3 JOHN HALIFAX, (705)726-8297
KENWOOD 520/S RECENTLY NEW FINALS,DG5 EXTERMINAL DIGITAL READOUT
MC-50 MICROPHONE, MICRONTA SWR AND WATT METER,EXCELLENT SHAPE $450.00

1 VE3WTE, JIM (416)547-0515
KENWOOD 850S, SPEAKER,FILTERS,BUILT IN DIGITAL RECORDER
VOICE UNIT SPEAKS FREQUENCIES,KW-MC60 MIC,
BOXES AND MANUALS $2000.00 OR NEGOTIATABLE
- UNIDEN 3950 CB 25-30 $225.00

3 VE3QD, GEORGE, (416)561-1083
YAESU FL2100B AMPLIFIER $300.00

3 VE3LFX, CRAIG, (416)648-0573
RCA VIDEO CAMERA [NOT A CAMCORDER] TRIPOD, POWER PACK $200.00

3 VE3GGY, BILL, (416)892-2304
IBM XT CLONE, 30 MEG HD, EGA CARD, 2-51/4 FLOPPYS, 1 51/2 FLOPPY
MONO MONITOR, FULL KEYBOARD, DOS 5.INSTALLED, 1 PARELLEL,2 SERIAL,
1 GAME PORT 35 -51/4 FLOPPYS 30 3 1/2 FLOPPIES
MOUSE, AND LOADS OF SOFTWARE $400.00

4 VE3WWR, JOHN, (416)385-7694
CUSHCRAFT 4 ELEMENT BEAM 3 MONTHS OLD $60.00

3 VE3VNG, NEIL, (416)383-6986
1/2 DOZ MONO EARPHONES $5.00 EACH OR OFFER.
- 8-10 INCH WOOFER SPEAKERS AND CABINETS $20.00

3 VE3MWD, SIAFANO (416)662-4526
KENWOOD PC-1 PHONE PATCH $75.00
EPROM CHIP FOR 3.02 KANTRONICS TNC ALL MANUALS AND INFO $15.00
- 10 METER HTX100 LIKE NEW $200.00

2 VE3NCK, BILL
YAESU 101E SPEAKER AND CABINET $50.00
- MFJ 941-C ANTENA TUNNER $75.00
- PYE-NET HOMEBREW ANTENA TUNER $50.00
ALL THE ABOVE IN EXCELLENT CONDITION

AS OF NOV 25/92
ITEMS WANTED LIST

2 VE3BIR, DAN, (416)828-1775
430 OSCAR PREAMP
PACKET PROGRAM FOR MACINTOSH WANTED

3 VE3AZD, STAN, (416)239-5891
CB SIDEBAND RADIO WANTED

3 VE3JWJ, JOHN (416)578-4275
STRAIGHT MORSE KEYS WANTED, REPAIRABLE OR WORKING CONDITIONS

3 VE3NCK, BILL (416)578-4275
KENWOOD 7950 OR 7930 RADIO WANTED

4 VE3WWR, JOHN, (416)385-7694
ST 5 SPEAKER CABINET FOR YAESU 102 HF RIG WANTED

The Hamilton Amateur

Upcoming Meeting
December 16/92

WINE & CHEESE
at
ANDRE WINES
See Details Inside Newsletter

DECEMBER 1992

SEASONS GREETINGS TO ALL AND YOUR FAMILYS

HARC EXECUTIVE FOR 1992 / 93

PRESIDENT:	VE3OQX	Everett Englert	385-0879
PAST PRESIDENT:	VE3OQG	Fiora Manga	578-1789
VICE PRESIDENT:	VE3JAI	Emsley Mitchell	627-0333
VICE PRESIDENT:	VE3LTD	Paul Webb	574-0818
SECRETARY:	VE3DWJ	Dave Bruton	383-9808
TREASURER:	VE3OCD	Joe Urbanski	388-8383
MEMBERSHIP:	VE3VEH	Arie Verhoog	389-9259

HARC COMMITEE CHAIRPERSONS FOR 1992 / 93

AWARDS & CONTESTS:	VE3DWJ	Dave Bruton	383-9808
HISTORIAN:	VE3BLG	George Olenick	383-7338
PROPERTY:	VE3DWJ	Dave Bruton	383-9808
BULLETIN EDITOR:	VE3SON	Jim Walsh	689-6839
EDUCATION:	VE3EKY	Bernie Granby	527-7175
EMERGENCY COORD:	OPEN		
FIELD DAY COORD:	VE3OQX	Everett Englert	385-0879
FLEA MARKET:	OPEN		
HEALTH & WELFARE:	SWL	Ellen Reinke	549-5119
PROGRAMS:	VE3JAI	Emsley Mitchill	627-0333
PUBLIC LIASON:	VE3GCP	Fred Robinson	575-5197
HOSPITAL COORD:	VE3OGQ	Mary Urbanski	388-8383
SWAP NET CONTROL:	VE3JWJ	John Johnston	578-4275
CANWARN COORD:	VE3LTD	Paul Webb	574-0818
REPEATER:	VE3OCY	Don Graziano	560-1960
TECHNICAL:	VE3OCY	Don Graziano	560-1960
VE3DC LICENCEE	VE3FHQ	Glen Gibson	385-2786
VE3NCF LICENCEE:	VE3OCY	Don Graziano	560-1960
VE3RCB LICENCEE	VE3GCP	Fred Robinson	575-5197
VE3WXH LICENCEE:	VE3LTD	Paul Webb	574-0818
DESIGNATED EXAMINERS:	VE3GCP	Fred Robinson	575-5197
	VE3EKY	Bernie Granby	527-7175

o Case two: SWR Readings;

