

THE HAMILTON AMATEUR

HAMILTON AMATEUR RADIO CLUB INC.
P.O. BOX 253
HAMILTON, ONTARIO
L8N 3T8



Gerry Goldberg VE3HLI
17 Cottrill
Hamilton, Ont. L8S 3L5

THE HAMILTON AMATEUR RADIO CLUB INC.

Club Station VE3DC, VE3RCB

2 Meter Repeater .. VE3DRW Input: 146.160 Mhz.
Output: 146.760 Mhz.

1978 OFFICERS AND DIRECTORS

| | | | |
|-----------------------------|--------------------------|--|----------|
| <u>PRESIDENT.</u> | STAN BOLIBRUCH VE3GFE | 8 Rutherford Ave. Hamilton, Ont. L8M 1Y4. | 528-4002 |
| <u>PAST PRESIDENT</u> | JOHN DYKSTRA VE3BOY | 14 Talbot St. Cayuga, Ont. NOA 1E0. | 772-5372 |
| <u>VICE PRESIDENT</u> | PETER GOODSON VE3DOU | 28 Riverdale Drive, Hamilton, Ont. L8E 1J8. | 561-1659 |
| <u>SECRETARY</u> | NORM FREIDIN VE3CZI | 42 Lester Street, Hamilton, Ont. L8V 4P5. | 388-9813 |
| <u>TREASURER</u> | GERRY GOLDBERG VE3HLI | 17 Cottrill Street, Hamilton, Ont. L8S 3L5 | 528-7688 |
| <u>EDITOR AND PUBLISHER</u> | JOHN DOUGLAS VE3EYC | 26 Skyline Drive, Dundas, Ont. L9H 3S5. | 627-4727 |

COMMITTEE CHAIRMEN

| | | | | |
|-------------------------|----------|--------|-----------------|----------|
| Club Station Licensee | (VE3DC) | VE3BKM | Vern Huckle | 388-6989 |
| Red Cross Stn. Licensee | (VE3RCB) | VE3FHQ | Glenn A. Gibson | 385-2786 |
| Repeater Licensee | (VE3DRW) | VE3CFM | Bob Miller | 529-2950 |
| Health and Welfare | | VE3EJD | Gino DiGennaro | 692-3341 |
| Membership | | VE3EKY | Bern Granby | 527-7175 |
| Public Service | | VE3FHQ | Glenn A. Gibson | 385-2786 |
| Technical | | VE3DVV | John VanDenBerg | 692-3802 |
| Refreshments | | VE3ARX | Bill McCaslin | 634-5190 |
| Refreshments | | VE3AHB | Irwin Merritt | 634-3197 |
| CARF Representative | | VE3GCP | Fred Robinson. | 388-1976 |

Membership Year .. January 1st to the following December 31st each year.

Membership Fees .. \$10.00 per year (all classifications).

PLEASE ADDRESS ALL CORRESPONDENCE TO:

THE SECRETARY
HAMILTON AMATEUR RADIO CLUB INC.
P.O. BOX 253
HAMILTON, ONTARIO. L8N 3C8

NEXT MEETING

Date Wednesday, September 20, 1978

Time 8:00 P.M.

Place Chedoke

Subject "One Method of Building an Antenna Coupler"
with John Kassay VE3FDK

THE PRESIDENT'S MESSAGE

It seems that everyone managed to get themselves active during the summer by attending the club picnic, or on their own by taking trips such as VE3FHQ who went to Spain and Portugal; VE3HLI who went to England. This year I did not take any fancy trips out of the country, instead, I went to a summer camp in the Muskoka area. This Camp was called New-Frienda, which consisted of adults to elementary students. The programme had a variety of activities from sailing and camping to horseback riding and candle-stick making. There was a good group from New York and Michigan states, along with those from around Ontario. So you see, even though VE3DRW was neglected temporarily, it was not in vain.

The school term has finally arrived and with it comes the Amateur Radio classes. On October 2, 1978, Norm Freidin VE3CZI will teach an Amateur Class at Sherwood High School on the Mountain; on October 3, 1978, Dave Robinson VE3HNX will teach an Amateur Class at Sir John A. MacDonald; October 5, 1978, Dave Rypma VE3HTC will teach the Advanced Class at Sir John A. MacDonald. An Amateur Radio Class will also be available at Orchard Park School in Stoney Creek, being taught by Jeff Davis VE3CEJ. For further information, check with the school or Jeff at 643-1578. Lew Sargent VE3EYO will be teaching Amateur Radio to Sea Cadets at H.M.C.S. LION at the foot of Catherine Street. Anyone interested in assisting Lew, in any way, contact him at 383-5347.

For those knowing friends interested in Amateur Radio; on September 18, 1978 the Burlington Amateur Radio Club will be displaying the various aspects of Amateur Radio at Brock Secondary School, New Street in Burlington.

On September 30, 1978, the Hamilton Equestrian Club in Mt. Hope are holding Jumping Trials from 8 a.m. - 5 p.m. A good number of mobiles will be required to assist with communications on this date. Anyone interested, please contact Dave VE3HTC (689-6161) or Stan VE3GFE (528-4002).

It seems that during each exercise, there is always the same group that can be depended upon. Where are the rest of you that registered for the A.R.E.S.? It would be a shame if a real disaster occurred and those who thought their equipment was working and their operating techniques left much to be desired.

During the past months, we have had a few of our fraternity turn in their mikes to become Silent Keys. Fred Neal VE3QH recently passed on and I'm sure that present two letter call holders will remember Fred as one of the avid homebrew artists of the area --- Jack VE3HN from Willowdale, a regular on 75 and father-in-law of Jim VE3FMT, who was very involved in our club --- Gord VE3DTT of Collingwood who was another active amateur on 75 meters. To those families, the Hamilton Amateur Radio Club pass on our condolences.

