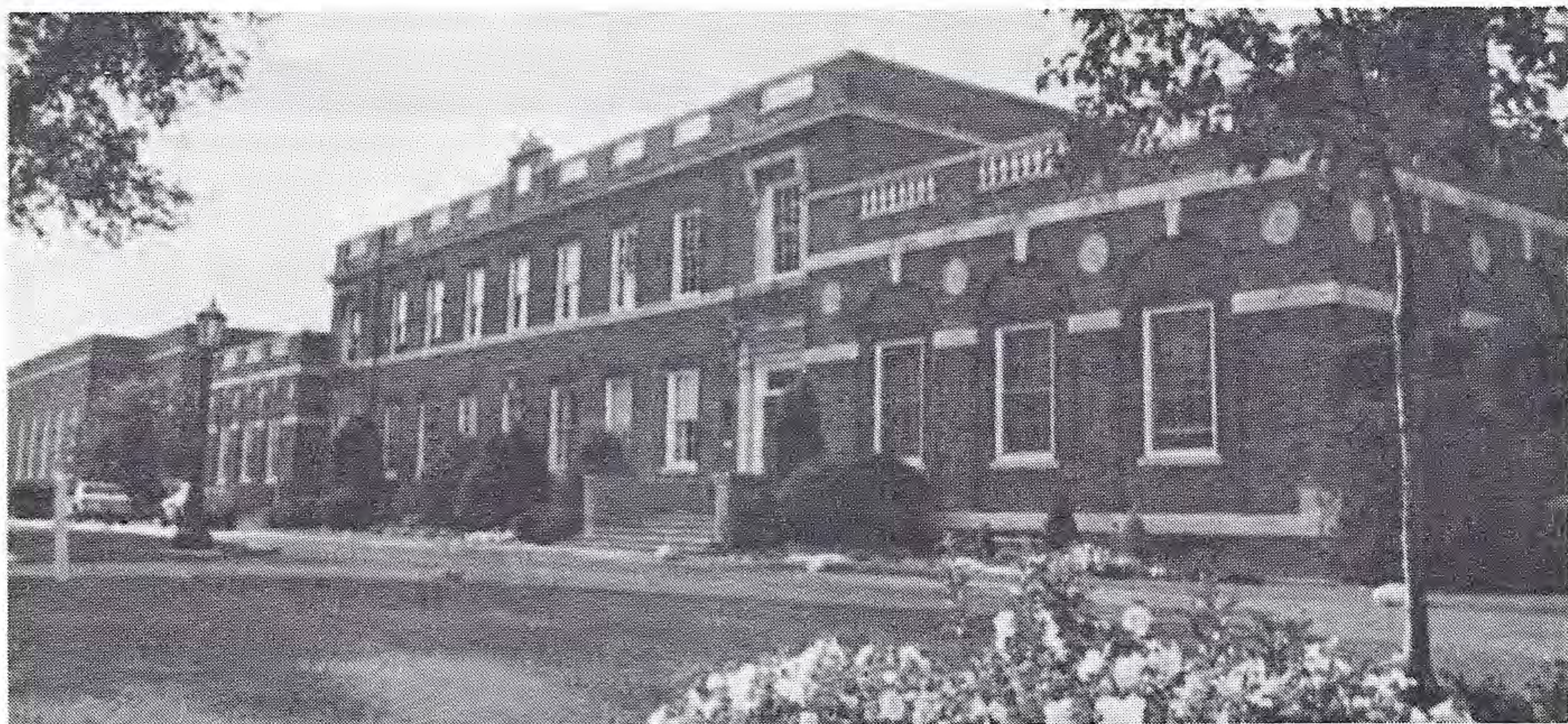
Respectfully submitted,



Ronald Walsh, VE3IDW
President, The Canadian Amateur Radio Federation, Inc.



Thomas B. J. Atkins, VE3CDM
President, The Canadian Radio Relay League, Inc.



This year the Radio Society of Ontario is holding its Annual Meeting in conjunction with the Newmarket Hamfest of The York Region Amateur Radio Club. The Hamfest will go again this year at the Huron Heights Secondary School in Newmarket on the morning of Saturday, November 8th, 1986.

The R.S.O. festivities will take place at beautiful St. Andrew's College (5 miles away) in the afternoon. These activities will include the Annual Meeting and 2 seminars; a licensed Eye-Ball gathering; a fine dinner; and entertainment.

It is expected that the cost will be about \$18.00 per person including admission to the Hamfest; with a \$3.00 discount to R.S.O. members. Full details are being finalized at press time. They will be mailed to all members in September and will be publicized on ONTARS, in R.S.O. bulletins and through club news.

Field Day 1986

This is usually one of the most popular club activities; in fact there is also much individual participation. However, this year a distinct lack of enthusiasm was noticed. Many explanations have been heard, "the HF bands have been dead" or "nobody works emergencies this way any more" or "it's a Holiday weekend" etc., etc. Many of the reasons given are true but . . .

:There are often instances, fortunately for us in other parts of the world, where HF has to be used and a way has to be found to 'get the message thru'.

:Again in South Ontario our recent emergencies have mainly utilized VFH in various forms. If VFH had not been available there would have been big problems and again 'we would have to have found a way TO GET THE MESSAGE THRU'.

:And emergencies have no respect for the calendar.

So what about all these excuses, for that is what they are. Hams boast about how they can operate when no other communications can operate. Perhaps there is a better way of

preparing ourselves to meet the challenge. After all that is what Field Day is all about isn't it?? Testing your equipment and ability to carry on. One Club in Toronto has their Field Day site in a parking lot behind an office building; the reasoning is that it is where they would be in a modern emergency seems logical may not be as pleasant but realistic. While not an emergency, messages can now be cleared almost coast-to-coast by packet; perhaps that should be explored.

Also Field Day is a great way to get to know your fellow hams; not only in your own club but in many other areas. Perhaps it is the operator in a near-by club who keeps showing up on your frequency; or in the wee small hours of the morning that sleepy voice from W3 land; and is anything more welcome than that mid-summer sunrise at the end of a 'grave yard' shift.

Where has that Amateur Radio spirit gone????

For those who perhaps gave less than 100% this year, let's forget Field Day 1986 and start thinking about next year. There is an opportunity to stand up and be counted, to improve your ability and preparedness and to have an awful lot of fun.

THROUGH MY EYES . . .

Steve Bekker VE3OOS



(About the author, Steve Bekker is a hard working young man. He encountered Amateur Radio at the Canadian National Exhibition at the age of 12, on a day when Skywide A.R.C. were staffing the station. He is now a Skywide member. He came back to VE3CNE the following year as an Amateur; last year as an Advanced Amateur; and this year is on the Executive Committee.)

It started with an intense curiosity as to how things worked and why things happened. Some days I feel like a biological computer, filled with facts and living life on a string of logical arguments. (Aristotle would have been proud of me.)

Amateur Radio was a welcome sight to me. An enormous source of facts, concepts and practical experiences. Like space, it had endless potential and its limits were those of our own imaginations. Seems larger than life, right? You'd be surprised!

Many hams at the outset have specific interests and they keep these when they get their licences. Few see the full scale of the hobby and understand its true power and importance. Recently with various political bumps in our hobby and our society, the confusion has emerged as to the true ESSENCE of Amateur Radio.

I am not really an operator, nor do I want to be one. I received my first licence at age thirteen and earned my advanced one year later. I enjoyed the exams because they required skill and knowledge.

Operating is much different than the exams and we hear this on the

air. There are seemingly few really GOOD operators, but it is not difficult to become one of the few. This statement may shock some of those super operators out there, but think about it, we all have what it takes if we use it. Dedication, concentration, a pencil, pad, good arm muscles and TIME (the secret ingredient.) Operating is the use of what already exists and is proven. This is not the essence of Amateur Radio.

No, I am not an operator. I am a PIONEER. I dare to go where few Hams have gone before. We design, improve and aim to perfect. These are the Hams who aren't on the air day after day at regular times. They'd rather build and repair their own equipment, write that special computer program or assemble a repeater using a pocket computer just so they can write an article about it. Pioneers would rather say "service" than "hobby" and prefer to operate their equipment when there is a purpose, or to help someone.

You find them at hospital ham shacks, doing what needs to be done to keep it on the air. Their reward is not a trophy, there is no honour roll. Their glory is small and shortlived, but their impact is significant. Pioneers operate but not all operators are pioneers. The pioneer is the true Ham, the essence of Amateur Radio.

There are those in our "fraternity" who resist change strongly. Change, however, is inevitable and needed before we lose what we have. I am a very active ham but one time I found out about an event through a public newspaper while the "grapevine" had no details of it. We must trim the sails, adjust our course and pull together . . . or we may end up on the rocks.

We are all talking . . . but are we communicating?

STRIKING BACK AT MATCHBOXES

By R. F. Burns

[This article is reproduced with the kind permission of the Scarborough Amateur Radio Club News.]

Many of today's Ham's feel that the antenna tuner, antenna coupler or "matchbox" (all the same thing, really) is an absolute must if you are to have any hope of "getting out".

This may or may not be true, depending upon the circumstances. Let's have a look.

Firstly, the matchbox is essentially a configuration of inductors and capacitors arranged so as to match impedances. Usually, something is meant to be matched to 50 Ohms, the output impedance of most modern transceivers. Matching impedances provides of course, for maximum power transfer. Several possible configurations are given below.

An S.W.R. Meter is inserted between the rig and the matchbox. The matchbox is then adjusted for lowest possible S.W.R. (hopefully 1:1).

Many modern rigs are not happy unless they are looking into a 50 Ohm load. They will reduce drive to the final AMP in order to protect it. Therefore under conditions of high S.W.R. (an impedance mismatch), your rig might be putting out very little power.

Let's assume, for instance, that you have strung up a long wire (random length) at the cottage for the summer. The end fed long wire will show a high impedance (possibly several thousand Ohms!) on some frequencies. Use the matchbox, configured for low impedance in, high impedance out.

Perhaps you would like to operate 160 metres but can't erect a long enough antenna (who can?!). In this case, configure the matchbox for 50 Ohms in, very low impedance out.

A good matchbox will match everything from 10 Ohms (or less) to several thousands of Ohms including highly reactive loads (non-resonant). When matching such a wide range of impedances, very high R.F. voltages or currents will be encountered. This requires "chunky" components: wide spaced variable capacitors and inductors wound with large sizes of wire. This type of construction is an absolute must if you intend to run high power.

As a side benefit, the matchbox, because it uses tuned circuits, will be frequency selective, providing harmonic attenuation. Therefore it could be useful in curing stubborn cases of TVI.

One final hint. A good ground connection (cold water pipe, ground rod or both) always helps an antenna tuner do its job.

SALE!

Another SUPER BUY from ATLANTIC HAM RADIO LTD.

FREE
INTERNAL POWER SUPPLY

IC-745 \$1529
PS-35 \$ 289

IC-745 with
PS-35 installed
\$1499.00



- 160-10M HF Transceiver / General Coverage Receiver**
- ICOM's IC-745 has features to fine tune received signals and ignore interference. ICOM delivers 100dB dynamic range plus these standard features:
- All Solid State
 - 100% Duty Cycle
 - Dual VFO's/Split Operation
 - 16 Memories
 - Adjustable Noise Blanker
 - Adjustable AGC With OFF
 - Squelch on Call Modes
 - IF Shift and
 - Passband Tuning
 - Notch Filter
 - Automatic Sideband Selection
 - Speech Compressor
 - Tone Control
 - CW Sidetone
 - Lithium Battery Memory Backup
 - 12 Volt Operation
- Some Specifications:**
- Frequency Coverage: 0.1MHz - 30MHz, 1.8MHz - 2.0MHz, 3.45MHz - 4.1MHz, 6.95MHz - 7.5MHz, 9.95MHz - 10.5MHz,

13.95MHz - 14.5MHz, 17.95MHz - 18.5MHz, 20.95MHz - 21.5MHz, 24.95MHz - 25.1MHz, 27.95MHz - 30.0MHz

- Frequency Control: CPU based 10Hz step Digital PLL synthesizer. Independent Transmit-Receive frequency
- Frequency Stability: Less than 500Hz after switch on 1 min. to 60 min., and less than 100Hz after 1 hour. Less than 1KHz in the range of -10°C to +60°C
- Power Supply Requirements: DC 13.8V±15% Negative ground Rx Current 1.5A Current drain 20A MAX. (at 200W input)
- Antenna Impedance: 50 ohms Unbalanced
- Weight: 8.5Kg
- Dimensions: 111(123)mm(H) x 286(304)mm(W) x 355(383)mm(D)
- RF Power: SSB (A³) 200 Watts PEP Input; CW (A¹), RTTY (F¹) 200 Watts Input; Continuously Adjustable Output; Power (10 - 100W); AM (A³) No Transmit; FM (F³) 200 Watts Input (Option)
- Emission Mode: A³J SSB (Upper sideband and Lower sideband); A¹ CW; F¹ RTTY (Frequency Shift Keying); F³ FM (±5KHz - FM Option)

■ Receiving Mode: A¹, A³J (USB, LSB) F¹, (output FSK audio signal), A³, F³ (FM Option)

■ IF Frequencies: 1st: 70.4515MHz, 2nd: 9.0115MHz, 3rd: 4.55KHz with continuous Bandwidth Control

■ Sensitivity: SSB/CW/RTTY for 10dB S/N: 0.1 - 1.6MHz Preamp Off 1uV, 1.6 - 30MHz Preamp Off 0.3uV, 1.6 - 30MHz Preamp On 0.15uV, AM for 10dB S/N: 0.1 - 1.6MHz Preamp Off 4.5uV, 1.6 - 30MHz Preamp Off 0.7uV, 1.6 - 30MHz Preamp On 0.35uV, FM for 12dB S/N: 1.6 - 30MHz Preamp On 0.3uV

■ Selectivity: SSB, CW, RTTY: 2.2KHz at -6dB, 4.5KHz at -60dB, CW AF Filter: Passband Tuning will narrow to 700Hz, AM: 4KHz at -6dB, 15KHz at -60dB, FM: 15KHz at -6dB, 30KHz at -60dB, Audio Output: 2.8W, RIT Range: ±1.5KHz, IF Rejection Ratios - Image: 70dB, IF Freq: 60dB, Notch Filter: 30dB

LIMITED SUPPLY

ICOM's IC-745 now available with the internal PS-35 power supply installed at only \$1499.00 That's less than the \$1529 list price of the 745 alone. Stock is limited so order now !!