7.0	4.0:1
7.05	3.5:1
7.1	3.3:1
7.15	3.0:1
7.2	2.4:1
7.25	2.0:1
7.3	1.8:1

This indicates the antenna is too short. "But I keep cutting off wire and it's still to short." (Raised eyebrows.)

All is not lost here. Solution: add telescoping elements to the ends. Aluminum tubing, 3/8-in & 1/4-in dia.,secured with a screw should do the trick. 3/8-in dia. = 1-ft, 1/4-in dia. = 11-in in length.

Now you can adjust the ends of the dipole until the SWR reaches the desired level at the desired frequency.

This problem can happen when the guage of wire used is smaller than the recommended size.

Remember: Thicker => shorter; Thinner => longer.

Here's some Dipole measurements for HF:

BAND	LENGTH-FT	DESIGN FREQUENCY
10m	16' 5 1/2"	28.45 MHz
12m	18' 9"	24.94 MHz
15m	21' 11 1/4"	21.335 MHz
17m	25' 10"	18.11 MHz
20m	33' 0"	14.2 MHz
30m	46' 3"	10.12 MHz
40m	65' 5"	7.15 MHz
75m	123' 2"	3.8 MHz
80m	130' 0"	3.6 MHz
160m high	240' 0"	1.95 MHz
160m low	252' 10"	1.85 MHz

RHOMBICS

After looking at some plans for a multi-element rombic on 70cm, I decided to modify the plans and came up with a 23cm, 12 element rhomboid. The official name is a dud hexamerous rhomboid which is 2X6 rhomboid antenna. The antenna has twelve elements, with a gain of 33dBi, an is no bigger than a TV antennal On 70cm, the antenna is 19-ft long (apprx) and below that I wouldn't bother unless you have the tower and room. Unless you can mount a B-52 to a tower, 2m is out of the question.

Testing on the 23cm DHR shows a Front to back ratio greater than 30:1 with front to side ratios about the same. This is a true cannon. The main lobe is tight at 12 degrees both vertical and horizontal. Matching is a bit difficult since micro-strip knowledge is a must.

Although the antenna is 50 ohms balanced, the frequency demands exactness. This involves phasing elements, stripline baluns, and hardline feeds. But for the 23 experimenter, this antenna packs the punch of a large parabolic reflector and in a small package.

HAMILTON AMATEUR RADIO CLUB
GENERAL MEETING
NOVEMBER 16, 1992

The regular monthly meeting of the Hamilton Amateur Radio Club was held at the Nash Auditorium at the Chedoke Hospital. The meeting started at 8:07 with VE3OQX Ev presiding. The President welcomed all members and visitors to our meeting.

VE3JAI Emsley, Programme Co-ordinator made an announcement that next meeting December 16 a tour at Andres Wines is planned. The tour will start at 7:00pm. There will be two pickup locations, Limeridge Mall and Eastgate Mall. Please sign up for those who wish to go. A phoning committee will contact you at a later date for times and cost.

Our guest speaker was introduced by Emsley VE3JAI, Ferg Kyle VE3LVO. Ferg gave "This is my Life" speech. Many clever amusing stories about flying in the R.C.A.F. were given. He had a few narrow escapes with filling g out detailed reports. Samples are; why his plane would not climb to assigned altitude, he would insist on tree hopping back to the airport. Than scare the ground crew and airport staff into ducking for cover. What about the time he flew on low oxygen and thought he was somewhere north of Montreal, or the Thanksgiving weekend prank.

For those who missed a very entertaining evening I think the club should invite him back to talk again. Our membership did indeed enjoy Ferg speech, as he talked into your coffee break. We never did see his slide presentation or talk on amateur Radio. Note: The stories he told were serious events at the time, but looking back he has created a humorous look at one's vocation. Meeting adjourned for coffee at 9:23pm,for 20 minutes.

-- Business Meeting --

The minutes of the October general meeting were read by VE3DWJ David. A motion of acceptance was made by VE3OQX Ev and seconded by VE3VEH Arie. Carried.

VE3VEH Arie membership chairman, stated we now have 142 members.

The Treasurer Report was read by the Secretary.

Corrections	Debits	Credits	Balance
			1338.78
Sept.	996.06	6613.21	6955.93
Oct.	1111.62	830.00	6674.31

Signed VE3OCD Joe Urbanski

President Ev VE3OQX open the for old business. Some members asked about the status of the new HF rig. The president stated that some question about SWR on one of the bands needed to be addressed. The membership will be advised at the next meeting on completion of repairs.