73's

Stan Bolibruch VE3GFE
President.

AMATEUR RADIO EMERGENCY SERVICE

The following item taken from the Emergency Coordinators Workbook, on emergency preparedness.

Emergency Checklist

- 1) Do you have a three day supply of food and water ready to go?
- 2) Do you keep your car's gas tank at least half full at all times?
- 3) Have you arranged for your family in case you are called out?
- 4) Do you have a supply of operating materials ready to go (message blanks, pencils, log, scratch or memo paper, etc.)?
- 5) Do you have a battery operated transistor BC radio, with spare batteries?
- 6) Do you have a gas engine generator capable of supplying emergency power at a moments notice?
- 7) Do you have portable antenna plans and materials available?
- 8) Do you have a completely portable rig that can operate independent of your car?

- 9) Do you have identification both on your car and on your person that will help get you to where you can do the most good?
- 10) Are you informed on assembly points or frequencies or other emergency plans in effect locally?

Please consider this list.

Glenn Gibson VE3FGQ
Emergency Coordinator.

MEMBERSHIP CHAIRMAN'S REPORT

Total membership of H.A.R.C. stands at 206.

Welcome to 4 new members:

| | |
|---------------------|---------|
| Oliver Wesley-James | VE3KTK |
| Jack Stewart | VE3FBZ |
| Ken Alexander | VE3HLS |
| Dave Webb | VE3JUR. |

Henry Schopf SWL is now VE3KYI as of June. Congratulations. Jack Schekter VE3IUD got his advanced about the same time. FB Jack.

Every month we send out complimentary copies of the bulletin to introduce the radio club to new Hams and to SWLs interested in becoming Hams. The following received this months copy:

| | |
|--------------------|---------|
| Joyce Neal | SWL |
| Terry Basom | VE3IQK |
| Alan McPherson | VE3KYZ |
| Gerald Stephenson | VE3KYY |
| John Rodger | VE3KYT |
| Barry Armstrong | VE3JCQ |
| Andrius Stanaites | SWL |
| J. Upson | SWL |
| William Pleydon | VE3KYC |
| Roland Parks | SWL |
| Frederick Springer | VE3KYD |
| Jeffrey Mann | VE3KYH |
| Craig Packham | VE3KYN |
| Shawn Bernard | VE3KYQ |
| Jim Goddard | VE3HAC |
| Barry Campbell | SWL |
| Leroy Braun | VE3GTB. |

If you just got your licence, congratulations. If you are thinking about trying, good luck. This is your invitation to our meeting. Come to the meeting, bring a friend if you like. Stop by the welcome desk, say hello to Tom VE3KTP who will give you a name tag. I sure hope to see you there.

Here is just a thought about field day 78. WOW!! I thought my wrist was broken. I never knew a straight key was that much work. However John VE3ISW showed us (Tom VE3KTP and myself) a better way. It's called a keyer. Next year we will be ready. Several hams have already expressed interest in getting ready for next year. We have gathered the parts and have started making keyers, 3 at last count. Oh yes, the keyer is the one entered on homebrew night by Boris VE3ITY. Anyone else interested?

Tnx agn as always I've enjoyed this QSO.

73's es hpe to c u at the meeting.

Bern VE3EKY

PAST PRESIDENTS' TROPHY

"Rule Modification"

Please note the following correction to rule #9 as published in The Hamilton Amateur, June 1978.

Delete: The total QSO points will be multiplied by the DX multiplier.

Add: Each QSO uses its own Multipliers if any.

NOTE ALL MEMBERS

(and others)

The Club is in the market to purchase one or possibly two portable gas generators.

The size required is in the area of 3 to 5 KW.

All possibilities should be referred to Stan, VE3GFE.

FIELD DAY '78

Judging by the results published in QST over the past few years, the field day committee for the HARC has concluded that this years' effort was most definitely a success. In addition, we are awaiting word from the Burlington Club on who won our local 40 metre competition.

Our own 40 mtr. operation produced 479 SSB QSO's and 410 on CW, not to mention a few moments of anxiety during inflating of the weather balloon.

The following is a summary of this years totals for anyone who missed them on DRW.

| | <u>CW</u> | | <u>SSB</u> |
|----------|-----------|-----------|------------|
| 80 | 269 QSO's | | 505 QSO's |
| 40 | 410 QSO's | | 479 QSO's |
| 20 | 110 QSO's | | 680 QSO's |
| 15 | 65 QSO's | | 201 QSO's |
| 10 | 44 QSO's | | 143 QSO's |
| Total CW | 898 QSO's | 160 SSB | 39 QSO's |
| | | 2 mtr. | 170 QSO's |
| | | Total SSB | 2217 QSO's |

Total points excluding bonus was 8026. We were in transmitter class 11A.

I wonder how many people saw our publicity in the "Mountain News" ??/???. A copy will be brought to the September meeting.

Thanks to all those who came out to participate and make FD '78 the success it was.

Cu all next year.

Steve, VE3HBX
Dan, VE3HLC

Editors Comment:

I think all those who participated in FD '78 whether it be the first, last, or twentieth time, will agree the guys did a great job.

Hopefully with the experience gathered this year along with the new enthusiasm they have generated in others, they will spearhead FD '79.

I would say with this combination, plenty of help and an early start, FD '79 will be bigger and better.

We, the HARC, have the components, let's put it together.

QRZ DX?

Highlights during July and August included:

KUWAIT. 9K2DR "Bob" on the low end of 20 CW almost every night with a good signal.

ST. PETER AND PAUL'S ROCKS: PWØPP and PYØRO showed up for a few days and generated massive pileups on all bands. QSL to W1DA.

SOLOMAN ISLANDS: The VR4 prefix has been replaced by H44 and several stations including H44KM can be found on 20 CW and SSB around 7 a.m. local time.