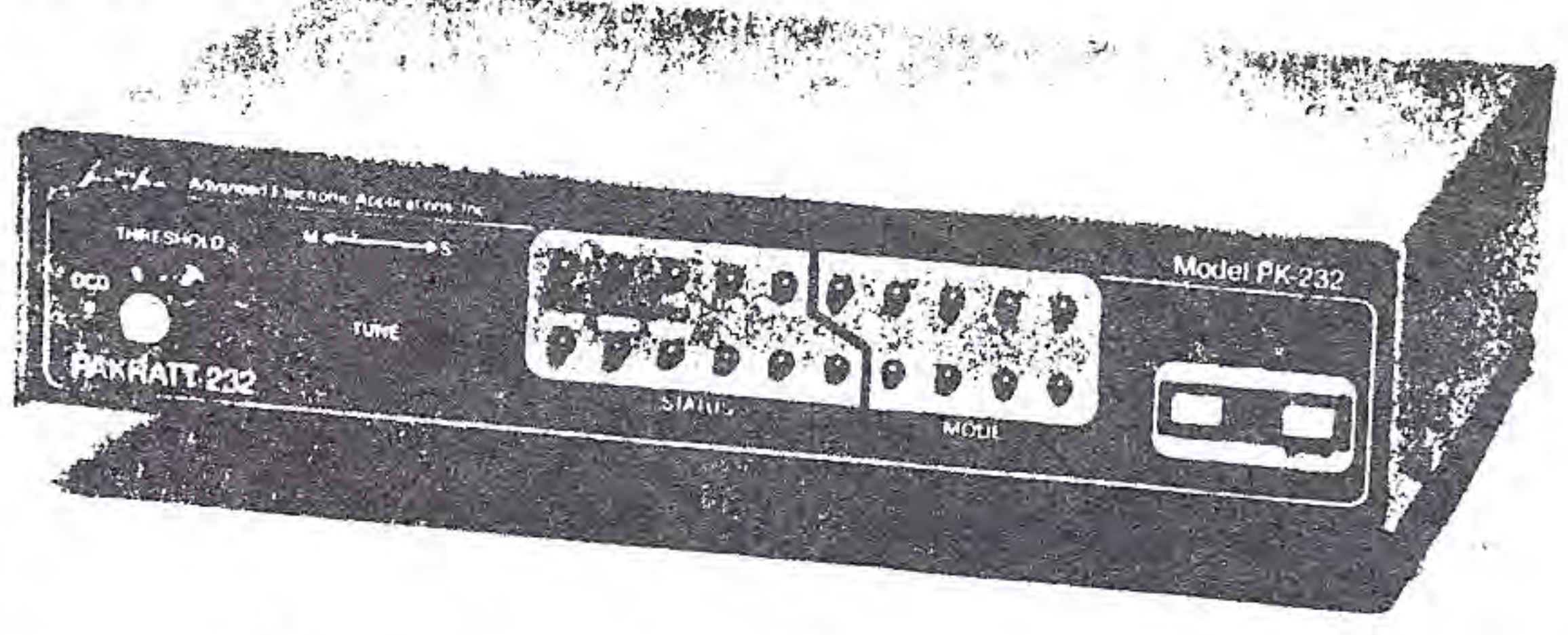
- Other Options: (those marked with an asterisk (*) are available at special prices !!)
- | | |
|--|---|
| IC-2KL Solid State Linear Amplifier--\$2599* | AT-500 Automatic Antenna Tuner (IC-2KL)--\$759* |
| IC-PP Phone Patch with Speaker-----\$ 219* | AT-100 Auto Antenna Tuner 100W-----\$579* |
| SP-3 Speaker-----\$ 85 | GC-5 World Clock-----\$109* |
| AH-2 Automatic Mobile Antenna & Tuner\$ 929* | AH-1 Automatic Mobile Antenna-----\$399 |
| HP-1 Headphones (wide Headband)-----\$ 59 | FL-44A Crystal Filter SSB 2.4kHz-----\$149 |
| FL-45 500Hz CW Filter-----\$ 85 | FL-54 270Hz CW Filter-----\$ 75 |
| FL-52A 500Hz CW Filter for 2nd IF----\$ 139 | FL-53A 250Hz CW Filter for 2nd IF-----\$139 |
| CR-64 High Stability Crystal/Heater--\$ 95 | EX-241 Marker Board-----\$ 32 |
| EX-242 FM Unit-----\$ 70 | EX-243 Keyer Unit-----\$ 95 |
| EX-309 Computer Interface Connector--\$ 70 | SM-6 Standard Desk Mike-----\$ 85 |
| SM-8 Deluxe Desk Mike with U/D Scan--\$ 119 | SM-10 Super Desk Mike (Equalizer/Comp)---\$189 |
| MB-12 Mobile Mount Bracket-----\$ 39 | HM-12 U/D Scan Hand Mike (supplied)-----\$ 59 |

USED GEAR

- Kenwood TS-930SAT-----\$1899
 - Kenwood TS-820S-----\$ 799
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 - Yaesu FP-301-----\$ 199
 - Yaesu FV-301-----\$ 199
 - Yaesu FT-726R 2M A/M-\$1249
 - Yaesu FT-707 HF Xcvr-\$ 699
 - Yaesu FRG-9600 Scannr\$ 699
 - Drake L-75 Amplifier-\$ 899
 - Yaesu FL-2100B Amp---\$ 749
 - Kenwood AT-130 Tuner-\$ 149
 - Kenwood AT-250 AutoTun\$499
 - Yaesu SP-102P Patch---\$129
 - Yaesu MD-1b8 Desk Mike\$109
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RS-232 Compatible



\$559.00

PAKRATT™
Model PK-232

Late last year AEA broke new ground by introducing the first five mode amateur radio computer interface with Morse, Baudot, ASCII, AMTOR, and Packet...the PK-64. Now AEA has another breakthrough...the PK-232.

- Five Mode Versatility**
The PK-232 makes any RS-232 compatible computer or terminal the complete Amateur digital operating position. By using a simple terminal program any computer with a standard RS-232 I/O can connect directly to the PK-232 and be ready for operation in minutes. The internal autobaud program allows 300, 1200, 2400, 4800, and 9600 baud communication between the computer and the PK-232. All decoding, signal processing, and protocol software, for Morse, Baudot, ASCII, AMTOR, and Packet, is on ROM in the PK-232. The PK-232 is a Z-80A based system and has hardware HDLC using the Zilog 8530 SCC. The internal modem of the PK-232 can transmit Packet at baud rates of 300 and 1200, with the option of using an external modem for 2400, 4800, and 9600 baud.
- An Operators Dream**
With twenty-one front panel indicators it's easy to monitor operation. Separate indicators show operating mode, current operating status, and data carrier detect. A front panel switch allows selection of two separate radio connectors, no more switching cables when jumping from HF to VHF. The front panel threshold control adjusts squelch for both HF and VHF. The AEA standard discriminator style tuning indicator makes tuning easy in any mode and on any band.
- Serious VHF/HF/CW Modem**
The PK-232 also includes a no compromise VHF/HF/CW modem with an eight pole bandpass filter followed by a limiter discriminator with automatic threshold correction. Once the operating mode is selected the modem automatically selects the proper bandwidth, 200 hz for CW, 450 Hz for HF, or 2600 Hz for VHF. Transmitter tones are low distortion sine wave phase continuous AFSK. The PK-232 will receive wide shift RTTY signals, but only transmits 200 Hz shift on HF.

- OTHER PACKET GEAR:
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 - A.E.A. HFM-64 \$169; Extra Xcvr Cord \$12
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hy-gain Broadband

Explorer 14
Unique PARA-SLEEVE design (patent pending) achieves exceptional broadband performance. Forward gain and front-to-back ratio outperforms other antennas of the same size. Surface area is 7.5 sq. ft. (.69 m²). With a 14 ft. (4.3 m) boom the turning radius is only 17 ft. (5.3 m). The ideal choice where space is limited. Great for roof mounts or small towers. Options kit for 30 or 40 meters.

Five Element Thunderbird TH5Mk2
Broadbanding is achieved with a unique dual driven element system. Five elements on the 19 foot boom (5.8 m), with four active elements on each of the three bands. A rugged antenna with 7 sq. ft. (.68 m²) of surface area. Turning radius is a manageable 18.4 ft. (5.6 m).

Seven Element Thunderbird TH7DX
Successor to the legendary TH6DXX. Five active elements on 10 meters and four elements on both 15-20 meters. The TH7DX represents the ultimate in high-performance arrays whether you're comparing other large tribanders or stacked monobanders. Surface area of 9.4 sq. ft. (.87 m²) a 24 ft. (7.3 m) boom and a turning radius of 20 ft. (6.1 m). Conversion kits for TH6DXX available.

- FEATURES CO**
- Separate Hy-Q traps for each uniform performance.
 - Unique broadband beta mat structure at dc ground.
 - Supplied at no added cost.
 - Sup throughout.
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 - Twist and slip
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 - 214Bs 14 e1 2M Beam---1
 - GPG2A 2M Ground Plane--
 - V2S 2M Colinear Vert--1
 - BN-86s Beam Balun-----

DISCO

- 153 BA 3 e1 15M Beam---
- 204BA 4 e1 20M Beam---
- 66Bs 6 e1 6M Beam-----

SPECIAL PRICE IS LIMITE

R.S.O. St. Andrew's College Activities

Saturday November 8th, 1986

- 1230 - 1430 R.S.O. Annual meeting - all welcome
- 1445 - 1645 LINK SYSTEM SEMINAR - An illustrated audio-visual presentation about the Ontario 2 metre Link Systems. It describes equipment and methods of operation - the facilities available - and how YOU can use them.
- 1445 - 1645 ANTENNA SEMINAR - Any rig is only as good as its antenna. Learn HOW TO HELP YOUR RIG(s) give their best performance. Get the most from your rig by learning more about antennas.
- 1700 EYE BALL - Meet old friends and make new ones. Cash Bar.
- 1900 A delicious Sirloin of Beef dinner with all the trimmings
- 2000 Entertainment with Dessert
- 2100 - 2330 Dancing and Eye Ball

THE RADIO SOCIETY OF ONTARIO ANNUAL MEETING & SEMINARS & FEAST & FROLIC

SATURDAY, NOVEMBER 8th, 1986

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Amateur Registration - \$19.86

Spouse Registration - \$16.00

ADVANCE REGISTRATION received by 27th OCTOBER

plus \$5.00 additional afterward

Registration includes admission to the Newmarket Hamfest
& all R.S.O. activities

SEMINAR SUBJECTS

ONTARIO 2 METRE LINK SYSTEM - The How, Why & how to Use

ANTENNA'S - How to Get the Most Blast For Your Buck

see more details on other side

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Call _____ Name _____

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_____ AMATEUR Registration(s) @ \$19.86 each \$ _____

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Make Cheque or Money Order payable to

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YORK REGION

THE NEWMARKET FLEAMARKET

The YORK REGION ARC invites you to attend the tenth edition of The Newmarket Fleamarket to be held on SATURDAY 08 NOVEMBER 86 at Huron Heights Secondary School in NEWMARKET, Ontario, from 0900 to 1500.

General admission is \$3.00 per person (children under twelve are admitted free). Price of admission includes a chance to win some of the door prizes which will be awarded hourly. Doors open for the public at 0900. Vendors may have access to the site commencing at 0630. Tables are \$5.00 each and as they have to be brought into the site they must be reserved in advance. Tables may be reserved by contacting Geoffrey Smith, VE3KCE, at 7 Johnson Road, AURORA, Ontario, L4G 2A3 or by telephone at (416) 727-6672 after 1830.

The York Region Board of Education has a NO SMOKING policy at all its schools, so those planning to attend must know in advance that all smoking must be done outside.

Refreshments will be available at the site. Talk-in station is VE3YRA which will be operating on 146.520 MHz simplex and through the local repeater VE3YRC, 147.225 MHz output / 147.825 Hz input.

As an adjunct to the above affair The Radio Society of Ontario will be organizing seminars commencing at 1600 to be held at St. Andrew's College, 300 Yonge Street North, AURORA, Ontario, about a ten minute drive from the fleamarket site. Following the seminar there will be a banquet at the College. For further information about the banquet, for which reservations are necessary, please contact Evan Herriott, VE3IND, 8 Lindal Avenue, SCARBOROUGH, Ontario, M1L 1W8 or by telephone after 1630 at (416) 757-4284.

PLEASE SEE OVER FOR A MAP ON HOW TO GET THERE

VE3YRA 146.520 MHz simplex
VE3YRC 147.225 MHz output / 147.825 Hz input

THIS MAP IS NOT TO SCALE!!