VE3JVJ Mark asked a question about the VE3NCF repeater. Would like to see a tone added to the autopatch. At present the repeater is open, or should the club close the repeater. It seems that many calls are being QRM's with. Many members who use the repeater are having trouble carrying on Qso's. After a discussion, Fred VE3GCP asked the President to publish a notice that at the General Meeting in January to discuss changes to VE3NCF policies. The technical repeater chairperson was not present to answer the technical options available for us.

No other business, a motion for adjournment was made by VE3SON Jim and seconded by VE3LTD Paul. The meeting ended at 10:06.

Attendance 43

Wire Antenna Misconceptions.

Placing an undertermined length of wire out to a tree or support mast is *not* a long wire antenna. This is a random wire antenna which most of the amateur community calls a 'long wire' antenna. This misconception leads to many discouraging ideas about long wires. A long wire antenna is an antenna that is at least five wave lengths at the lowest frequency. After five wave lengths, the SWR becomes insignificant to the xcvr for a properly tuned long wire.

Five wave lengths you say. Yes, five wave lengths. So, at 3.75 MHzthe length of a minimum long wire would be (984/fMHz) X 5 or 1312-ft. Not an antenna you can slap in most back yards unless you are a rancher.

When it comes to VHF and above, the longwire antenna can be easily outclassed by numerous other designs, but at low HF frequencies the other designs become too cumbersome to use and the longwire fills the niche.

Let's take a look at the random wire antenna used by so many of us hams. A tuner is a must for any work with a random wire antenna. These antennas usually consist for a wire stretched between here and there. Dissapointed hams soon find that the easy way out isn't the answer. That 75-ft wire is not going to get them the performance they invisioned. andom wires are good for SWLing provided a tuner is used with the antenna.

They're cheap to construct and cheap to buy. But a 75-ft wire in a standard size lot is not much of an antenna for amateur radio use. Granted, it maybe all you can afford or be able to set-up at your QTH, but a ham can do better for transceiving.

Longwires can provide nearly 3dB of gain over a dipole at 4 wave lengths provided the antenna is sufficiently placed above the ground and the wave angle of the antenna is correct.

The formula for longwire length is:

Length in ft= 984(N-0.0250)/fMHz where N is the number of wavelengths.

The longwire is a fixed antenna, so care should be taken where the antenna is to be placed. Your favorite RF stomping grounds such as Europe or the Far East, etc should be kept in mind.

Different Types of Wire Antennas

o Long Wire, closing remarks.

The long wire antenna was discussed in the previous posting. I would recommend this antenna for those interested in a continued contact postion with a specific station. Long enough, the longwire can provide very good signal in the direction of the antenna for fixed communication.

o Wire Dipole

Simple to make and inexpensive to buy. It's the basic design for Inverted Vee. Basically a bidirectional antenna with a balun. Antenna is null of the tips. The dipole is 2.14 dB over isotropic and is and electrical halfwave. Can be arranged vertically or horizontal. It is a linear antenna.

o Inverted Vee

This antenna is a dipole with sloping elements. The antenna is omni-directional for the most part. It's overall gain is slightly less than a dipole because of the more omni pattern.

o Rhombic

This is a rather large antenna. Rhombics can be various lengths total. In the UHF range, 19 wavelengths is common. In HF, 4 and up is common. This antenna requires some land depending on the frequency. A rhombic is good to twice it's design frequency, directional, and fixed.

THE PACKET CORNER

PACKET OPERATING HINTS & PROCEDURES

INTRODUCTION TO PACKET RADIO - PART 1 - Larry Kenney, WB9LOZ

Packet radio is the latest major development to hit the world of Amateur Radio. If you haven't already been caught by the 'packet buy', you're probably wondering what it's all about and why so many people are so excited about it. Well, continue reading, because you're about to find out.

Packet seems to offer something different from other facets of Amateur Radio, yet it can be used for everything from a local QSO to a DX contact 2500 miles away (on 2 meters!), for electronic mail, message transmission, emergency communications, or just plain tinkering in the world of digital communications. It presents a new challenge for those tired of the QRM on the low bands, a new mode for those already on FM, and a better, faster means of message handling for those on RTTY. Packet is for the rag chewer, the traffic handler, the experimenter, and the casual operator.

A ham can get involved very easily with relatively small out-of-pocket expenses. Al you need is a 2-meter transceiver, a computer or terminal, and a TNC. You probably already have the two meter rig and a computer of some kind, so all you need to buy is the TNC, which costs just over $100. The TNC is the 'Terminal Node Controller', the little black box that's wired between the computer and the radio. It acts very much like a modem when connecting a computer to the phone lines. It converts the data from the computer into AFSK tones for transmission and changes the tones received by the radio into data for the computer. It's a simple matter of wiring up a plug and a couple jacks to become fully operational.

Packet is communications between people either direct or indirect. You can work keyboard to keyboard or use electronic mailboxes or bulletin board systems to leave messages. Due to the error checking by the TNC, all of it is error free, too. (That is, as error free as the person at the keyboard types it.) As the data is received it's continuously checked for errors, and it isn't accepted unless it's correct. You don't miss the information if it has errors, however, because the information is resent again. I'll go into how this is accomplished in a later part of this series.