FRENCH ANTARTIC TERRITORIES: FB8XS and FB8ZM have been putting in good signals around 7 a.m. local time on 20 SSB, both above and below 14.2 MHz.

IRAQ AND SAUDI/IRAQI NEUTRAL ZONE: YI1BGD and HZ1BS/8Z4 have been on for brief periods and those who don't like lists will have a rough time working these.

BAND CONDITIONS - FALL '78

Mornings (local time) - Try 20 Mtrs. for Far East and Pacific. Also try 20 for Africa via the long path.

Afternoons - Europe should be good on 20 and 15 as well as on 10 Mtrs. in September/October. Africa will be good on 15 especially.

Evenings - 20 Mtrs. will be good to the middle East, then Central Asia (e.g. VU2, UI8, UM8, etc...).

- Oceania will still be coming through.

- check for JA's and vicinity on 15 Mtrs. around dinner time.

40 and 80 Mtrs. should not be neglected for Europe in the evenings and Oceania in the early morning hours.

Good DX and 73's

Dan, VE3HLC
Steve, VE3HBX.

CW TOPICS

Now that vacations are over and the weather is into its steady decline, it's time to get the headphones back on and get the cw speed back up to where it was last spring. Perhaps I should say last June. There sure was some very good work being done on cw during last field day, but in case you have been taking it easy since then here is the ARR. code practice schedule.

| EDST | Mon | Tue | Wed | Thu | Fri | Sat | Sun |
|------|------------------------|------|------|------|------|------|------|
| 9 am | slow | fast | slow | fast | slow | | |
| 10 | -----cw bulletins----- | | | | | | |
| 4 pm | fast | slow | fast | slow | fast | slow | slow |
| 5 | -----cw bulletins----- | | | | | | |
| 7 | slow | fast | slow | fast | slow | fast | fast |
| 8 | -----cw bulletins----- | | | | | | |
| 10 | fast | slow | fast | slow | fast | slow | slow |
| 11 | -----cw bulletins----- | | | | | | |

Slow speeds are 5, 7.5, 10, 13, and 15 words per minute. Fast speeds are 35, 30, 25, 20, 15, 13, and 10 wpm. Bulletins are sent at 18 wpm and make very good practice since they are plain language and are usually repeated over a period of time from one session to another so that if you miss part during one run you can try again later and pick up the parts you missed first time around. Frequencies are 1.835, 3.58, 7.08, 14.08, 21.08, and 28.08 MHz. For those of you equipped for two meters, I believe that there is some code practice available on a few of the area repeaters but I don't have details on this. There was some discussion about having code practice on VE3DRW but I don't think this got anywhere.

At a recent meeting of the Ontario Net Managers and the Section Communications Manager and his assistant held in Toronto, some new activities for the coming winter season were planned. Final outlines and starting dates are yet to be announced but the general plan is to change somewhat the routing of traffic going out of and coming into the Ontario Section. This doesn't affect individual stations much but will be of interest to those of us who handle out of section traffic. Of greater importance to hams who want to get started in cw traffic nets is the plan to begin a training net. This session will be run immediately following the Grey Bruce Net which starts at 1830 local time on 3.645 MHz and runs for ten minutes or so. As far as I know it will consist of sample messages, procedures, and the like with questions and answers on the air. Its intention is to give newcomers an introduction to net procedures and traffic handling and to lessen the trauma when it comes to the real thing. This net will, of course, will be run on cw and at a moderate speed that everyone will be able to handle with ease. I hope that I

will be able to take part in this net and that I will see some of you there.

As I mentioned in an earlier column, I would be interested in starting up a local cw net for traffic training and code practice but so far I have heard from only one interested party. Before it would be worthwhile we would need several more stations so if there are any more who would like to take part please give me a call.

Speaking of giving me a call, I sure could use some ideas for future columns, so if you have any suggestions about topics even remotely connected with cw please give me a call.

By the way I hear that the 80 meter field day gang are all going to have keyers running at 30 wpm next year so I guess we can look for real high scores from that sector next June.

C U at the meeting
Jn VE3ISW

IMPORTANT ANNOUNCEMENT

As mentioned in the Membership Chairmans report, the club is now up to 206, and shows signs of getting larger. This increase can mean only bigger and better things for those who participate, and the membership as a whole.

To keep abreast with the present and future increase, it has been decided by the club executive to relocate.

Through the excellent efforts of Bill McCaslin VE3ARX, we have been able to obtain the Nash Auditorium, which is part of the Chedoke Complex, seats in the neighbourhood of 280, and is ultra modern.

Meetings will be held in the new QTH, starting in OCTOBER, repeat OCTOBER, further details and map will appear in the October issue of the bulletin.

The only concession we must make, due to the demand of this facility, is the club meetings will be changed to TUESDAY nights.

Further details at the September meeting.

Remember, the September meeting will still be at the old QTH, Wednesday.

A PUBLIC SERVICE EXPERIMENT

The Hamilton Municipal Elections Exercise

On Monday, November 13, 1978, the Hamilton Municipal elections will take place. In past years the City Clerk's Department has operated about 650 polling stations, many of these in private homes. This year a new type of ballot is being used which will enable the number of polling stations to be reduced to about 410. Fewer private homes will be used and the number of public buildings used will be increased. As a result of this change telephone service will be limited and it is anticipated that some technical difficulties will arise which may require radio communications service.

Because this is a new system and many of the technical difficulties cannot be forecast, the City Clerk's Department would appreciate the assistance of the H.A.R.C. and its communication skills.

The election takes place from 11:00 a.m. to 8:00 p.m. on the 13th of November, 1978. For this reason a large number of volunteers will be needed. It is anticipated that at least 10 mobiles will be required for each ward (of which there are 8) and two will be stationed at City Hall.