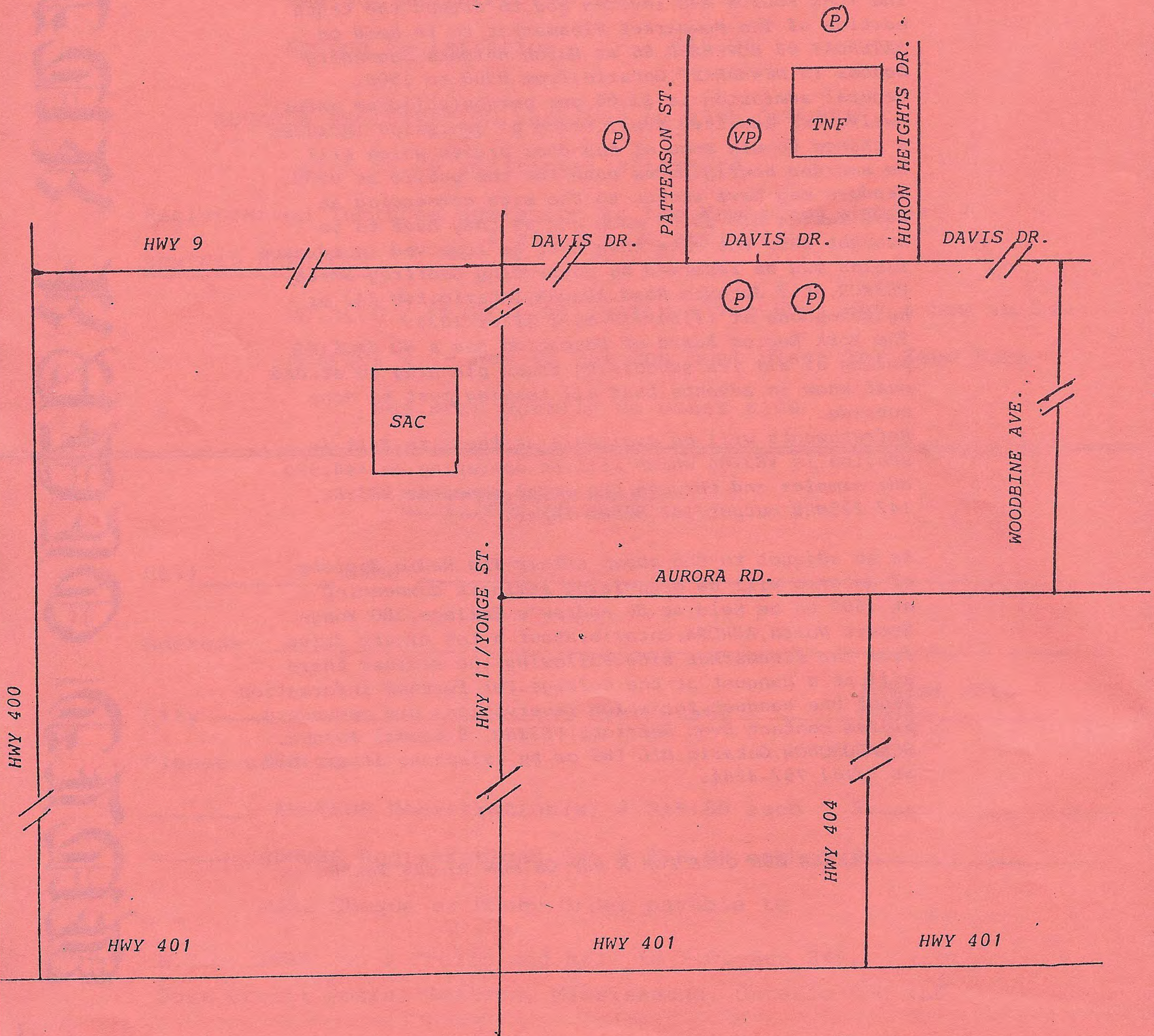
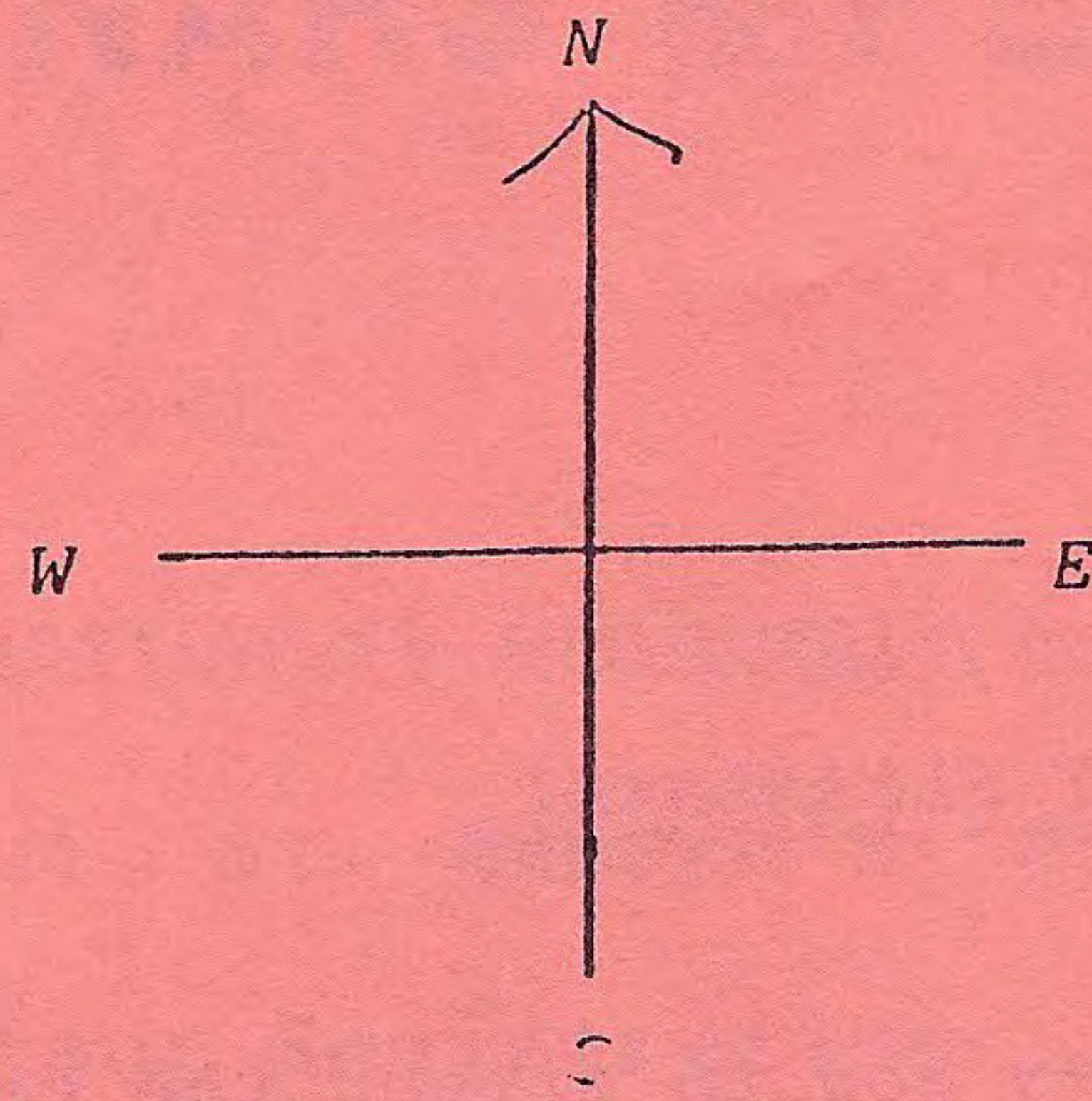
LEGEND

TNF = FLEAMARKET

SAC = St. Andrew's College

(P) = Parking

(VP) = Vendor's Parking Only

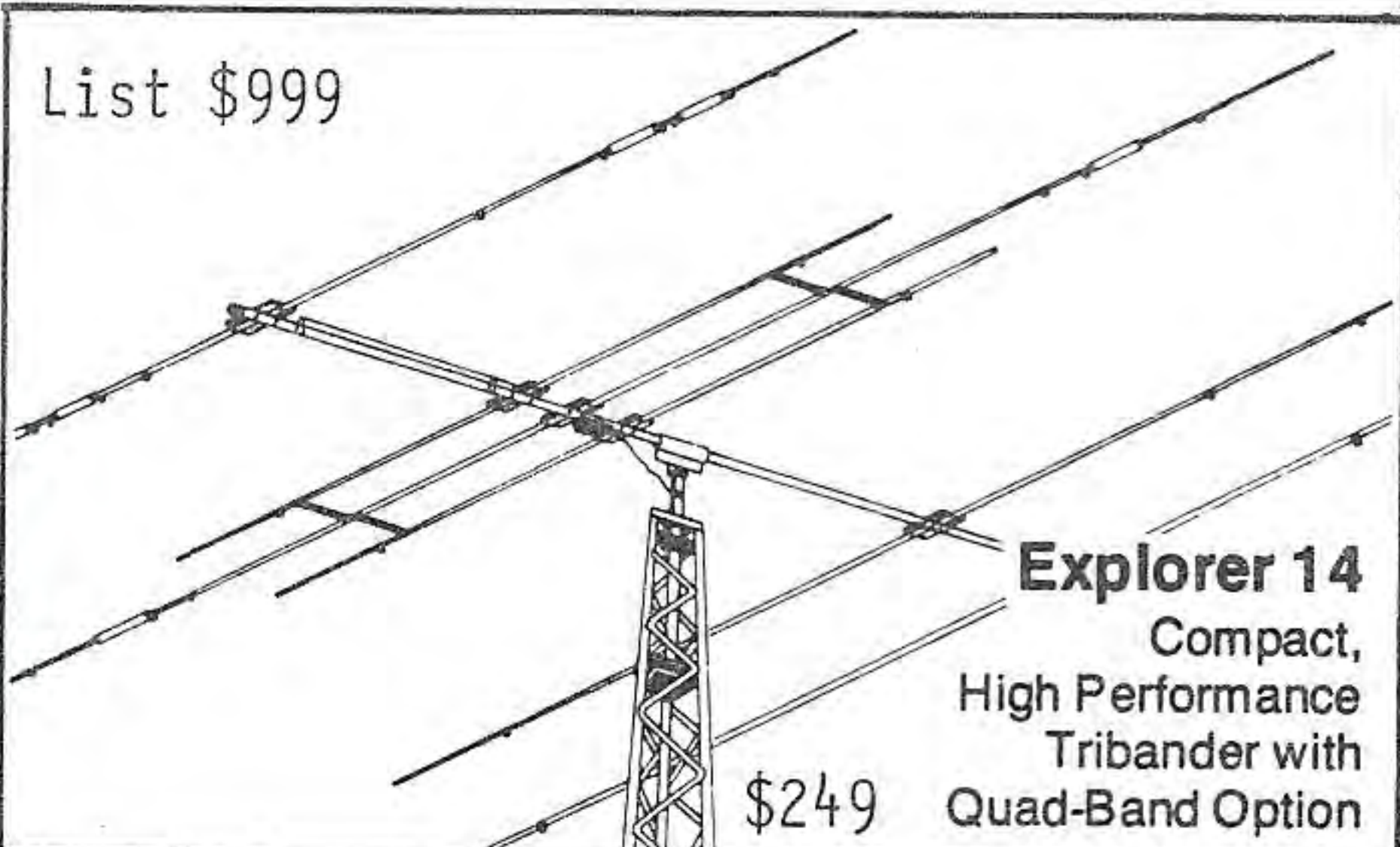


Call for Large Discounts !!

and Tribanders

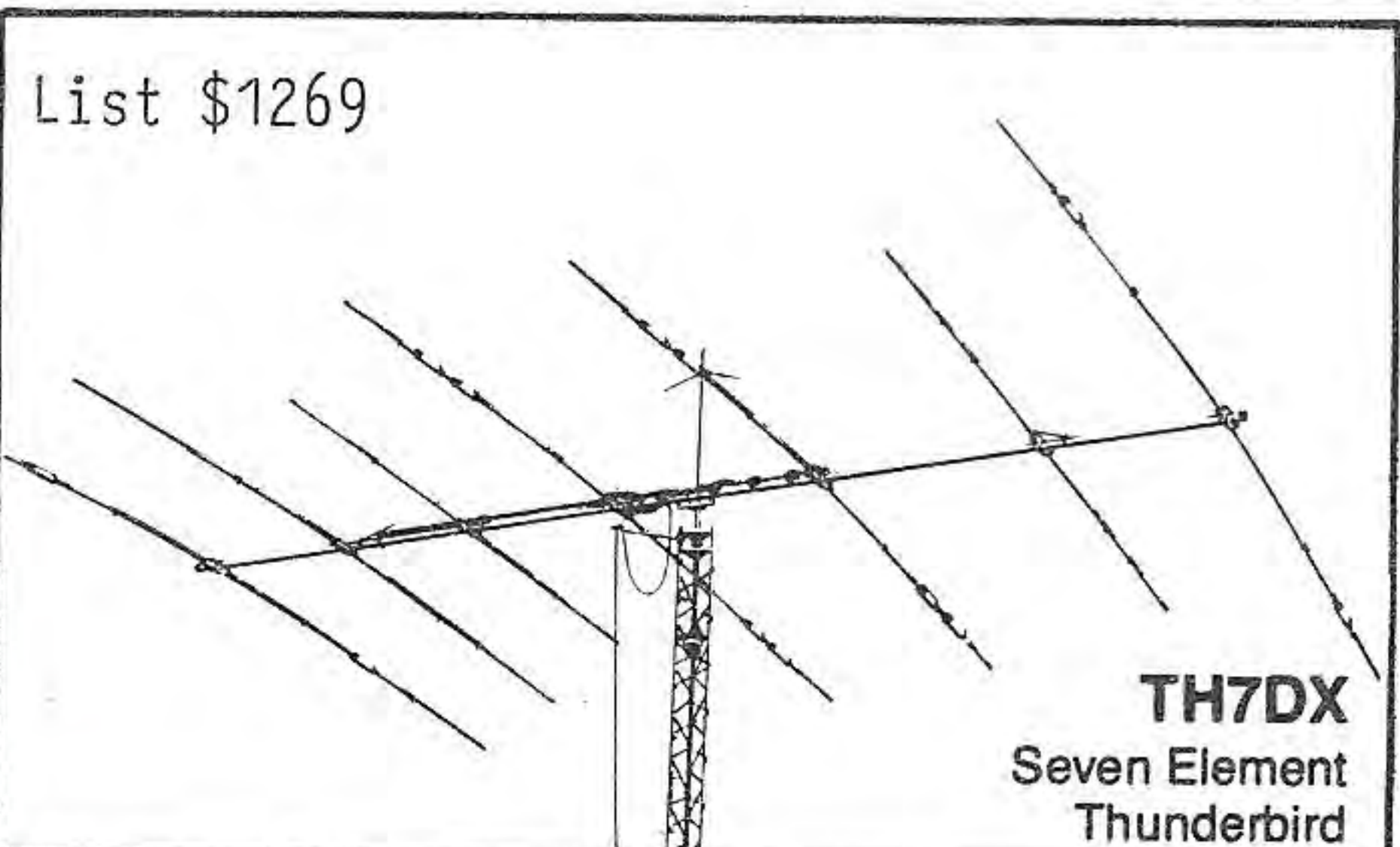
State of the art antennas to maximize the performance of your ham gear.