The data that is to be transmitted is collected in the TNC and sent as bursts, or packets, of information; hence the name. Each packet has the callsign or address of who it's going to, who it's coming from and the route between the two stations included, along with the data and error checking. Since up to 256 characters can be included in each packet, more than three lines of text can be sent in a matter of a couple of seconds. There is plenty of time between packets for several stations to be using the same frequency at the same time.

If all this sounds confusing, don't let it bother you, because the little black box, the TNC, does everything for you automatically. Packet might seem very confusing at first, but in a day or two you're in there with the best of them. In this series I'll be telling you more about packet - how you get on the air, how to use it to your best advantage, and ways to improve your operation. We'll talk about that little black box, the TNC, and tell you about all its inner-most secrets. We'll discuss mailboxes, bulletin board systems, and the packet networks that allow you to work stations hundreds of miles away using just a low powered rig on 2 meters, 220 or 450. The world of packet radio awaits you!

continued:

carf dec 1 cont;

ITEM 07. HELP WANTED - Malcolm Hamon, VE3KXH, in conjunction with IARU, coordinates the Canadian Monitoring Service, and he needs your help. He is looking for Canadian amateurs to form part of a monitoring team to help combat the problem of intruders on our amateur bands. Please contact Malcolm at 5 East Bank Road, Newcastle, Ontario, L1B 1B7, Tel/Fax (416) 623-0472.
QST CANADA, November

ITEM 08. NEW PREFIXES - With the breakup of some of the European countries, we are faced with some new prefixes. Croatia has been confirmed as 9A. Others have not been confirmed yet, but indications are that they will be soon. Some of them are:

Russia RA-RZ, UA-UQ
Azerbaijan 4J
Georgia 4L
Ukraine UR-UZ
Slovenia S5

We will have to wait to see what happens to some of the other countries.
SARC Communicator, Sudbury, Ont.

15 November, 1992
Issued at CARF Headquarters
P.O. Box 356
Kingston, ON, K7L 4W2
Editor: William (Bill) H. Mason VE3NFU

FLORIDA GOVERNOR COMMENDS HAMS FOR HURRICANE EFFORT IN FLORIDA

Governor Lawton Chiles has recognized the work of Amateur Radio operators in Florida following Hurricane Andrew in August. Chiles wrote the following to the ARRL:

"On behalf of the state of Florida, I am writing to thank the many amateur radio operators who assisted in the Hurricane relief effort.

"Scores of amateur radio operators rallied to South Florida from across the United States, helping to provide desperately needed communications to local, state, and federal agencies.

"They provided moral and physical support to local amateur radio operators, many of whom had suffered severe damage to their homes, yet provided around-the-clock communications at emergency operation centers, food distribution centres, and field medical facilities.

"Hundreds more assisted at their home stations around the country, passing health and welfare messages to concerned relatives of south Floridians.

"The amateur radio service can be proud of its members, who time and time again serve the country unselfishly. The state of Florida owes them a debt of gratitude and thanks."

THE PACKET CORNER
Packet Radio continued: PART 2

First, do a "control C" (press the NCTL and the letter C simultaneously); this puts the TNC in COMMAND mode, the level where you communicate directly with the TNC from the keyboard. you should see "cmd:" on your screen. Enter;
MYCALL ------
with your callsign in place of the dashed lines, such as MYCALL WB9LOZ followed by a carriage return (CD). All commands are followed by a (CR). This sets into the TNC memory the call that you're going to use on the air. Now if you type MYCALL(CR), it should respond with your callsign. If it does, you've proven that the computer to TNC linkup is working fine. If you do not see anything on the screen when you type, blindly end the following: ECHO ON(CR). If you see two of everything that you type, such as MMYYCCAALLLL, enter ECHO OFF(CR).

You're now ready to go on the air!. Tune the receiver to any odd numbered frequency between 144.91 and 145.09 that has some activity on it and set the rig up for simplex operation. Enter MONITOR ON(CR), then watch the screen. You should soon be seeing the packets that are being sent over the air by other stations. If you don't see anything in a minute or two, try tuning to another frequency. Watch for callsigns with a * next to it, such as W6PW-1*,WA6RDH-1*, or WB6SDS-2*. Callsigns with an asterisk indicate that you're copying the packet from that station, as it's being repeated, or digipeated, by a packet repeater. Jot down the call.

In Packet, you can have up to 16 different stations on the air at the same time using the same callsign. That's where the numbers in the callsign come into play. The calls W6PW, W6PW-1, W6PW-3, W6PW-4 AND W6PW-5 are all individual stations operating under the same station license. A callsign without a number is the same as -0. The numbers are used to differentiate between the various stations.

Now, before you try to make your first QSO with someone else, you should check out your equipment to make sure it is set up properly. To do that, you can CONNECT to yourself. Note one of the callsigns you jotted down a minute ago. Make sure your radio is still tuned to the frequency where you heard that call, then enter the following:
C ------ V ------(CR)
where the first dashed lines are YOUR callsign and the second dashed lines are the call of the station you jotted down. The C means CONNECT and the V means VIA.
C WB9LOZ V W6PW-1 means connect to WB9LOZ via W6PW-1. You should soon see "*** CONNECTED TO (your call)" on the screen.. You have now entered the third level of communications, called CONVERSE mode, and this is where you communicate from the keyboard to the radio. Anything you type on the keyboard will be transmitted over the air as a packet every time you hit (CR). If you enter "Test" (CR) you should see "Test" a second time on your screen, as it's transmitted, then digipeated and sent back to you. In this case you'll only be talking to yourself via another station, but it is a good way to check to make sure your system is working properly. If that works, hit a CONTROL C. This puts you back into COMMAND mode where you talk to the TNC again. End D(CR). This will disconnect you from the other station, and you'll see "DISCONNECTED" on the screen.