I would like to have at least three and possibly four shifts of mobile operation during the day so that the work load does not fall on just a few willing people.

A base station will be set up at the City Hall to co-ordinate and issue instructions to the mobile stations. During election day it is hoped that the repeater can be restricted for casual use and that election traffic will take precedence over all other forms of traffic.

It is anticipated that our duties will include the following:-

- 1) Driving members of City Clerk's Department to special problem areas.
- 2) Checking on polling stations, which do not have telephone service to see if the system has any problems.
- 3) Delivering ballots to polling stations.
- 4) Tracing polling captains who may be out-of-touch with City Hall.

Equipment Needed

- 1) Vehicles equipped with mobile transceivers, 2 meters F.M.
- 2) Hand held transceivers with DRW and Simplex.
- 3) Base Stations to relay a simplex.

This is your opportunity to provide public service directly to the community, so offer your services to either VE3FHQ (Glenn) or VE3GFE (Stan). When you call in to volunteer, please provide the following information:

- 1) Time of day and the amount of time which you can contribute.
- 2) Type of transceiver (synthesized or crystal controlled).
- 3) Type of vehicle (i.e.) car, van, truck or station wagon.

Arrangements have been made to obtain good news media coverage of this event. With your support we can obtain recognition for public service to our community.

73

VE3HPD Vic
Public Relations.

COMING EVENTS

September 16, 1978: (Saturday)

Hamburg International Hamfest, Erie County Fair Grounds,
Route 62, Exit 57 or 56 from the New York Thruway (I-90)
Buffalo to Hamburg.
Talk-In on 146.52 and W2EUP 31 - 91

September 29, 1978: (Friday)

Guelph ARC Banquet at the Italian Canadian Club. Five course
Italian dinner for \$8.00 per person. Talk-In on 146.52,
Entertainment and Door Prize Included. Further information
available from Norm VE3CZI. Tickets at the Sept. meeting.

October 13-14-15, 1978: (Weekend)

R.S.O. CONVENTION, Holiday Inn, City Centre Tower, London
Ontario. Further information in the Ontario Amateur, or
write Box 82, Station B, London Ontario, N6A 4V3
Talk-In on 146.52, 146.706, 3755Khz.

October 28, 1978: (Saturday)

Hamilton Area Flea Market sponsored by the Dofasco A.R.C.
Dofasco Sherman Centre, 1047 Barton Street East, Hamilton.
Time; 10AM to 4PM, Admission, \$1.00 per person, \$1.00 per
table.

SOME THOUGHTS ON INTERMOD

by John Cunningham W8JLL

Intermodulation is the situation where two signals of different frequencies interact to produce one or more additional signals of different frequencies. It is a good thing because it is how the intermediate frequency in a superhet receiver is produced. It is a bad thing because it produces a form of interference, known as intermod, that is becoming an increasing problem in many cities including Cleveland.

For intermodulation to take place, we must have a nonlinear device. It won't happen in coils, capacitors, or resistors.

It can happen in tubes, transistors, diodes, and most unfortunately, in corroded joints in metal structures such as drain pipes. Yes, drain pipes!

When two different frequencies, say $F-1$ and $F-2$, are present in a nonlinear device, some new frequencies will be generated. We usually think of these as the sum and difference of the original two frequencies. Indeed, these are the most common intermodulation products. Strictly speaking, however, the intermodulation products are given by: $mF-1 \pm nF-2$ where m and n can be any whole numbers. Thus in theory we can have an infinite number of spurious frequencies. Most of these don't amount to much unless we have a tuned circuit nearby that is tuned to one of these frequencies. That is exactly what we do have in a receiver.

In a receiver, the amplifier stages are made as linear as possible. Under normal conditions, they will not generate any spurious signals. However, when a very strong signal gets to one of these normally linear stages, it will be driven into a region where it will operate nonlinearly. Under this condition, all of the signals reaching the stage can beat together causing all sorts of interfering signals.

Unfortunately, the tuned circuits in the stage will pick those closest to the frequency at which the stage is operating. This is why, when you hear intermod, you will often hear several signals although only one is responsible for driving the stage into nonlinearity.

This is one of the areas where a tube in the front end of a receiver will usually behave better than a transistor. It usually takes a bigger signal to drive the tube into nonlinearity.

The receiver isn't the only place where nonlinearity can cause intermod interference. In an Ohio city a few years ago a strong signal from a TV transmitter got into the final stage of a nearby FM transmitter. Intermodulation took place and the FM transmitter radiated a lot more than it was supposed to. Yet, at night, when the TV station was off the air, the FM transmitter was completely clean.

There are increasing numbers of reports of intermod that doesn't involve either a transmitter or a receiver. Some years ago a case of this type occurred in Buffalo. A public service station experienced interference that consisted of both transmissions from a ham on 10 meters and a local FM station. Both the ham and the FM station, when checked separately, were clean. So was the receiver experiencing the interference!

An FCC monitoring team, after much frustration, traced the spurious signal to a down spout on a building. A corroded joint was acting like a mixer and producing and radiating the spurious signal.

You can imagine the difficulty the team had in explaining to the owner of the building that his water spout was radiating interfering signals!

(Credit: Squelch Tales)

SOCIAL EVENT

YES, Time again for the old dinner dance routine.

Those who attended the spring meeting know what a great time was had, and having learned the plus and minus points of the spring due, will make the fall get-together even better.

The fall event will be held sometime during the end of October, exact date and location to follow.

Dinner will be similar to the previous one (excellent Roast Beef) Music will be pre-recorded, (Volume control included)

The Spring event was a sell out, so don't waste time letting the committee know your intentions.

Price will be approx. \$20.00 per couple

We ask that you fill out the form of the last page of this bulletin, and turn in at the Sept meeting. If you are unable to attend, then mail in no later than 1 week after the club meeting. NO deposit necessary.