List \$999



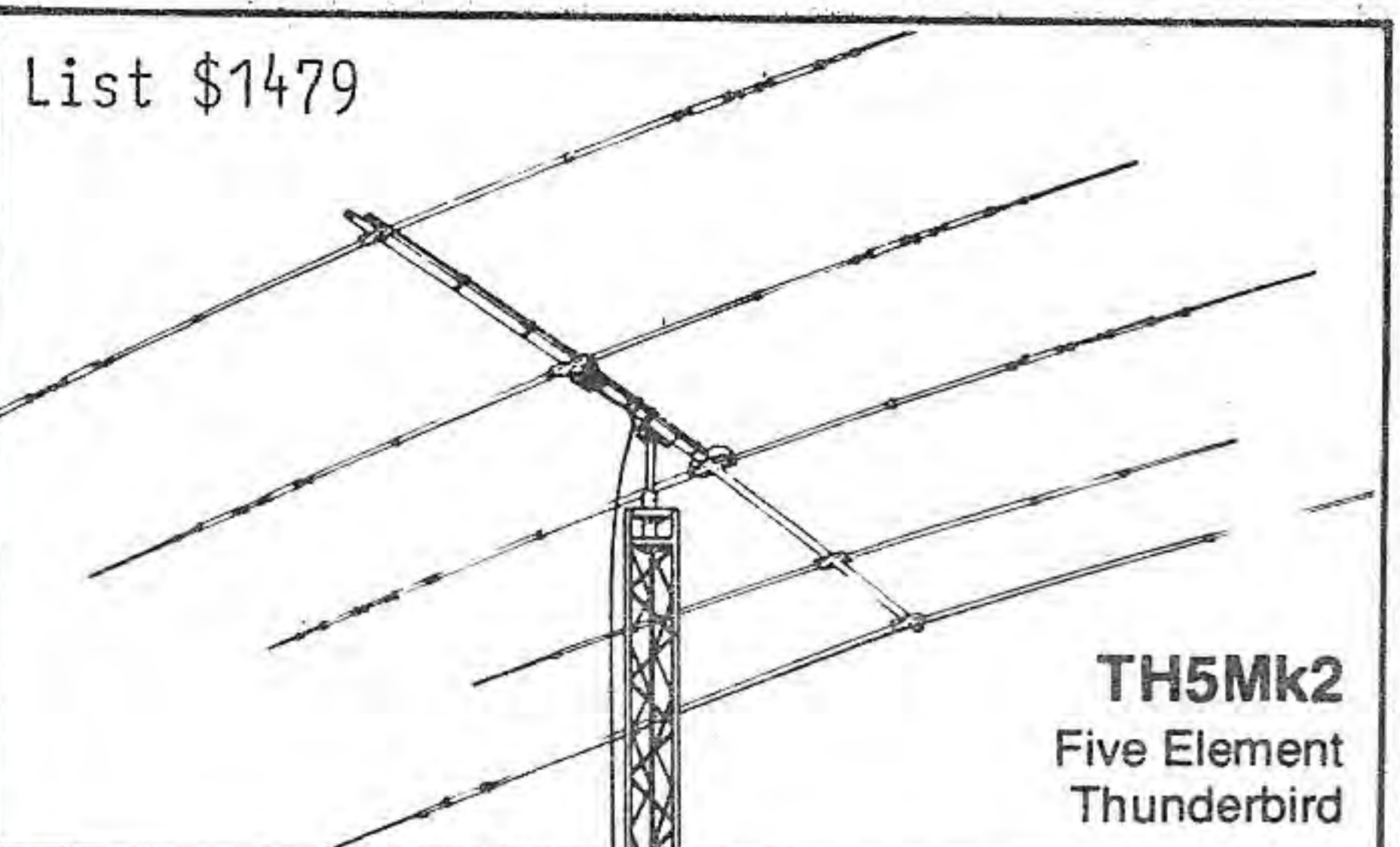
Explorer 14
Compact, High Performance Tribander with Quad-Band Option
\$249

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TH7DX
Seven Element Thunderbird

List \$1479



TH5Mk2
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dles maximum legal power with a respectable margin of safety.
h assures efficient energy transfer and places the entire antenna
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strong, taper swaged 6063-T832 thick-wall aluminum tubing used
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---289	TH3JRs 3 el Tribander---	599/429
---139	Explorer-14 NEW Triband--	999/749
9/899	TH5Mk2s 5 el Triband----	1269/899
69/59	TH7DXs 7 el Triband---	1479/1079
80/69	105BAs 5 el 10M Beam-----	429/359
115/95	155BAs 5 el 15M Beam-----	659/549
39/115	204BAs 4 el 20M Beam-----	829/699
79/69	205BAs 5 el 20M Beam-----	1119/949
39/129	64Bs 4 el 6M Beam-----	209/179
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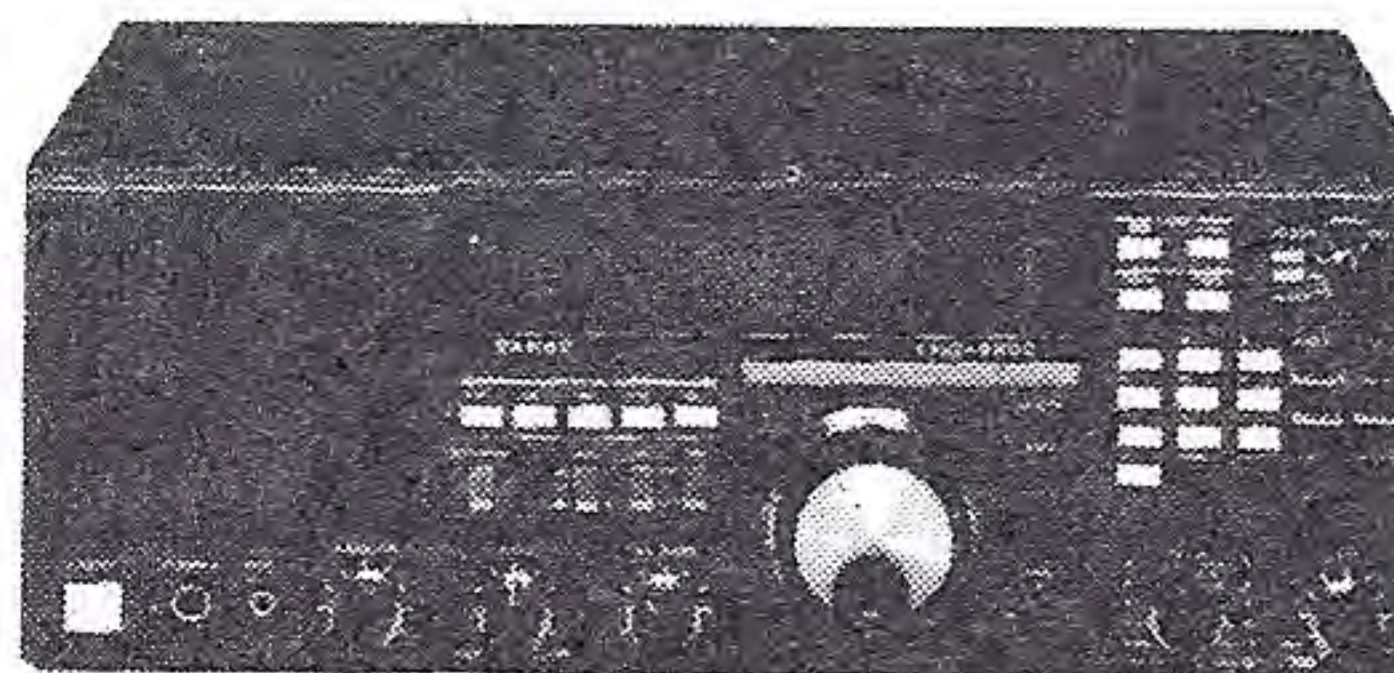
---199	153BAs 3 el 15M Beam-----	239
---499	Stainless Kit for 204BA-----	59
---249	2BDQ 40/80 Trap Doublet--	199/179

TO STOCK ON HAND !! CALL NOW !!

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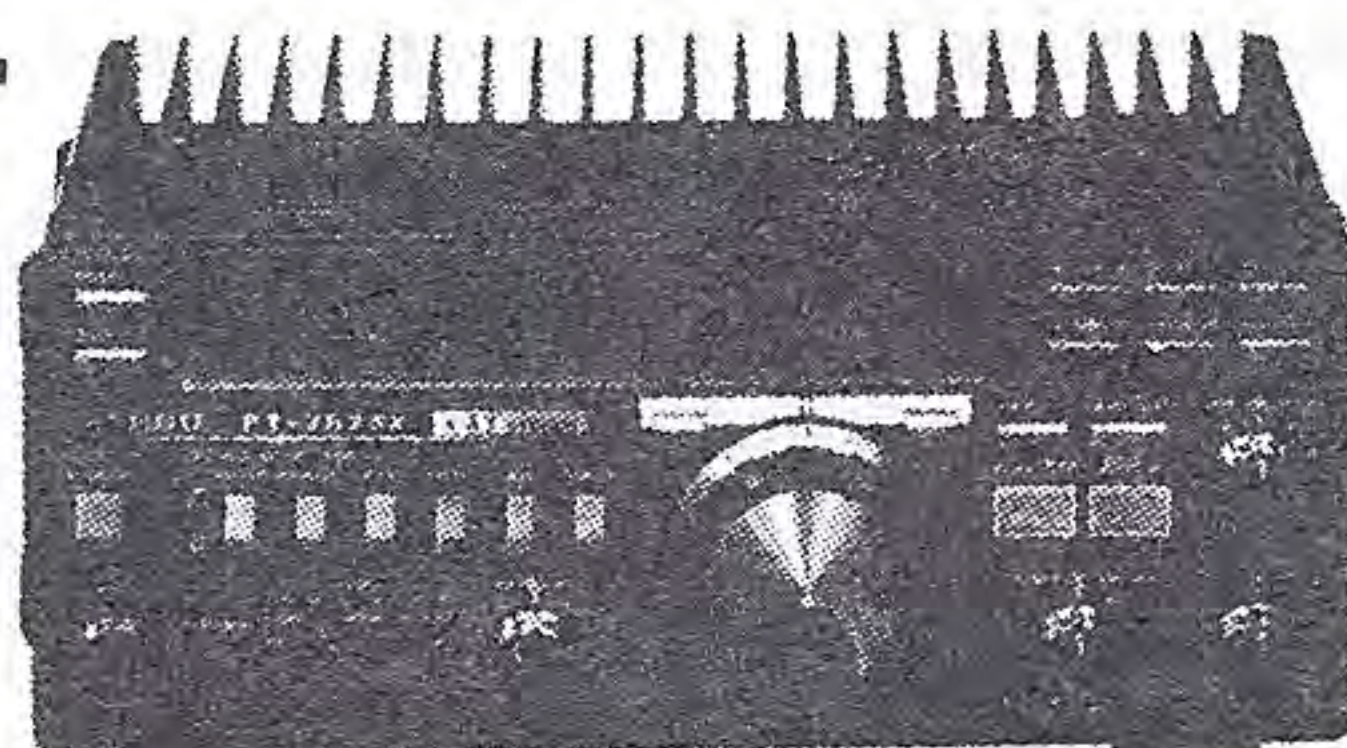


FRG 9600
Scanning Receiver for 60-905 MHz
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PA-4B/PA-4C AC-DC Wall Adapter
SP-55 External Speaker
NTSC Video Unit

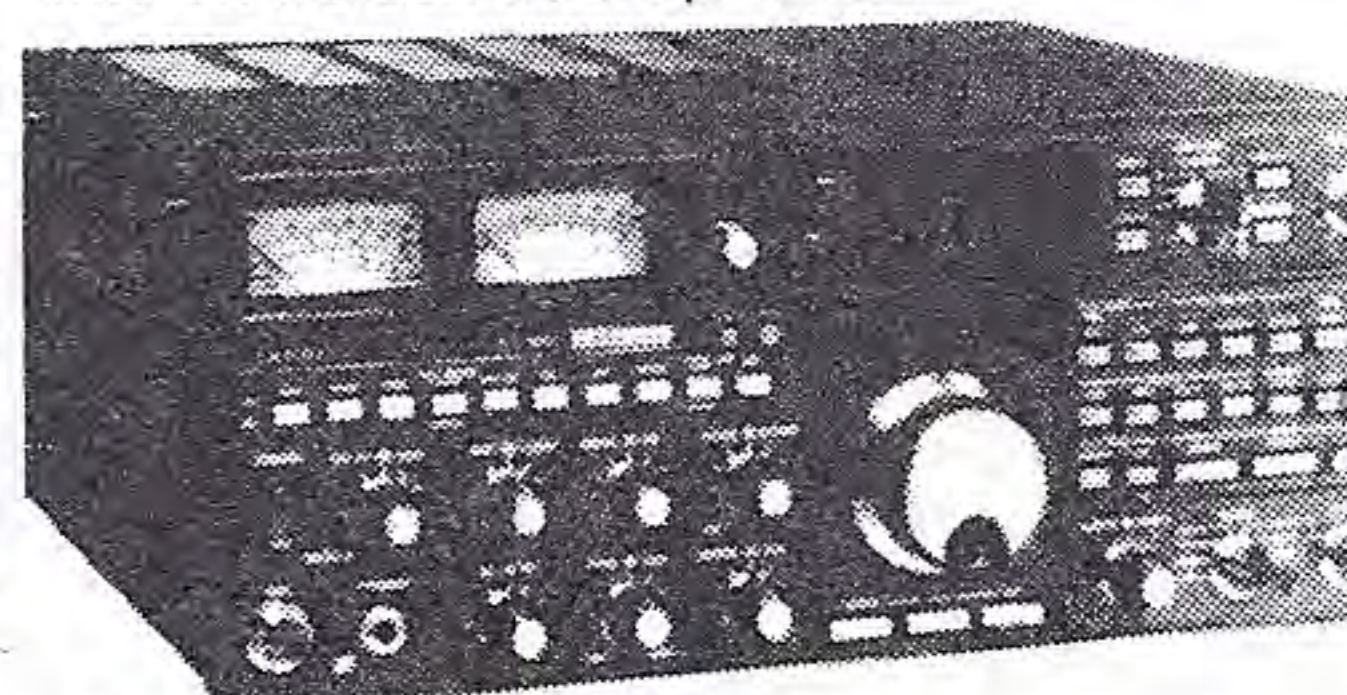


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General Coverage Receiver
All-band, all-mode
AM/SSB/CW/FM, 150kHz-30MHz
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FRA-7700 Active Ant for 150kHz-30MHz
FRT-7700 Antenna Tuner
DC-8800 12-volt kit
SP-102 Speaker with filters