Now you're ready to talk to someone else! Watch for a familiar call on the screen while monitoring or note the calls you see frequently. Be sure to note whether or not a digipeater is being used by watching for the *. If you see

continued:

CARF NEWS LETTER DEC 1/92

ITEM 01. LEGAL AND FINANCIAL PROCESS SLOWS MERGER

Lawyers for CRRL and CARF are busy working on the legal matters to dissolve both organizations and to commence the new national society, the Radio Amateurs of Canada (RAC). This is a painfully slow, but necessary process. Financial and legal records are being prepared for presentation to Revenue Canada and Corporate and Consumer Affairs. Of particular importance is getting certificates of clearance from the income tax people so that RAC will not inherit any tax liabilities from CARF or CRRL.

The process to incorporate RAC as a non-profit organization is goingahead as planned. Papers and records presented to the federal government are about 95% in order with some necessary minor changes to the proposed bylaws called for before RAC is approved. The dissolution of CRRL and CARF is not expected to be complete until some time in mid 1993. At that time the assets and services of CARF and CRRL will be transferred to RAC.

In the meantime, key CARF and CRRL people are working together on all national amateur radio issues. Members of both organizations are reminded that current services supplied by CRRL and CARF will be continued when RAC takes over. QST will continue to be available. Life memberships will be honoured, the National Field Organization will continue and The 'Canadian Amateur' magazine, with key columns transferred from 'QST Canada' will be sent to all ex-CRRL/CARF members when RAC takes over.

J. Farrell Hopwood, VE7RD
President, CARF

Dana Shtun, VE3DSS
President, CRRL

ITEM 02. CONGRATULATIONS TO CATHY HRISCHENKO, VE3GJH the 1993 president of Canadian Ladies' Amateur Radio Association CLARA.

ITEM 03. ARRL STRAIGHT KEY NIGHT - 0000Z to 2359Z, January 1 (7 p.m. Thursday to 7 p.m. Friday EST) - This is a friendly meeting on the air using a straight key only. Suggested frequencies on 80, 40, and 20 meters are 60 to 80 kHz from lower Novice bands.

Use SKN instead of RST in the exchange to clue in other stations worked plus your vote for the best fist heard during that period (not necessarily one you've worked).

This is not a contest, so any additional chatter is encouraged.

Send your report and vote for "best fist" and "most interesting QSO" to ARRL SKN, 225 Main Street, Newington, CT 06111 by January 10th. from ARRL Letter

ITEM 04. - IN REFERENCE TO THE ARTICLE 'THE CRAFTSMAN' in the November 992 issue of The Canadian Amateur. Ken Orton, VE7BLU is NOT in business to produce antennas and other items for sale to amateurs. Ken is being swamped with replies to the article.