C U There (Ed)

MICRO SWITCH

varah's HAMILTON

SERIES 8 TOGGLE SWITCHES

TYPE 8A & 8F SMALL LEVER (8F-Sealed Version) TYPE 8B LARGE LEVER TYPE 8C FLATTED LEVER TYPE 8D LONG LEVER

| | | | | | | |
|---------|------|------|------|------|----------|------|
| 8A1011A | 1PDT | ON | NONE | ON | Solder | 1.86 |
| 8A1012A | 1PDT | ON | NONE | ON | P C | 2.00 |
| 8A1013B | 1PDT | ON | NONE | ON | Wirewrap | 2.23 |
| 8A1021A | 1PDT | ON | OFF | ON | Solder | 2.32 |
| 8A1022A | 1PDT | ON | OFF | ON | P C | 2.48 |
| 8A1041A | 1PDT | (ON) | OFF | (ON) | Solder | 2.39 |
| 8A1051A | 1PDT | ON | OFF | (ON) | Solder | 2.39 |
| 8A1061A | 1PDT | ON | NONE | (ON) | Solder | 2.38 |

| | | | | | | |
|---------|------|------|------|------|----------|------|
| 8A2011A | 2PDT | ON | NONE | ON | Solder | 2.63 |
| 8A2012A | 2PDT | ON | NONE | ON | P C | 2.83 |
| 8A2013B | 2PDT | ON | NONE | ON | Wirewrap | 3.55 |
| 8A2021A | 2PDT | ON | OFF | ON | Solder | 3.10 |
| 8A2041A | 2PDT | (ON) | OFF | (ON) | Solder | 3.20 |
| 8A2061A | 2PDT | ON | NONE | (ON) | Solder | 3.19 |

| | | | | | | |
|---------|------|----|------|----|--------|------|
| 8A3011A | 3PDT | ON | NONE | ON | Solder | 4.60 |
|---------|------|----|------|----|--------|------|

| | | | | | | |
|---------|------|------|------|------|--------|------|
| 8A4011A | 4PDT | ON | NONE | ON | Solder | 5.95 |
| 8A4021A | 4PDT | ON | OFF | ON | Solder | 6.55 |
| 8A4041A | 4PDT | (ON) | OFF | (ON) | Solder | 6.55 |
| 8A4061A | 4PDT | ON | NONE | (ON) | Solder | 6.55 |

| | | | | | | |
|-----------|------|----|------|----|------------------|------|
| 8B1011A | 1PDT | ON | NONE | ON | Solder | 2.84 |
| 8C1011A | 1PDT | ON | NONE | ON | Solder | 2.77 |
| 8D1011A | 1PDT | ON | NONE | ON | Solder | 2.12 |
| 8E1011A | 1PDT | ON | NONE | ON | Solder | 4.00 |
| 8F1011A | 1PDT | ON | NONE | ON | Solder | 2.75 |
| 8G1014B | 1PDT | ON | NONE | ON | Right Angle P C | 3.04 |
| 8G2014B | 1PDT | ON | NONE | ON | Right Angle P C | 3.75 |
| 8S1011A-3 | 1PDT | ON | NONE | ON | Solder Black Tip | 2.35 |

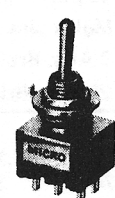
SERIES 8 PUSHBUTTON SWITCHES:

| | | | | |
|---------|------|-----------|----------|------|
| 8N1011A | 1PDT | Alternate | Solder | 2.88 |
| 8N1013B | 1PDT | Alternate | Wirewrap | 3.95 |
| 8N1021A | 1PDT | Momentary | Solder | 2.88 |
| 8N1023B | 1PDT | Momentary | Wirewrap | 3.95 |

| | | | | |
|---------|------|-----------|--------|------|
| 8N2011A | 2PDT | Alternate | Solder | 4.00 |
| 8N2021A | 2PDT | Momentary | Solder | 4.00 |

| | | | | |
|---------|------|-----------|--------|------|
| 8N3011A | 3PDT | Alternate | Solder | 5.85 |
| 8N3021A | 3PDT | Momentary | Solder | 6.90 |

| | | | | |
|---------|------|-----------|--------|------|
| 8N4011A | 4PDT | Alternate | Solder | 7.90 |
| 8N4021A | 4PDT | Momentary | Solder | 7.50 |



TYPE 8E LEVER LOCK



TYPE 8G SHORT LEVER



TYPE 8S COLOR TIP



TYPE 8N (Shown with small button)

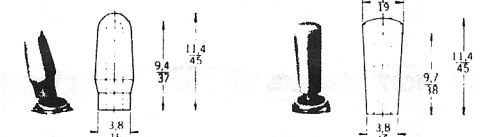


COLORED LEVER SLEEVES

FOR 8A TOGGLES

ROUND TIP

CONE TIP



| COLOR | ROUND TIP | CONE TIP |
|--------|-----------|----------|
| White | 8Z0111 | 8Z0151 |
| Red | 8Z0112 | 8Z0152 |
| Black | 8Z0113 | 8Z0153 |
| Gray | 8Z0114 | 8Z0154 |
| Green | 8Z0115 | 8Z0155 |
| Blue | 8Z0116 | 8Z0156 |
| Amber | 8Z0117 | 8Z0157 |
| Yellow | 8Z0118 | 8Z0158 |