HF TRANSCEIVERS



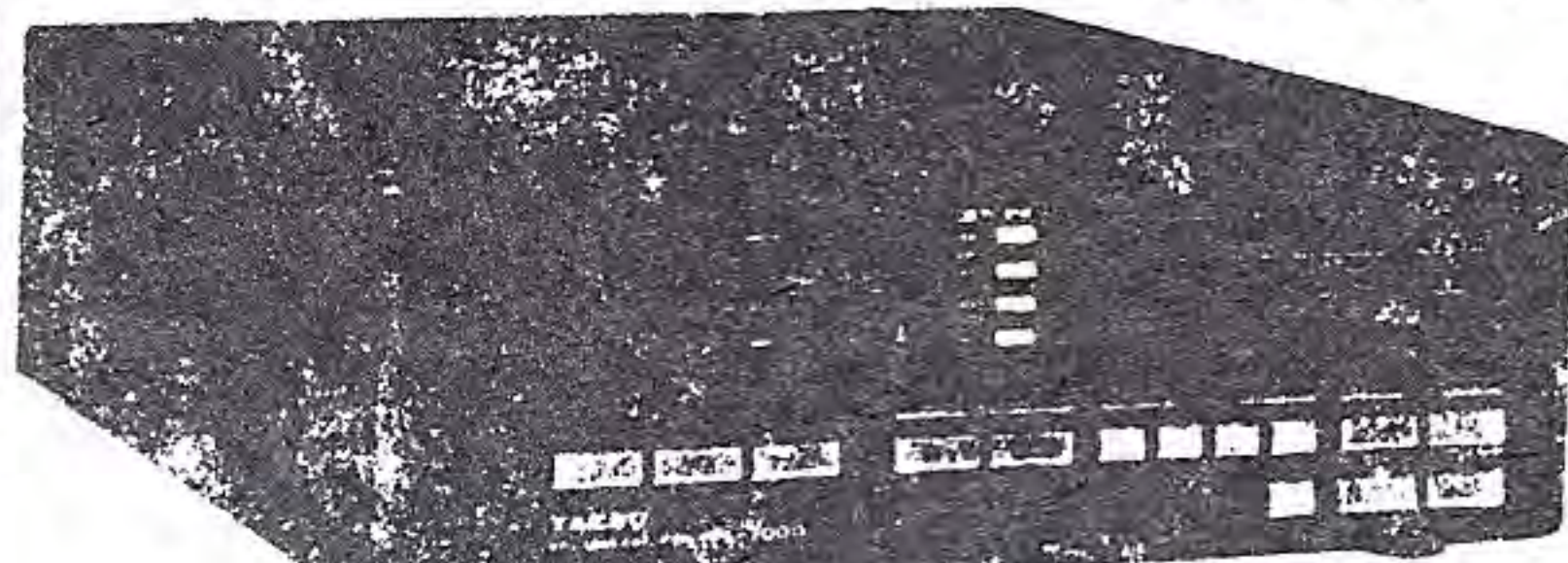
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Mobile Transceiver, SSB/CW/AM/FM
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FP-757HD Heavy Duty Power Supply
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SP-102 Speaker
SP-102P Speaker
MMB-20 Mobile Mounting Bracket
FRB-757 Relay Box
MD-1B8 Desk Microphone



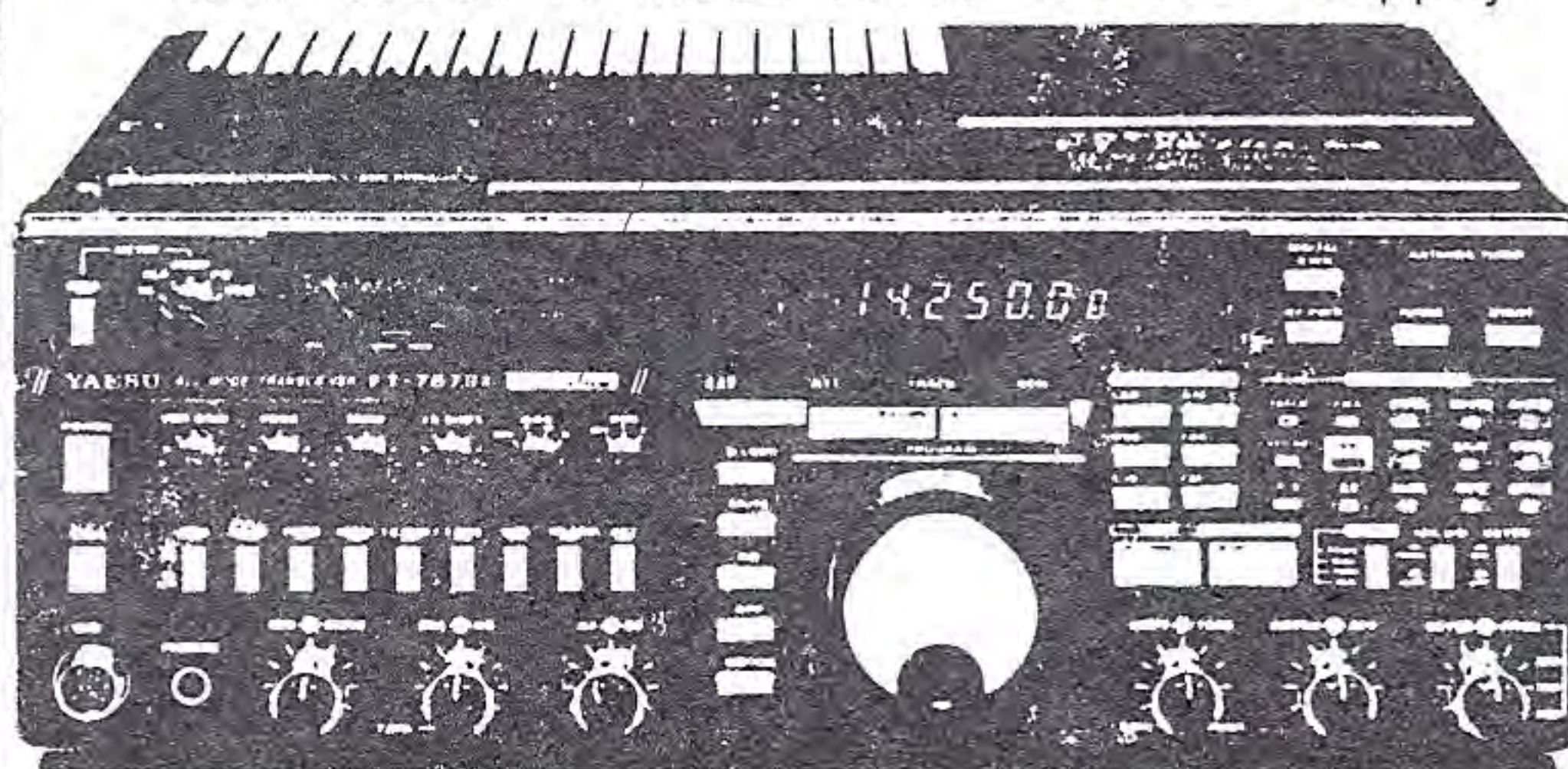
FT 980 CAT
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XF 8.9 HC 600 Hz CW Filter
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SP-98P Speaker Patch
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with Built-in Auto Tuner & Power Supply



With Built-in Auto Tuner & Power Supply



NEW FT-767GX HF transceiver Optional 2M 6M 430

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440 MHz HT / TTP



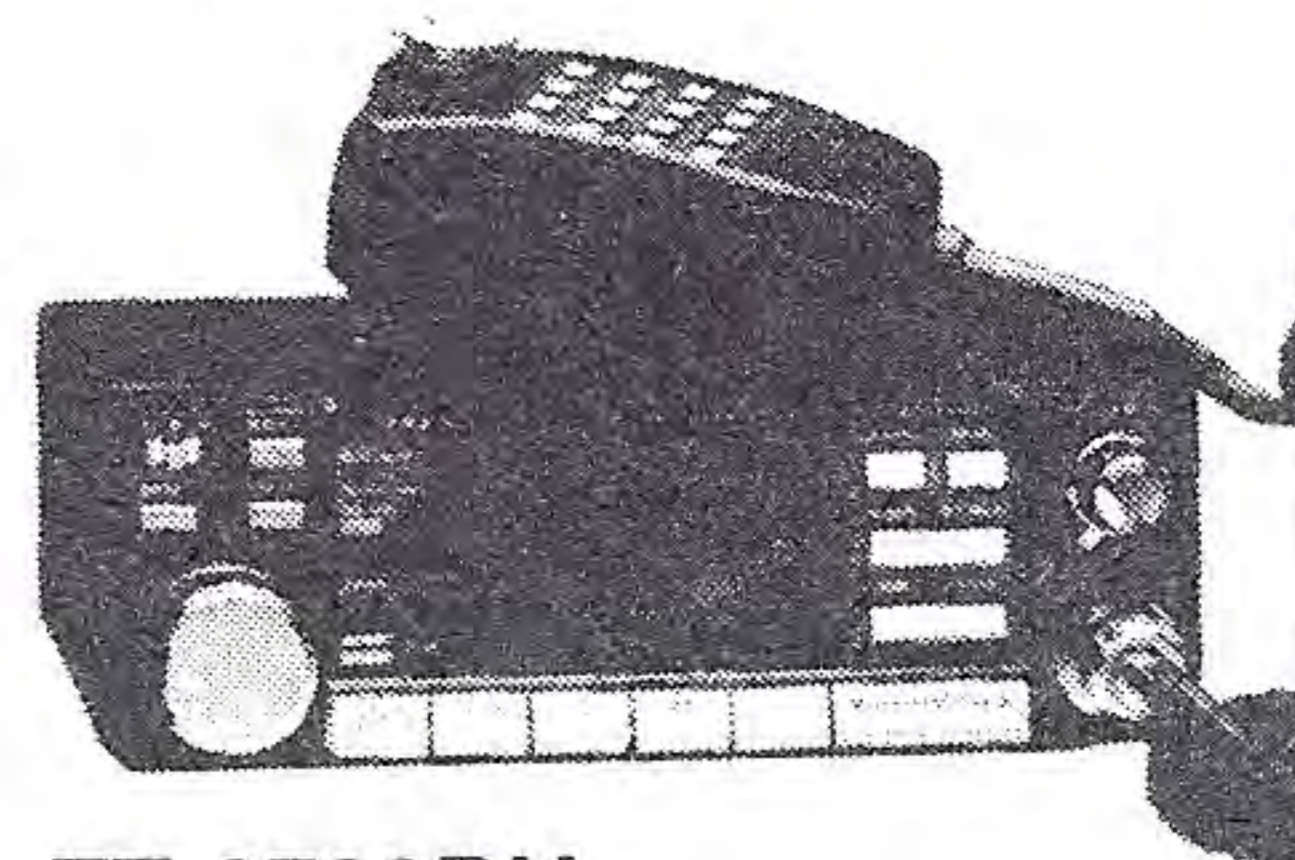
FT 209RH
2m Handheld

FT 709R
440 MHz Handheld

Accessories:
YH-2 Headset
MH-12A2B Speaker/Microphone
FTS-6 Programmable Tone Squelch
PA-3 DC/DC Car Adapter/Trickle Charger
MMB-21 Mobile Hanger Bracket
NC-15 Quick Charger/DC Adapter
FBA-5 Battery Case for 6xAA
FNB-3 10.8V, 425 mAh Ni-Cd pack
FNB-4 12V, 500 mAh Ni-Cd pack

FT 726R
Especially good for Oscar

Accessories:
6m-726 6-meter module
430-726 430-440 unit for Oscar
440-726 440-450 FM unit
HF-726 10-12-15 meter unit
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XF 455 MC 600 Hz CW Filter



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Duo-band 2m/440 Mobile Radio

FT 270RH
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Accessories:
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FT-727R

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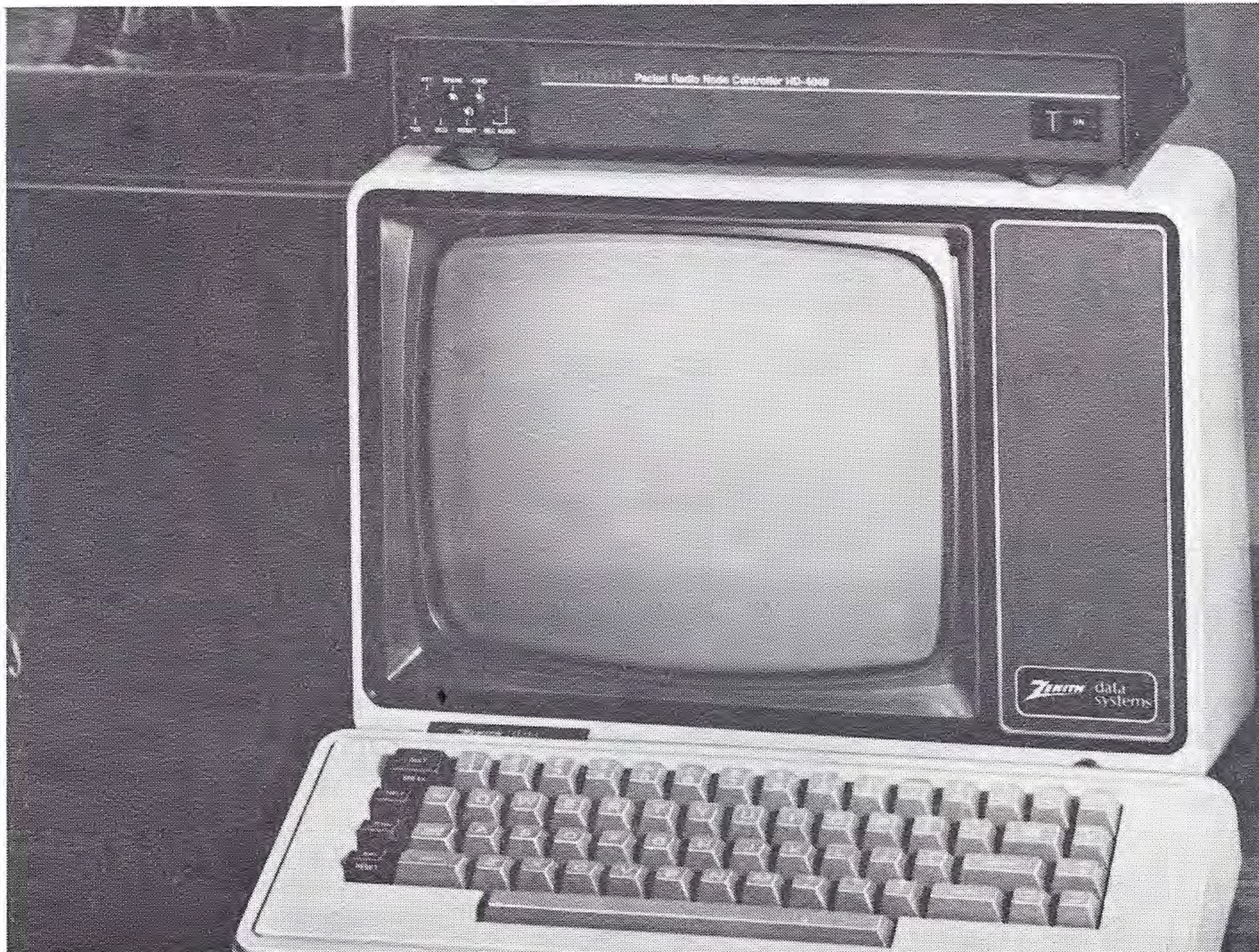
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COMPUTER TECHNOLOGY WITH AMATEUR RADIO OPERATION.**



The HD-4040 Terminal Node Controller (TNC) has been added to the amateur radio product lineup at Heath Company, the world's largest manufacturer of electronic products in kit form. This state of the art terminal node controller is the only RFI approved TNC on the market.