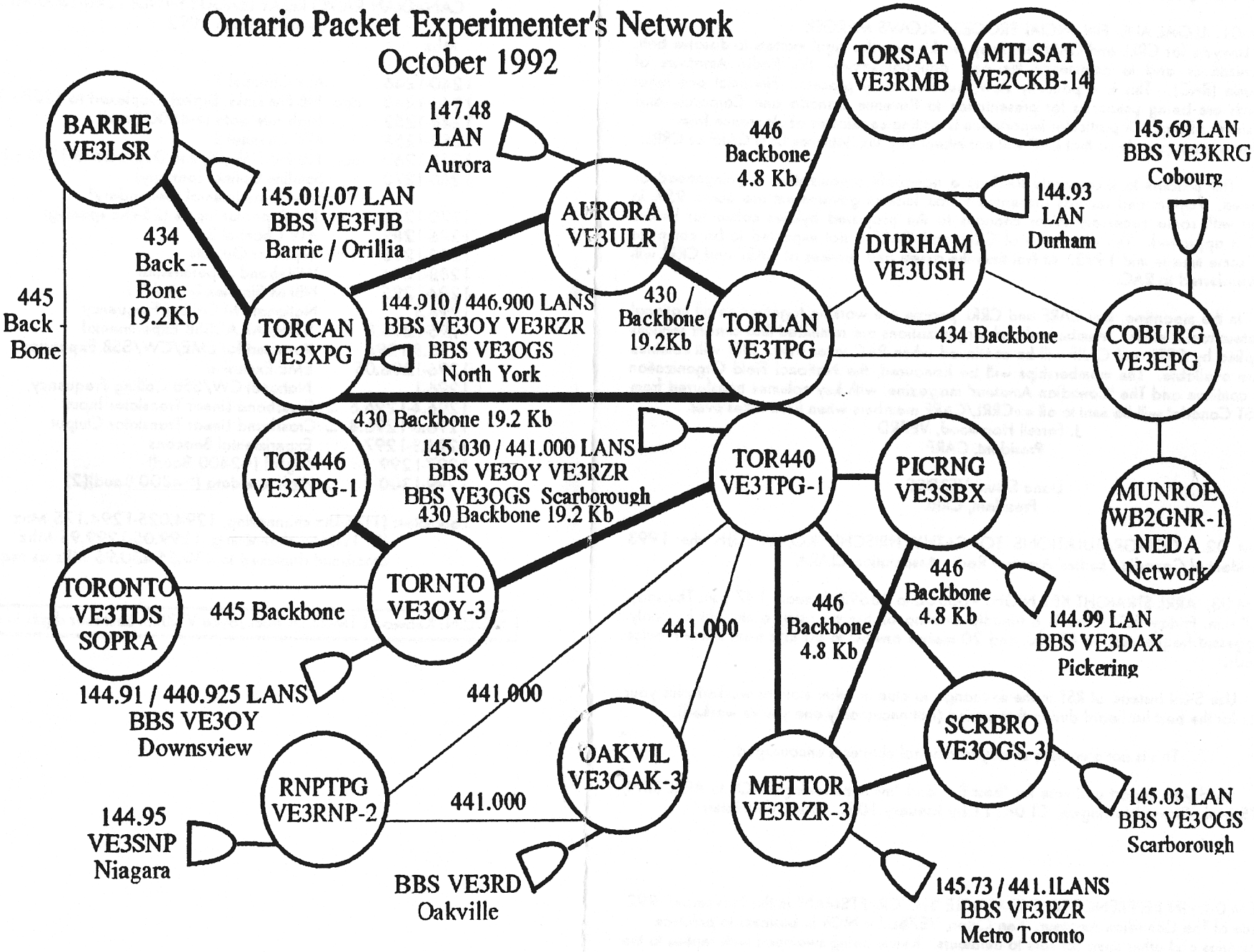
CANADIAN RADIO RELAY LEAGUE BAND: 1240-1300 MHZ
Revised March 1992

Mhz		
1240-1246		ATV Channel 1
1246-1248	ooo	NB FM Links, Digital, Duplexed to 1258 - 1260 Mhz
1248-1252	...	High rate data (>4800 Baud)
1252-1258		ATV Channel 2
1258-1260	ooo	NB FM Links,Digital, Duplexed to 1246 - 1248 Mhz
1260-1270		Satellite Uplinks (primary)
		Wideband Experimental (Secondary)
1270-1276	+++	FM Repeater Inputs (25-khz spacing)
1276-1282		ATV Channel 3
1282-1288	+++	Repeater Outputs
1288-1294		Wideband experimental
1294-1295		NBFM Simplex,Digital (1)
1294.5		National FM Calling Frequency
1295-1295.8		SSTV,FAX,ACSSB Experimental
1295.8-1296		Reversed for EME/CW/SSB Expansion
1296-1296.05		EME Exclusive
1296.1		National CW/SSB Calling Frequency
1296.4-1296.6	...	Crossband Linear Translator Input
1296.6-1296.8	...	Crossband Linear Translator Output
1296.8-1297		Experimental Beacons
1297-1299		Digital (<2400 Baud)
1299-1300	...	High rate data (>4800 Baud)(2)

Footnotes: (1)25-khz channelling, 1294.025-1294.175 Mhz
(2) 100-khz channelling, 1299.05-1299.95 Mhz
crossband duplexed to 430.55-430.95 Mhz as required.

STOLEN: Kenwood TM-231A from Joyce VE3JLB. Last four digits in serial 2278

Ontario Packet Experimenter's Network
October 1992



THE PACKET CORNER

Packet Radio continued: PART 2

WB9LOZ>WA6DDM,W6PW-1*, for example, you're receiving the packets from W6PW-1. If you do not see an asterisk, you are copying the station direct. When the station you want to contact is finished with his QSO, enter:
C - - - - - or
C - - - - - V - - - - - (depending on whether or not a digipeater is needed) followed by (CR). You should get a "* * * CONNECTED TO ....." on the screen, which means you're in converse mode, and your first QSO with someone else is underway! Anything you type now will be sent to the other station, and anything he types in will be sent to you. When you're finished, be sure to do a CONTROL C to get back into command mode, then enter D to disconnect from the other station.

You're on the way now to lots of packet fun and adventure! If you are still having problems at this point, contact a friend that has some experience on packet and ask for help. The initial set up of the computer, TNC and radio is probably the biggest stumbling block in packet. Any experienced packeteer will be happy to help you get through this process to get on the air.

To be continued next month: Enjoy!

HAVING TROUBLE SLEEPING

Insomnia isn't a disorder but a symptom with many causes. For example, a stressful event can cause temporary insomnia. Here are nine ways to sleep better.

1. Relax before going to bed. Read, listen to music or take a bath.
2. Relax each muscle group, moving slowly from your toes to your head.
3. Make sure your bedroom is quiet, dark and not too hot or too cold -most people sleep best at 15-18 degrees (60-65 degrees).
4. Don't take work to bed with you.
5. Avoid strenuous exercise within a couple of hours of bedtime.
6. Avoid cigarettes, especially in the evening-remember, nicotine is a stimulate.
7. Don't drink coffee or any beverage with caffeine before bedtime.
8. Establish a regular sleep schedule, but don't go to bed until you are sleepy. If you don't fall asleep within 20 minutes, get out of bed. Return only when yours sleepy
9. Get up at the same time every morning and try to get through the day without a nap.