BUTTONS

| | DIMENSIONS | CATALOG LISTING | COLOR |
|--------------|------------------------|-----------------|--------|
| LARGE BUTTON | 59" DIA. BY 39" HEIGHT | 8Z0061 | WHITE |
| | | 8Z0062 | RED |
| | | 8Z0063 | BLACK |
| | | 8Z0064 | GRAY |
| | | 8Z0065 | GREEN |
| | | 8Z0066 | BLUE |
| | | 8Z0067 | AMBER |
| | | 8Z0068 | YELLOW |
| SMALL BUTTON | 39" DIA. BY 30" HEIGHT | 8Z0081 | WHITE |
| | | 8Z0082 | RED |
| | | 8Z0083 | BLACK |
| | | 8Z0084 | GRAY |
| | | 8Z0085 | GREEN |
| | | 8Z0086 | BLUE |
| | | 8Z0087 | AMBER |
| | | 8Z0088 | YELLOW |

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| 1N4005 | 600v | 1A | .08 |
| 1N4007 | 1000v | 1A | .15 |
| 1N4148 | 50v | 10mA | .05 |
| 1N4733 | 5.1v | 1 W Zener | .25 |
| 1N753A | 6.2v | 500 mW Zener | .25 |
| 1N753A | 10v | " | .25 |
| 1N758A | 12v | " | .25 |
| 1N5243 | 13v | " | .25 |
| 1N5244B | 14v | " | .25 |
| 1N5245B | 15v | " | .25 |

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| 14-pin | pcb | .20 | ww | .40 |
| 16-pin | pcb | .20 | ww | .40 |
| 18-pin | pcb | .25 | ww | .50 |
| 22-pin | pcb | .35 | ww | .85 |
| 24-pin | pcb | .35 | ww | .95 |
| 28-pin | pcb | .45 | ww | 1.25 |
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| 25 Amp Bridge | | 200-ory | | 1.95 |

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| 2N2908 | PNP (Plastic - Unmarked) | .10 |
| 2N2904 | NPN (Plastic - Unmarked) | .10 |
| 2N3054 | NPN | .05 |
| 2N3055 | NPN 15A 50v | .50 |
| 11P126 | PNP Darlingtion | .35 |
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| MAN32A | 7 seg com-anode (Yellow) | 1.25 |
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| 4010 | .35 | 7408 | .15 |
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| 4015 | .75 | 7413 | .25 |
| 4019 | .35 | 7414 | .75 |
| 4017 | .75 | 7416 | .25 |
| 4019 | .75 | 7417 | .40 |
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| 4021 | .75 | 7427 | .25 |
| 4022 | .75 | 7430 | .15 |
| 4023 | .20 | 7432 | .20 |
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| 4026 | 1.95 | 7440 | .20 |
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- VE3DUF Bob 637-6427
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- VE3EJD Gino 692-3341
- 2 Meter 5/8 mobile antenna \$20

TEST EQUIPMENT:

- SWL Garry Boyd 383-0354
- H.P. High Freq VTVM Model 410B c/w manual \$75

MISC. PARTS:

- VE3FMB Art 632-3226
- Director & Driven Element only for MP-33
- VE3EC Bill
- Qty of 3CX100A5 Tubes, 2.5 GHz at 100 Watt Dissipation, \$5 ea.
- VE3DJE John
- Qty of "N" type Female-Female adapters

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- Syscom VTR-12, Solid State, rear Trunk Mount, c/w 8 chan crystallised for TOR, RPT, DRW, MRT, KBR, BDR, LSR, & AEC. 25 watts O/P, all accessories, \$160

VE3DNA Tony 869-3196

- HW-202 Xcvr c/w RPT, MHZ, TOR, DRW, 94Sx, \$150

VE3EBT Dave 648-2506

- Standard Hand-held portable, c/w spkr-mike, carrying case, Nicad Batteries, 6 sets xtals, rubber ducky & $\frac{1}{4}$ wave antenna \$325

VE3ISX Barry

- Heathkit HW-2021, carrying case, T.T. Pad, 8 sets of xtals, \$250
- FDK- Multi POM II c/w 3 sets of crystals, charger \$250

VE3IUJ Ron 634-1539

- Yaseau FT-227R "Memorizer" Xcvr \$400

VE3IZZ John (519) 623-4398

- Kenwood TR-7200 Xcvr

VE3DPD Rex 281-9856 T.O.

- Kenwood TR-7500 Xcvr Mint \$320

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- Heathkit HW-2021 portable, 5 chan c/w 4 sets xtals \$150

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- Drake TR-33C with Pwr Supply, Mic with T.T. Pad Offers?

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- Heathkit HW-202 c/w GLB synthesizer \$275

VE3YR Bill 523-2301 (wrk)

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- Icom IC-22s Xcvr \$325

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VE3FCI Jim 388-1167
- Icom 22A Xcvr, 22 channels c/w 4 crystallised up, Larsen 5/8 magnetic mobile antenna and AC power supply \$275

H.F. EQUIPMENT:

VE3BAL Phil 354-3730
- Yaseau FRG-7, like new, gen. cov., 500 KHz-30 MHz \$325

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- Heath HW-101 Xcvr, AC-DC Power supply, CW Filter, SB-610 Monitor Scope, mike, \$600 package

VE3DOU Peter 561-1659
- Yaseau FT-101E Xcvr & FL-2100B Linear, \$1600 package

VE3BIR Dan 828-1775
- Hallicrafters SX-117 Rx
- " HT-44 Tx c/w matching Power Supply, \$600 package

VE3FCI Jim 388-1167
- Hallicrafters FPM-300 5 Band Xcvr, Solid State with tube finals c/w Manual, mike, key \$550

VE3GFN Mike 698-4279 T.O.
- Homebrew 100w 3 band 80-40-20 meter CW output, solid state VFO \$100

ACCESSORIES:

VE3FDK John 385-0422
- 1928 Westinghouse AM Rcvr, Model 99-A console Neg.