The HD-4040 is a version of the popular Tuscon Amateur Packet Radio (TAPR) which allows communication using terminal or computer control of any amateur radio system. Packet radio insures error-free communication and greatly increases communication speed. The HD-4040 has a built-in 1200 baud modem. Baud rates up to 9600 are possible with an external modem. Both AX.25 and VADCG protocols are used.

Three modes of operation are provided: a conversation mode which allows conversation with another operator; a command mode which allows configuration of the TNC and use of a variety of operating commands; and a transparent mode which is used in transferring files from one computer to another. A 6809 processor and a 32K ROM and 8K RAM are featured. Both ROM and RAM can be expanded by adding up to 16K.

A built-in automatic beacon can be

set to transmit a message at designated intervals determined by the operator. Any station can act as a digital repeater and up to eight such "linking" stations are allowed which greatly expands the operator's range.

The Heath TNC allows countless pocket radio applications. Operators may converse by satellite link, remotely control computers or receive computer programs over the air, leave messages and more - all quickly and without transmission errors.

The HD-4040 Terminal Node Controller is just one of over 400 electronic products offered in the latest Heathkit Catalogue. To receive this colorful catalogue FREE OF CHARGE, write Heath Company, 1020 Islington Avenue, Dept. 3100, Toronto, Ontario, M8Z 5Z3. Free catalogues are also available at Heath/Zenith Computers and Electronics Centers in Canada. Consult telephone directory white pages for the nearest store.

Heath Company is a DIVISION OF ZENITH RADIO CANADA LTD. Heath /Zenith Computers and Electronics Centers are operated by Heath Company.

Product availability, specifications and prices are subject to change without notice.

**CONCERNING THE
JOCELYN LOVELL
(QUADRIPLAGIC) FUND**

After repeated assurance that it was Jocelyn's intention to get his amateur radio licence, it has, in recent months become increasingly apparent that he now has no interest in the hobby.

The Thornhill Radio Amateur Club has a Trust Fund set up for Jocelyn in a separate account which presently totals in excess of \$1,680.00. Since Jocelyn has now expressed no interest in the hobby, this fund will be held in abeyance until such time as any amateur radio club or individual becomes aware of another such individual: paraplegic, quadriplegic or severely handicapped person sincerely wanting to pursue the hobby of amateur radio.

Any club, group or amateur who has generously and graciously contributed money to the Jocelyn Lovell Fund and who does not wish the money to be given to another disabled, needy person, should write to the Thornhill Radio Amateurs' Club, Box 17, Thornhill P.O. Ont., L3T 3N1 and the amount of their contribution will be returned.

Equipment supplied from the Thornhill Radio Amateurs' Club would be strictly on loan from the club. Should the recipient be unable to continue pursuing the hobby for any reason or should leave the country, it would be agreed that the equipment would be returned to the Thornhill Radio Amateur's Club to be passed on to another needy individual.

I regret any inconvenience this may have caused anyone and I'm sure everyone can appreciate the many hours I and others have spent on this project. I sincerely regret the outcome. Jocelyn's loss, however, will be someone else's gain. Thanks to all of those who so generously contributed.

Libby Stevens,
VE3IOT

Editor: *We are sorry that we did not properly acknowledge the LARC Bulletin for the 160 metre Antenna article.*

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 \$200 on HG54HD/HG70HD Towers
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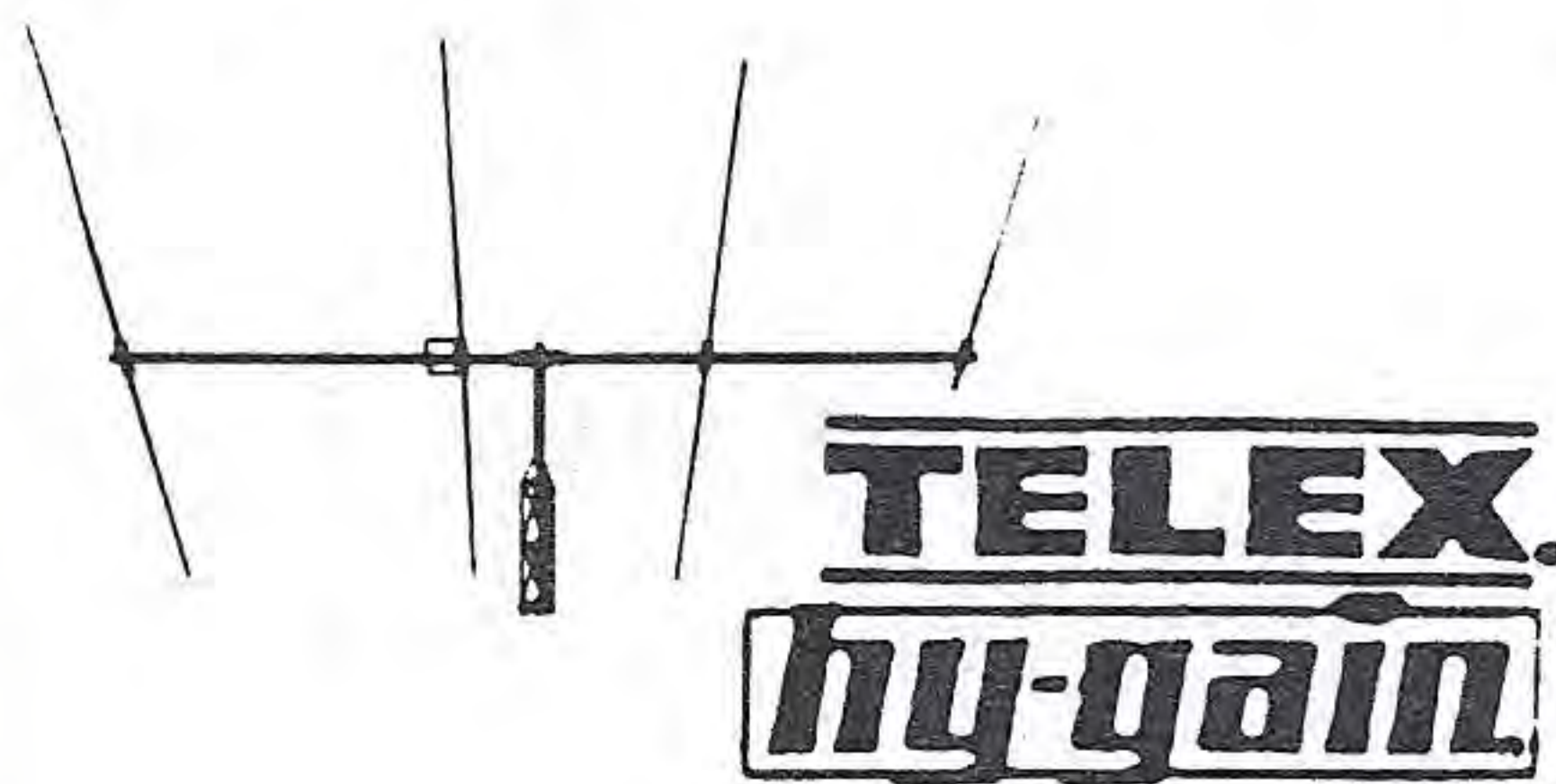
• Rebate is limited to one of each product category (beam antenna, rotator, tower) and applies only to products purchased for personal use.)

• Rebate requests must be post-marked no later than October 31, 1986 and mailed to Telex Communications, Inc., 9600 Aldrich Ave. So., Minneapolis, MN 55420, Attn: Amateur Customer Service

**Time is limited—
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Order any Hy-Gain tower from your dealer for factory shipment direct to you. Hy-Gain will pay the freight on the tower and any of our antennas, rotators and accessories ordered for shipment at the same time. This offer is limited to within the 48 contiguous United States.



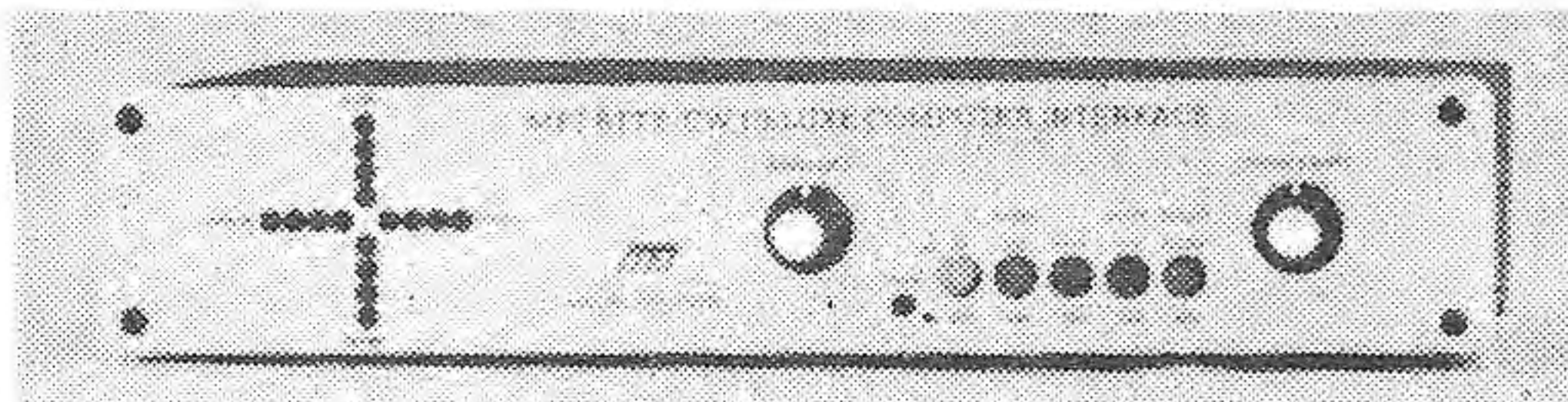
- 402BA 2el 40 mtr Beam \$639.00
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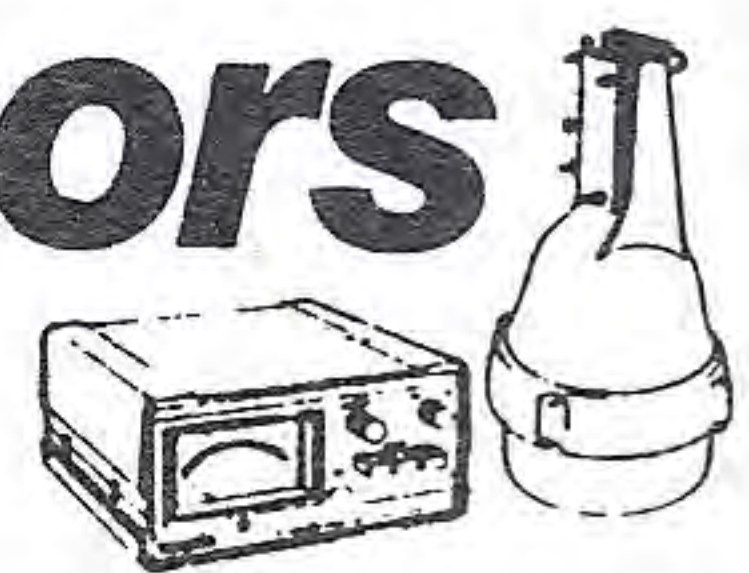


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GLOSSARY OF PACKET RADIO TERMS OR "BUZZ WORDS"

We know that the experts in packet radio know all of the following terms by heart. However, we've printed them for the benefit of the newcomers and less expert. This page may be pulled out for use in the ham shack.

ACK - Acknowledgement of a correct, complete packet frame.

ALOHA - An early Packet Radio System in Hawaii.

ASCII - American Standard Code for Information Interchange.

ASYNCHRONOUS - Serial Data Communication with start and stop timing.

AX.25 - A Protocol named for Amateur use after X.25 system.

BAUD - A Unit of Data Rate i.e. 1200 baud.

BBS - An operating Station where messages and programs can be left for the benefit of others.

BINARY - Used in electronics, using the Base 2 system showing an OFF & ON switch state.

BIT - The smallest unit of information in Binary.

BPS - Bits per second.

BUFFER - Temporary storage area for data information.

BURSTY - Communication which is random and short in duration.

BUS - A Group of Wires or connection which carry signals throughout a computer, making contacts at similar locations on several different P.C.B.'s.

BYTE - 8 Bits.

CAPTURE EFFECT - The ability of a F.M. Receiver to reject a weak un-wanted signal, and lock onto the strongest signal present.

CHECKSUM - a frame check sequence, where by a sum of all bytes of Data are added and a Check value is formed.

CONNECT - Establish communications with another Station.

CPU - Central Processing Unit. A Chip which is the "heart" of a computer.

CTS - An RS 232 Signal. Clear to Send.

DATA - Information usual in Binary Format.

DCE - Data Communications Equipment i.e. TNC or Modem.

DIGI - A Packet Radio Repeater to Link or extend range.

DIS-CONNECT - Termination of communication with another Station.

DOS - Disk Operating System. Program for a computer with Disk Drives.

DPSK - Dual Phases Shift Keying. 2 bits per baud.

DSR - An RS 232 Signal. Data Set Ready.

DTE - Data Terminal Equipment. Equipment connected to a Modem or TNC.

DTR - An RS232 Signal. Data Terminal Ready.

DUPLEX - Transmitting and receiving simultaneously or different frequencies.

EPROM - 1/C's which are ROM's and can be programmed and erased by the user.

FCS - Frame Check Sequence. A frame error check routine.

FILE - Information of Program stored on Disk or Tape.

FLOW CONTROL - Regulating the Input and Output of Data.

FRAME - A Packet of information bits. Designed by the Protocol used. Usually having a Start Flag and an ending Flag.

FRAMING ERROR - A signal provided by UART'S or ACIA's chips to indicate that no Stop Bit was found.

FULL DUPLEX - Communication between 2 stations where by only 1 station tx. at a time.

HALF DUPLEX - Communication between 2 stations where by only 1 station tx. at a time.

HARDWARE - Electronic Components i.e. resistors, capacitors.

HEX - Hexadecimal Math System. Base 16 numbers i.e. 0123456789 abcdef.

HOP - To Repeat or go Via a Digi.

cont'd on page 16.

Glossary Of Packet Radio Terms cont'd

IC - Short form of Integrated Circuit.

I/O - Input/Outputs in a computer or other device.