ITEM 05. PERRIN BEATTY ASKED TO HELP EMC VICTIMS - CARF wants DOC to exempt" the public and amateurs from resolving costly EMC problems. American amateurs are given exemption by the FCC. In a letter to the Honourable Perrin Beatty, Minister of Communications, CARFs EMC Committee Chairman Ralph Cameron VE3BBM stated, "The public and indeed those of us licensed by the Department, and who are operating in accordance with the terms and conditions granted to us, are simply being victimized by the reluctance of industry ..." to share in establishing Electromagnetic Compatibility (EMC) standards in Canada.

In a plea to Perrin Beatty, VE3BBM noted that amateurs and the public are the victims of an electronics industry who apparently do not want to establish EMC standards for R.F. susceptible consumer products. Amateurs are left to fend for themselves when neighbours complain that their VCRs, TVs, stereos and phones malfunction due to nearby R.F. fields. It's unfair to consumers! It's a costly exercise for amateurs! It's a costly business for DOC! The makers of electronic consumer equipment must be held accountable for the EMC performance of their products.

CARF wants the Minister to act on this crucial issue by:

* Placing the responsibility of resolving product susceptibility problems where it belongs, with the electronics industry. Industry should provide a "focal point" (a group) to take on the resolution of complaints.

* "Exempting" amateurs from unfair costs suppressing their neighbours' R.F. susceptible electronic equipment. U.S. amateurs are exempt!

* Moving heavy involvement away from DOC and amateurs. Industry must stop burdening taxpayers and amateurs with unfair social, political and economic costs caused by technical design deficiencies.

CARF encourages amateurs and amateur radio clubs to write to Mr. Beatty in support of these requests for fair play. Send a copy of your letter to the Minister to:

The CARF EMC Committee
P.O. Box 356
Kingston, Ont., K7L 4W2

We need standards! The electronic industry must stop victimizing taxpayers! The Minister must act now!

ITEM 06. VK9 CALLSIGN STRUCTURE - Australia has at last firmed up the prefixes for their outlying territories. They are:

VK9X Christmas Island
VK9C Cocos Island
VK9L Lord Howe Island
VK9M Mellish Reef
VK9N Norfolk Island
VK9W Willis Island

SARC Communicator, Sudbury, Ont.

THE PACKET CORNER

Packet Radio continued:

INTRODUCTION TO PACKET RADIO -PART 2 - Larry Kenny, WB9LOZ

In the first part of this series we told you, in general terms, what packet radio was all about...what it is, its uses, the equipment used and, generally, how its transmitted. Now we're going to tell you how to get on the air, make a QSO, and become familiar with your packet station. Whether you're new to packet, having just received a new TNC, have been involved for just a short time, or are one of the "old timers" with four or five years of experience, this series should help all of you. Even if you don't yet own a TNC, you should keep this article handy for future use. I'll bet you'll be joining us soon!

The equipment needed to get on the air is a VHF transceiver, a computer or terminal, and a TNC - the terminal node controller - the little black box we talked about in part 1. (There is packet activity on HF, but VHF is where all the action is. It's the best place to start out in packet.) The TNC contains a modem and is equivalent to the modem used to connect your computer to the phone lines, except that it also contains special software that's specially designed for ham radio packet use.

When you buy a TNC and take it out of the box, you'll find cables supplied for connecting it to the radio, but you'll have to attach the appropriate mic and speaker jack connectors for the radio you're going to use. You also have to furnish the cable that connects the TNC to your computer or terminal. In most cases, the standard RS-232 port is used between the TNC and computer, however this varies with the type of computer and TNC used. The operating manuals supplied with the TNCs have a good write up on the various computers and the cabling needed. I would advise that you read the introduction and setup procedures for your particular TNC very carefully. Most companies have supplied excellent manuals, and you usually can figure out all of your setup problems from the information supplied in the manual.

Once you have everything wired and connected together, turn on the computer, load a terminal program (anything used for a phone modem will work well for packet) and get into receive mode. Now turn on the radio and make sure the volume is turned up about a quater turn (about the "10 or 11 o'clock" position) and make sure the squelch is set. It should be at the point where the background noise disappears, just as it would be set for a voice QSO. Next, turn on the TNC. You should get a "greeting" or sign on message showing the manufacturer's name, software version, etc. If you see a bunch of gibberish, such as &%#^$%#@(><m , it means that the data rate of the TNC and computer are not the same. This data rate is better known as baud rate. The baud rate of the TNC has to match the baud rate used by your computer terminal program and is easily adjusted. Check your TNC manufacturer's manual for this procedure, as it varies from TNC to TNC. If you don't see a "greeting" or gibberish, check your cables and connections. Make sure that you have everything connected properly, that the right wires are on the right pins, etc.