VE3ITA Larry 549-7393
- Metrix model 60 audio speech processor \$40
- Desk Fax machine \$10

ACCESSORIES Cont'd:

VE3FWX John 828-1896

- Ollivetti TTY Model 300, 8 level, answer-back, keyboard, Pwr Supply, tape reader & punch, on pedestal stand \$600

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VE3DSP Glen 385-8478

- Johnson Low Power MatchBox \$65

VE3IZZ John (519) 623-4398

- Drake 1525 Auto-Patch mike

- 3 Amp power supply

VE3IXD Gunter (519) 578-3318

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VE3IUD Jack 627-0816

- Heathkit keyer HD-1410 New and built-up

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- Heath HB-13 DC Pwr Supply for HW series, What Offers?

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VE3ITJ Arunus wants 10" video monitor, 5-6 MHz bandwidth

VE3JTX Pat wants xfmr for EICO 425 scope

VE3DSP Glen wants 10 MHz crystal

VE3KTE Dennis 878-4205 Milton wants crystal for QSY channelizer for 8.7 MHz IF Fundamental: 23.55 MHz

VE3ISW John 659-3077 wants coax switch

VE3HLG Jeff (519) 576-2477 Kitchener wants 2 meter Amplifier

VE3IZZ John (519) 623-4398 wants RTTY Demodulator, Ham-Scan scope

VE3FLV Al 547-8299 wants Rx manual for NC-173

VE3FSI Ed 634-2520 wants KSR type power supply 10 Amps

VE3KTJ Roger wants CW Xcvr under \$200

VE3DJE John wants "N" type panel jacks, "N" type male & female conn.

VE3GLH 692-4137 wants DRW crystals for Motorola B.D.

SWL Jim 529-2679 wants Drake Rcvr R-4a, B or C series

VE3KTU Carl wants 2 meter Base Station with Antenna

VE3IBF Tom (519) 759-8149 Brantford wants a mini-quad

VE3KDT Bill 491-4666 T.O. wants a wattmeter

VE3IUN Mel 844-4051 Oakville wants H.F. Mono-band Xcvr

VE3PUF Eric wants 20 meter beam

VE3DJE John wants 6 meter amplifier

VE3EBF Brian wants 2 UHF Xcvrs, 10 watts or better

VE3IQL Terry 388-3893 wants phone patch, gears for model 14, will trade a Matchbox

VE3CZI Norm 388-9813 wants 455 KHz crystal and a Heath Mohawk Rcvr

VE3HPF Doug 628-2334 wants 12V 10A pwr supply

VE3JTG Bob 335-9415 wants Hvy Duty Rotor for Gem-Quad

VE3GVG Cameron 628-6125 wants TTY machine for micro-processor

Memo

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| (8) | 1537 | NB-7 noise blanker for TR-7 | 109.00 |
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| (12) | 7024 | SL-6000 AM FILTER 6000Hz | 74.00 |
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| (15) | 1547 | RTM-7 Range transceive module-plugs in to AUX-7. Customer programmable in any 500 Khz range from 1.5-30 Mhz-EXCEPT 26-28 Mhz! SEND PROOF OF LICENSE | 8.00 |
| (16) | 1538 | MN-7 matching network, 160-10M, 250 watts matches TR-7 | 249.00 |
| (17) | 1514 | WH-7 Rf wattmeter 1.8-54.0 Mhz--20/200/2000 watt scales | 126.00 |
| (18) | 7077 | 7077 Desk microphone -matches TR-7, VOX/PTT, plug for TR-7 | 59.00 |
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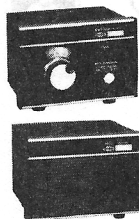


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NOTES---(1)The DRAKE 'TWINS' R-4XC/T-4XC are to remain in production.

(2)The TR4Cw(rit)production has ceased-a few left in stock- a real collector's item!

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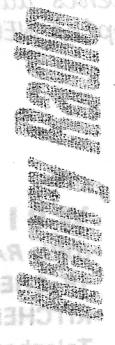
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| KYI | Henry Schopf | Stoney Creek | 561-5640 |
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| QU | Mel Riddell | Waterdown | 689-4089 |
| RS | Robert Perry | Hamilton | 388-1200 |
| RW | John Card | Hamilton | 383-3169 |
| SG | Stu. Graves | Hamilton | 561-8203 |
| SP | Ron Hands | Hamilton | 387-1536 |
| TO | Robert Potter | Hamilton | 385-9624 |
| TQ | James P. Tazzeo | Hamilton | 385-8245 |
| VJ | Elton French | Lynden | 647-2191 |
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SOCIAL EVENT

Please include the following on the list of those planning to attend the fall Dinner-Dance of the Hamilton Amateur Radio Club.

NAME _____

CALL _____

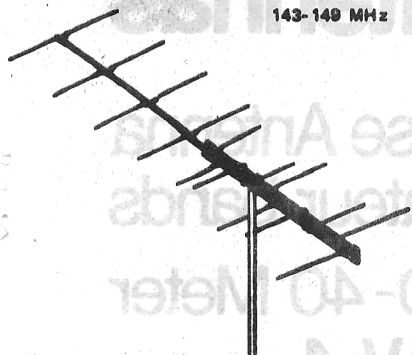
PHONE _____

NUMBER IN PARTY _____

(Please Print)

The 2 Meter 9LY

143-149 MHz



9LY-144 - 2 meter log-periodic yagi
 Gain * 10 dB
 VSWR 1.3:1
 Beamwidth 47°
 F/B Ratio 25 dB
 Impedance 50 ohms
 Power rating 150 watt
 Boom... 135" long, 1" OD, .040 wall
 Elements..... 3/8" OD, .035" wall
 Antenna weight 10 Lbs