LINKS Or **LINKING**, a method of using digi's to extend range and communicate between Cities.

MODEM - A MODulator DEModulator Device which encodes and decodes data signals.

MODULATION - A process of imposing information on a carrier.

MULTIPLE ACCESS - Allowing more than one user to input or receive information from one source.

MULTIPLEXING - Dividing a single Communications Channel into several usable channels by sub-carriers.

NETWORK - A pre-arranged plan of communications between several stations.

NODE - A Junction or Re-Transmission Point in Packet Radio i.e. Repeater Node, Station Node, Terminal Node.

OCTAL - Electronic Math with Base 8 Number System.

OVERHEAD - Information contained in a Packet Frame which controls its destination and direction. Added to the information or message sent.

PACKET - A communications data module with an Address and From statement plus message information.

PARALLEL - Transmission of Data Bites over 8 wires simultaneously.

PROTOCOL - A set of rules which are layed down to control the packet framing so all participants on a freq. can communicate.

QPSK - Quadrature phase shift keying, sending 4 bits per baud.

RAM - Read Access Memory, Temporary Volatile storage in a computer. Also known as Read/Write memory.

RANDOM ACCESS - Unscheduled input to a data system.

REAL THRUPUT - The actual successful transmission of a msg. or information thru a data system. Less overhead.

REPEATER - Re-transmission of data to extend range.

RESET - To Re-start program or computer.

ROM - Read only Memory. Pre-programmed and is permanent.

RS-232 - A Serial Data standard for communications.

RTS - An RS232 Signal, Ready to Send.

RTTY - Teletype - - A Old Fashion way of communicating.

RX - Receiver or Received.

SERIAL - Transmission of Bits in succession. One after the other.

SIMPLEX - TX. and RX. on one Freq.

SOFTWARE - Computer Programs.

STACK - Temporary storage of information.

SYNCHRONOUS - Serial Communications which is clocked control.

TNC - Terminal Node Controller, Interface between Radio and computer to decode and control data.

THRU-PUT - Successful TX. and RX. of data or information.

TRANSPARENT - Operation of the system is invisible to user.

TTL - Transistor to Transistor Logic I/C.

TX - Transmit or Transmitter.

VAN - or **VADG** a Protocol used by many Stations.

VIA - Command used in AX.25 for repeating thru another TNC.

VOLATILE - Lost Data when Power Removed.

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**HEATH COMPANY'S PHONE PATCH
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A unique phone patch has been introduced by the Heath Company, the world's largest manufacturer of high technology kit products. The HD-1515 Phone Patch kit employs a unique design and special speech transmission circuits to transfer audio signals between a telephone line and two-way radio equipment.

New active circuitry uses automatic gain control to help compensate for the varying attenuation introduced by different line lengths or loop distance on the external phone circuit. The integrated active speech and transmission circuit also allows the Phone Patch to be directly connected to the phone line thereby eliminating conventional hybrid transformers that convert 4-wires to 2-wires.

A high degree of electrical isolation from the radio equipment makes the Heathkit Phone Patch ideal for voice-operated installations. And the transmission can be monitored on the phone line. An 8-pole filter in the



input circuit makes the Patch compatible with all subscriber loop-frequency voice standards as prescribed by the FCC. A built-in detector circuit allows adjustment with a VTVM or VOM for optimum separation between transmit and receive.

The Phone Patch obtains power directly from the phone line in most installations. An internal battery circuit may be used where the phone line exhibits a very low-voltage condition. The HD-1515 measures 1-3/4" H x 5-3/4" W x 3-3/4" D and weighs 12.8 ounces.

The HD-1515 Phone Patch is just one of many Amateur Radio products

offered in the new Heathkit Catalogue. To receive this colorful catalogue FREE OF CHARGE, write Heath Company, 1020 Islington Avenue, Dept. 3100, Toronto, Ontario M8Z 5Z3. Free catalogues are also available at Heath/Zenith Computers and Electronics Centers in Canada. Consult telephone directory white pages for the nearest store.

Heath Company is a DIVISION OF ZENITH RADIO CANADA LTD. Heath /Zenith Computers and Electronics Centers are operated by Heath Company.

Product availability, specifications and prices are subject to change without notice.

SILENT KEYS

We regret to report the passing of the following amateurs,

- VE 3 ABV Jack Snider
Peterborough / Oshawa
- VE 3 DO Al Fletcher
Burlington / Hamilton
- VE 3 EL L Gerry Finlay Barrie
- VE 3 EYD Jack Chown
Scarborough
- VE 3 EZG Jack LeMarie London
- VE 3 IOK John Twnsend
West Hill / Lakefield
- VE 3 IYY Mary Drummond
Brampton
- VE 3 MOD Bob Corbett
Sault Ste. Marie
- VE 3 NBT Don Henry
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- VE 3 NKZ Ted BoerKamp Hamilton
- VE 3 NS Ed Stephens Hagersville
- VE 3 OX Mel Jones Hepworth

- VE 3 SS Andy Kufluk Agincourt
- VE 3 UH John Eaton Millgrove

**EXTRA!!! EXTRA !!!
Stop Press News**

VE 3 CNE received over 400 written requests for more information about amateur radio (see card). These requests will be sent to the club nearest to each person. These cards are from people in several states, countries, other provinces but by far the most are from Ontario.

VE3CNE would like to see these people get a personal welcome from some ham AND SOME CLUB! But we don't know all of the clubs, so PLEASE, - - No Matter Where You Are in Ontario - - make sure your club tells us, or you tell us, the name & address, and if possible the name of the person to contact for your club. . . . or any other club.

This information may be sent by mail to VE 3 CNE, P.O. Box 307, Station 'H', Toronto, M4C 5J2 or telephone collect to Evan VE3CNE (416) 757-4284.

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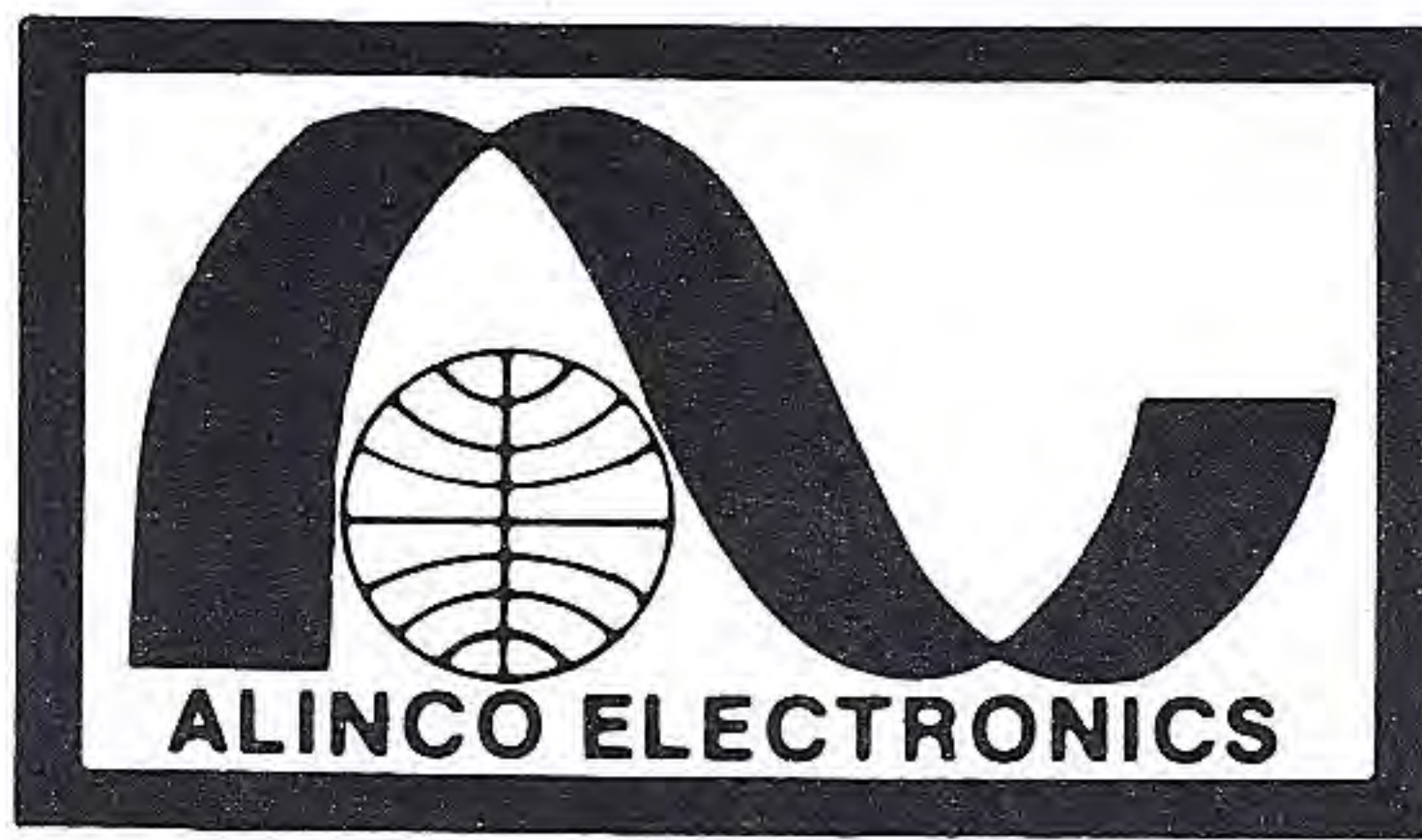
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MEMBERSHIP RENEWALS

Due to computer problems, some renewal notices have not gone out. Please check your expiry date on your label and send in your renewal even if you have not received a notice. Your co-operation will be appreciated.



COM- WEST Radio Systems Ltd.

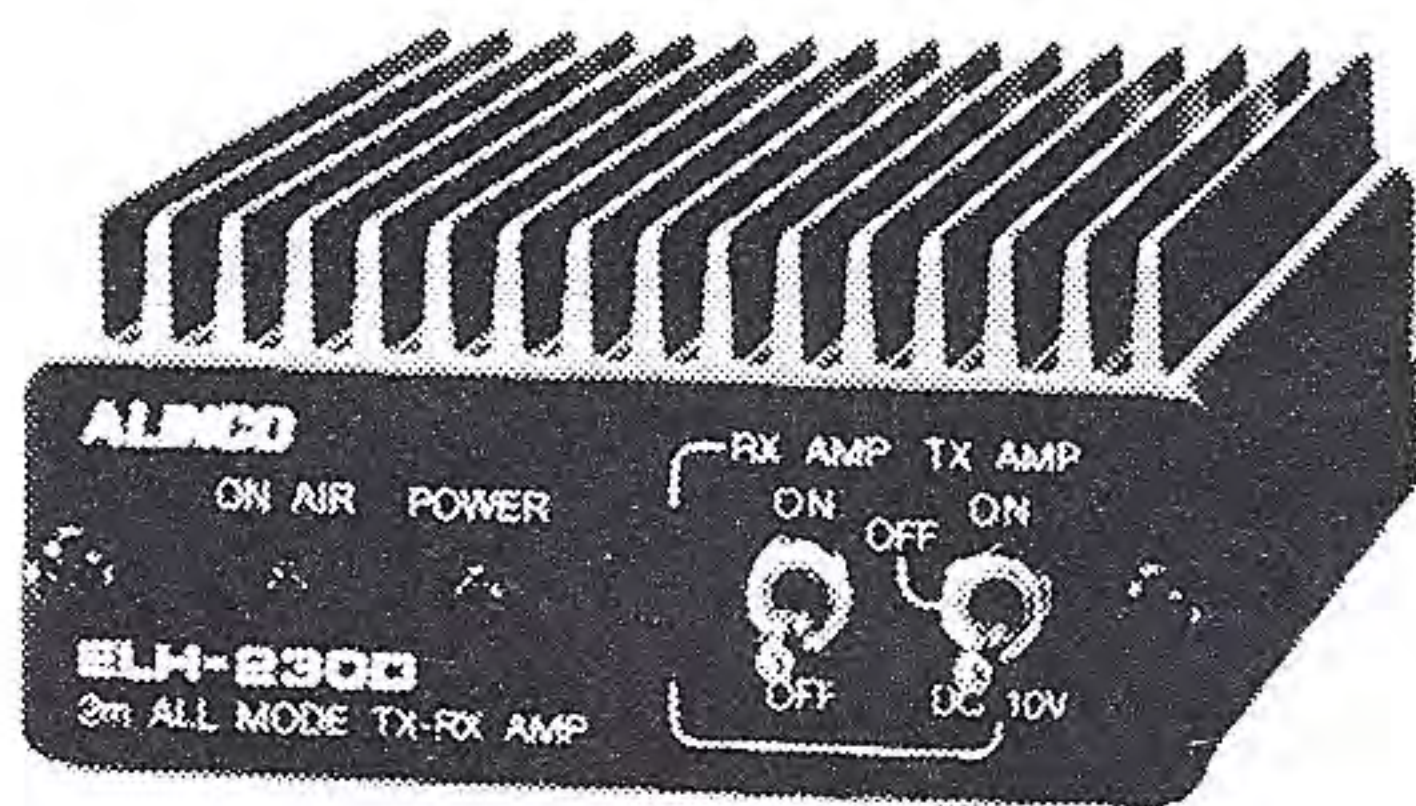
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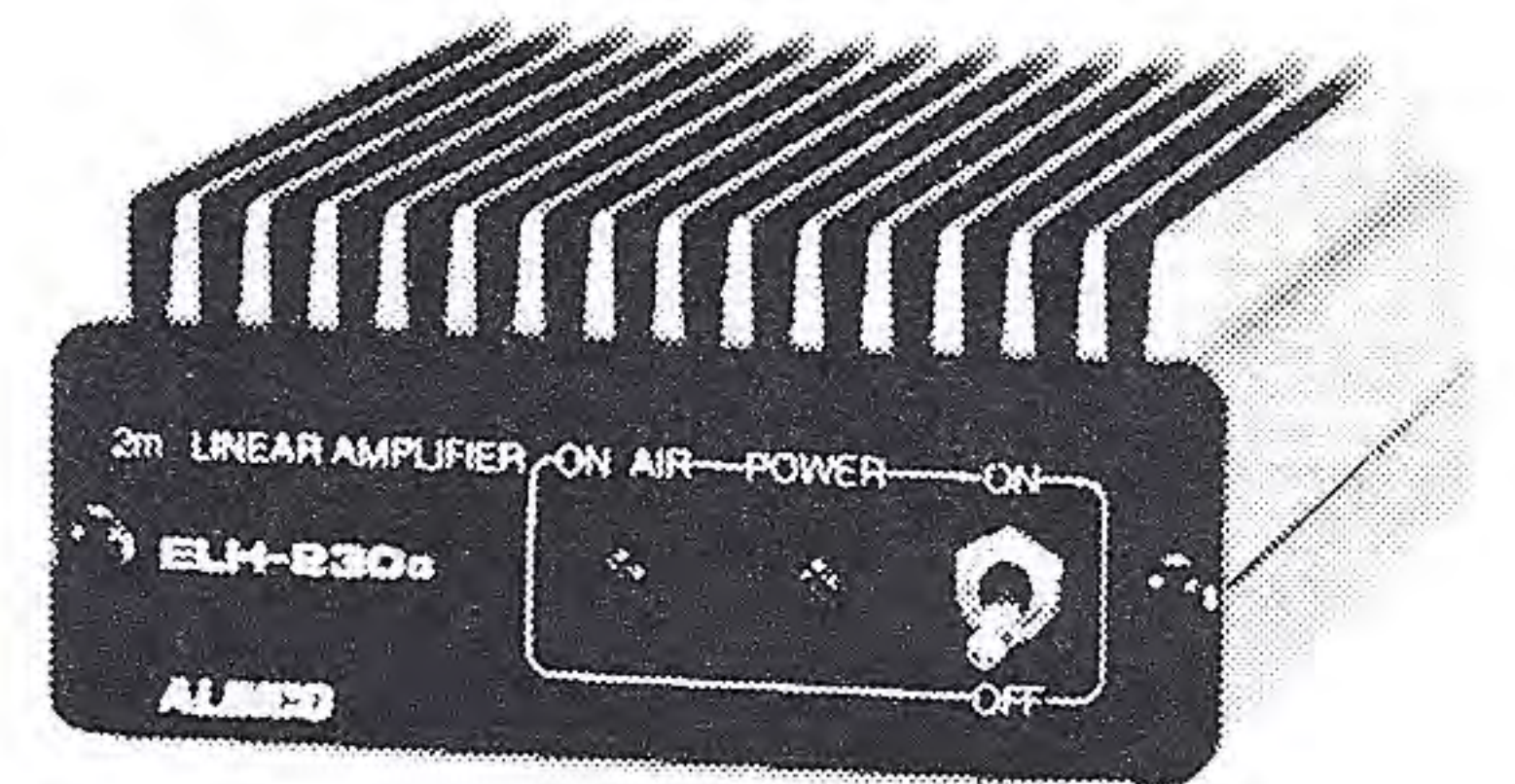
- Heavy duty heat sink for longer transmissions
- Low pass filter installed for a cleaner signal
- All units include a protection circuit
- ELH-260D, ELH-230D, ELH-220GF and ELH-730D include a gain Rx Pre-Amp
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ELH-230D
\$139