The Super Mobile BL

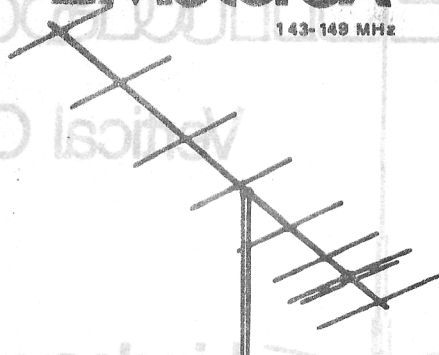
137-160 MHz
 5/8 WAVE



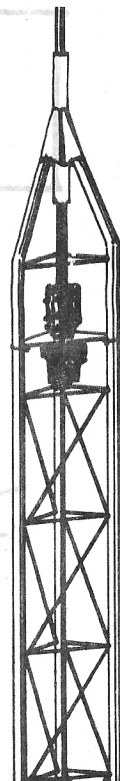
BL-137 - 3dB gain, 48" stainless steel, base loaded antenna with a tunable tip. Complete with 17ft of coaxial cable, trunklid and rooftop mount assemblies. Loading coil is DC grounded. Impedance 50 ohm.

The 2 Meter 8A

143-149 MHz

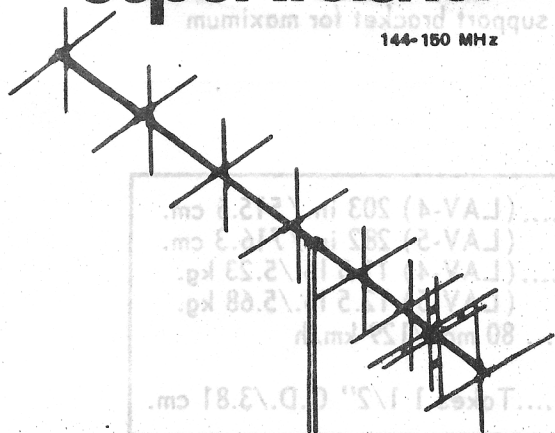


8A-144 8 element 2 meter yagi
 Gain* 10 dB
 VSWR 1.3:1
 Beamwidth..... 48°
 F/B Ratio..... 22 dB
 Impedance 50 ohms
 Power rating 150 watt
 Boom... 135" long, 1" OD, .040" wall
 Elements 3/8" OD, .035" wall
 Antenna weight 10 Lbs



The Super Tracker

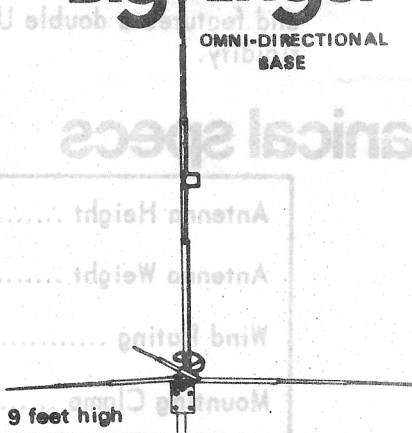
144-160 MHz



16C-144/150 - CIRCULAR POLARIZED ANTENNA.
 Gain * 10 dB
 VSWR 1.3
 Polarization circular
 Front to Back Ratio 22 dB
 Impedance 50 ohms
 Power rating 150 watt
 Boom 135" long, 1" OD, .040" wall
 Elements 3/8" OD, .035" wall
 Antenna weight 15 Lbs

The Big Ringer

OMNI-DIRECTIONAL BASE

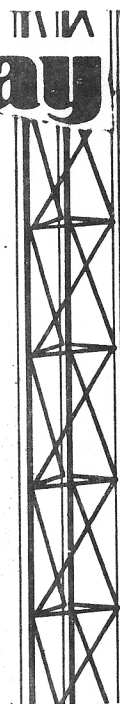


9 feet high
 AC-137/160 - Colinear groundplane
 Gain 6 dB
 VSWR at resonance 1.2
 Nominal impedance 50 ohms
 Power rating 500 watt
 Ant. fitting SO-239
 Radials 1/2" OD
 Radiator tapered 3/4" to 5/8" OD
 Mounting clamp up to 1 1/2" OD
 Antenna weight 6 Lbs

MODELS
 ST16/ST18

Lindsay

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TELEPHONE: (416) 664-5433



Lindsay

Communication Antennas

Vertical Omni-Directional Base Antenna
for amateur bands
10-15-20-40 Meter

Lindsay antenna model LAV-4

is a self supporting 4 band vertical omni-directional antenna. The Model LAV-5 is designed to incorporate the 80 meter band. Both antenna models feature automatic band switching by means of highly efficient rugged high Q traps. These traps effectively isolate sections of the antenna permitting 1/4 wave performance on all bands.

The antenna is D.C. grounded to provide protection against lightning.

The antenna is constructed from heavy wall aluminum tubing and features a double U-bolt support bracket for maximum rigidity.

mechanical specs

| | |
|----------------------|--|
| Antenna Height | (LAV-4) 203 in./515.6 cm. (LAV-5) 282 in./716.3 cm. |
| Antenna Weight | (LAV-4) 11.5 lb./5.23 kg. (LAV-5) 12.5 lb./5.68 kg. |
| Wind Rating | 80 mph/129 km/h |
| Mounting Clamp | Takes 1 1/2" O.D./3.81 cm. |

electrical specs

| | |
|----------------------------|----------------------|
| Frequency Range | 10-15-20-40-80 Meter |
| Nominal Impedance | 50 Ohm |
| VSWR at Resonance | Less Than 2:1 |
| Power Rating | 1 Kw |
| Lightning Protection | Direct Ground |
| Input Connector | SO 239 |

ANTENNA MODEL LAV-4/5

BRIAN FOX
VE3 EBF

FOX COMMUNICATIONS LTD.

**124 King Street West
Stoney Creek, Ont. L8G 1J**

TELEPHONE: (416) 664-5433