ELH-230D
140-150MHz
All Mode (FM SSB CW)
200mw-5W Input Power
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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
\$109



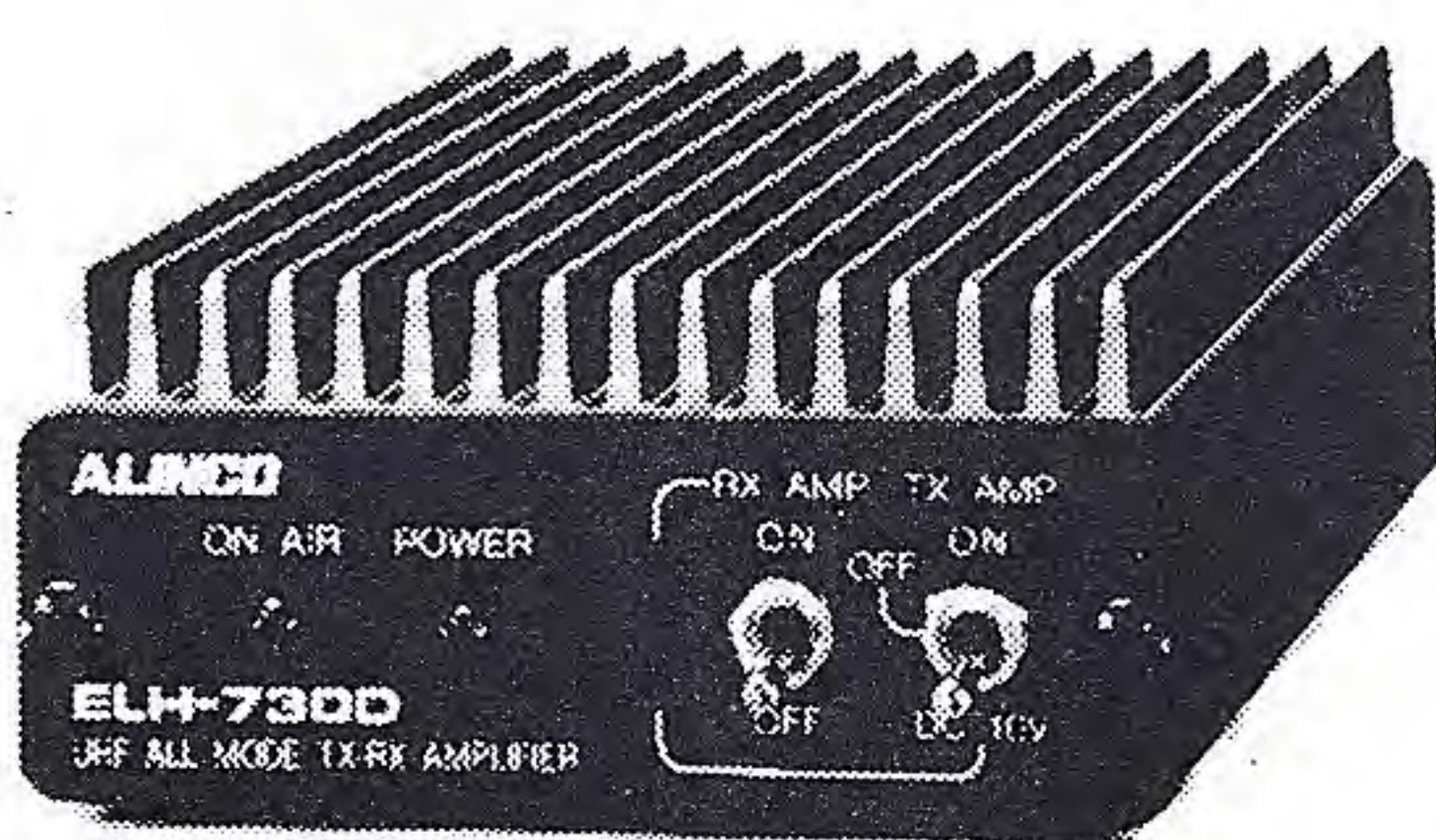
ELH-260D
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ELH-260D
140-150MHz
All Mode (FM SSB CW)
200mw-5W Input Power
3W In = 50W Output Power
DC13.8V/10A
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All Mode (FM SSB CW)
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15dB Gain (GaAs FET)
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1.12 lbs.

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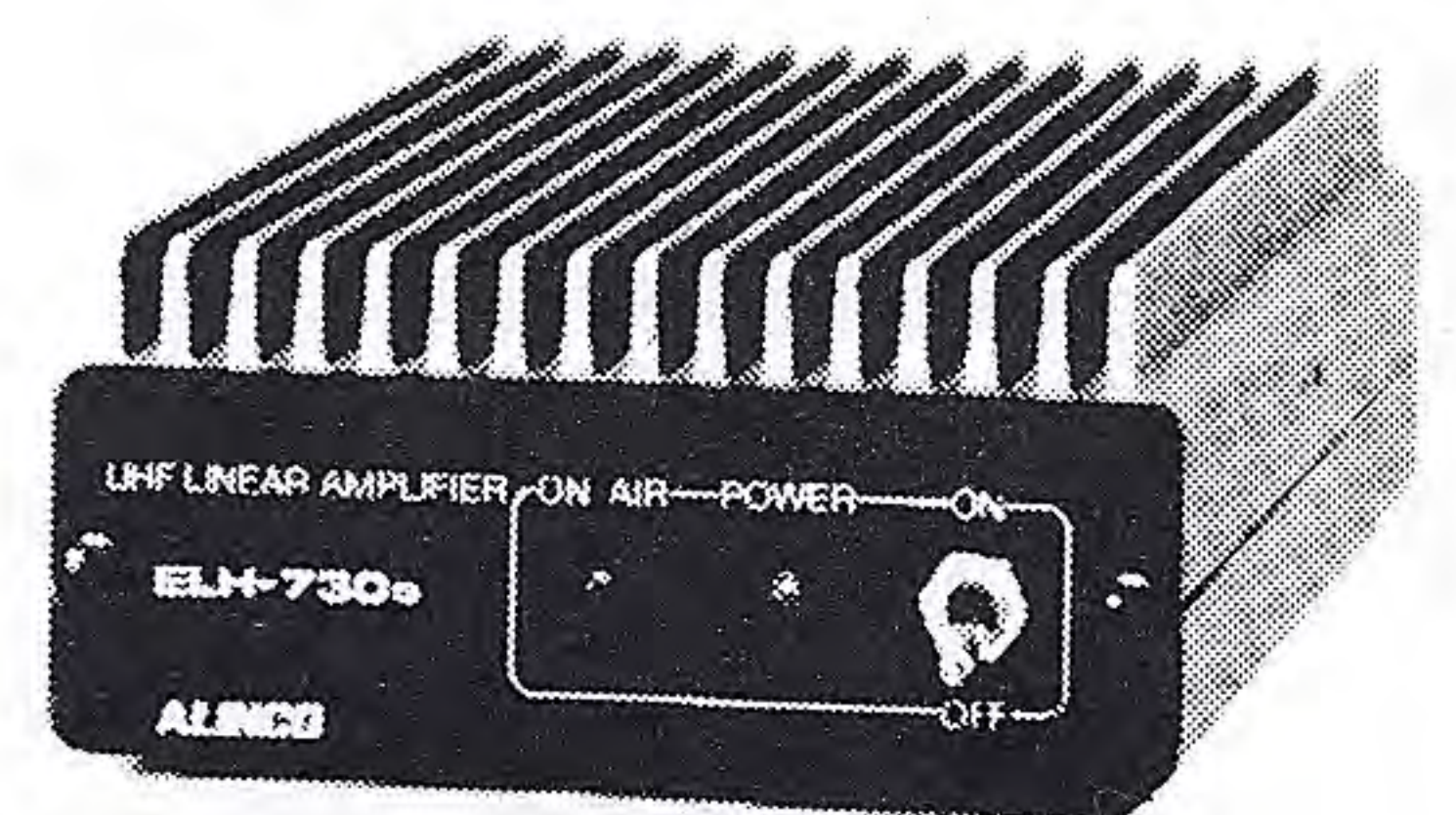
ELH-220GF
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ELH-730D
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Dealer Enquiries Invited

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

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

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.

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

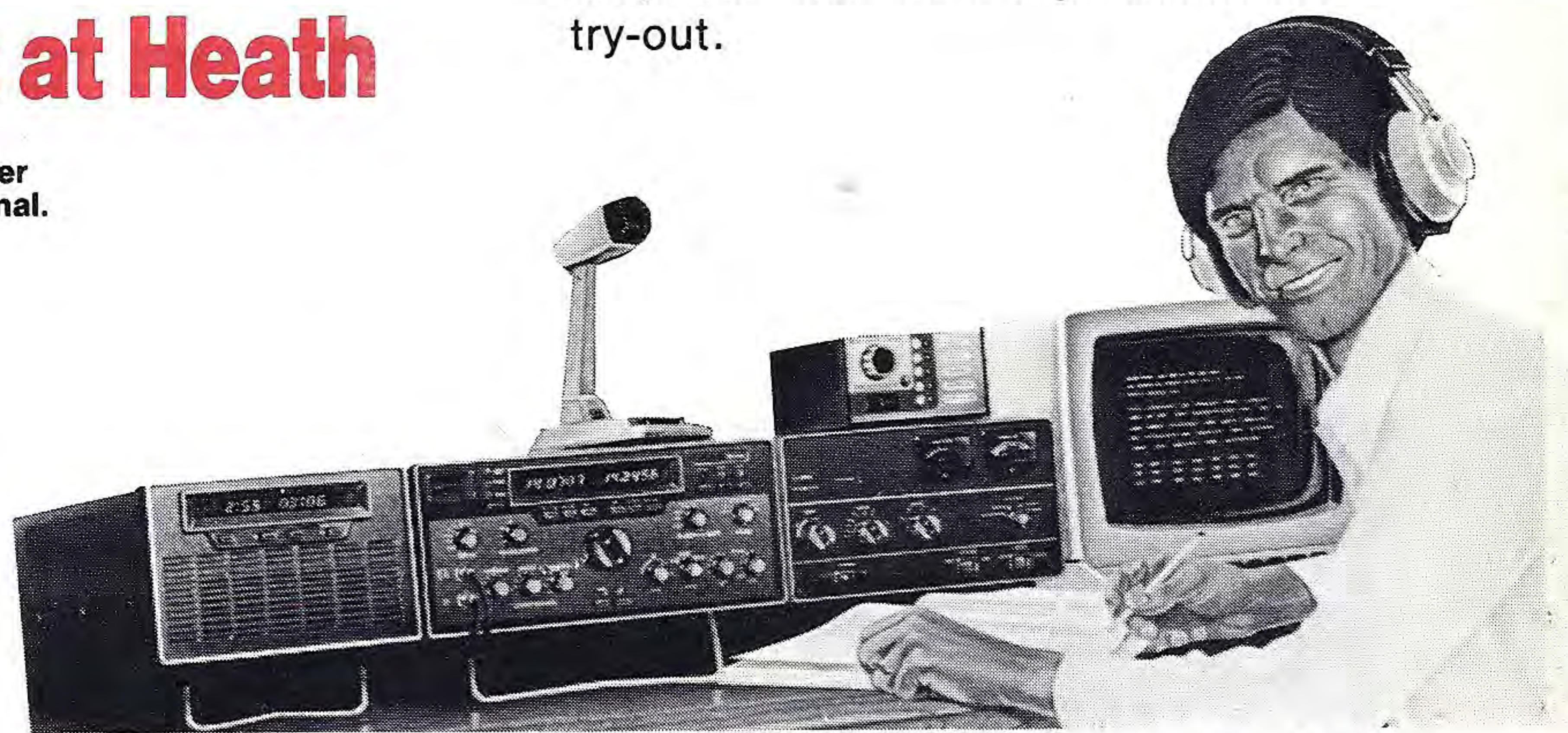
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