Now we need to explain the three levels of communicating you can do from the keyboard. First, you can communicate with your computer for setting up the terminal program; second, you can communicate with the TNC; and third, you can communicate with the radio. It's very important that you know which level you're in when working packet. I can't help you much with the computer level, since that varies from manufacturer, model and the terminal program you're using, but once you get the terminal program ready to receive data, you're ready to talk to the TNC.

continued:

HINTS AND TIPS ---- The Why And WhereFore of Wire Antennas

Dollar for dollar, the wire antenna is an Amateur Radio Operators best bet when it comes to inexpensive antennas. In the lower bands, 160, 80, and 40m, the wire antenna is nearly the only means for most AROs to work those bands.

Wire antennas perform from great to poor depending on many factors even when the antenna is cut for the frequency desired. I'll discuss some of my findings with wire antennas in this eight part series. Since most of the wire antennas are published in numerous antenna books, the specifics of most wire antennas will be left to the reader to investigate for the band they wish to operate in. Instead, I will discuss some helpful hints, findings, and misgivings about wire antennas that the ARO can use in overcoming the difficulties encountered with their first wire antennas and some that the old pros may find usefull.

I will be discussing the advantages and disadvantages of wire antennas on different bands, wire diameter, ground height, matching, multi-band wire antennas, and a few other odds and ends.

First, let's look at the capture area of a wire antenna cut as a dipole. We can examine this at 10m for ease of calculations and understanding.

Many hams use a #12 or #10 wire when constructing their wire antennas. It's cheap and easy to obtain. Some wire antennas come as kits and use strained wire verses the solid conductor many hams use in their home construction. Looking at the diameter of the wire, whether strained or not, it can be easily seen that a dipole made from aluminum tubing has a greater capture area, without picking up a calculator to find out the difference. Larger diameter elements produce greater bandwidths, thus a wire dipole on 10m would have a limited bandwidth compared to it's aluminum tubing counterpart.

How does one overcome this? Through trial and error, and a tight budget when I first got into Ham radio, I found that cutting the wire antenna slightly shorter that the designed frequency and adding some tubing to the end of the dipole, I was able to expand the bandwidth of the wire antenna upto three times the orignal value.

It doesn't take much tubing or a large diameter to accomplish this. I used two of these units (of course, one on each end). There are two parts to the extention. Use a 12-in x 1/2-in diameter tube with an 8-in x 3/8-in tube telescoping inside the former. By placing a vertical cut into the 12-in section, a clamp can be used to lock the two tubes together. Now you have tunable end pieces. Run the support rope through the tubing and attach to the wire then secure the wire to the 1/2-in end of the tubing. A good electrical contact is a must. The rope will support the tunable end piece.

The end pieces are also much greater in diameter than the wire, adding to the capture area. Also they provide a tunable method for zeroing the dipole to the frequency desired or changing the frequency of the dipole later. At 10m, I would recommend an aluminum tubing dipole and save this technique for the 30m and below antennas. For the lower frequency wire dipoles and inverted vees, the tubing can be made much longer for better results. There is a fine line between weight and performance that needs to looked into when using this method and it's a function of the antenna support and support lines.

I stumbled across this technique while putting around with a 40m inverted vee. I just could not get the bandwidth and SWR right. It was either too high for the resonate frequency or too low no matter what the calculator thought. The SWR was 2:1 and I wanted an antenna that did not require a tuner for my solid state radio. I grew tired of soldering and cutting wire and decided to add the tubing extenders.
Not only did I get the Inverted Vee on target, 7.15 MHz, but I covered the entire 40m band and the MARS frequency I was required to attend on.The SWRwasbelow1.5: 1 across the entire band also!

PRESIDENT'S MESSAGE

Many thanks to Fred VE3GCP for his efforts in organizing the 60th Anniversary dinner and dance. I am sure everyone enjoyed the social as we did. There are many committee openings that are still not filled. These include Health and Welfare, Awards and Contests, Flea Market, Emergency Coordinator Red Cross. If anyone has the time and skills to head these committees please inform anyone on the executive. Help in these areas would be appreciated.

Best wishes for the season, to the membership from the executive and myself and we hope one and all find there new rig under the tree. Hil

Best Wishes
73 Ev. Englert VE3OQX

NEWS SERVICE - CARF

Nov.15,92

SWEDISH STUDIES ENCOURAGE LAWS ON POWER LINES-CANCER

Sweden may soon become the first country to set strict limits on exposure to electromagnetic fields, following the release on Sept. 30 of an epidemiomagnetical study by Karolinska Institute and by Sweden's National Institute of Occupational Health. The studies found that children exposed to average EMFs of 3 milligauss or more in their homes had close to four times the expected leukemia rate for the population as a whole.

Nancy Wertheimer, an epidmiologist at the University of Colorado Medical Center in Denver, said she expects that details of the Swedish studies (which are not yet available) will "make it possible for the researchers to work in this field without unwarranted put-downs from the scientific establishment." From the New York Times and the Associated Press. The ARRL Letter October.

NEW CARF CALLSIGN BOOK NOW AVAILABLE write
CARF BOOK STORE, P.O. Box 356, Kingston, Ontario K7L 4W2

REPEATER MAPS AND DIRECTORY is now available also from CARF BOOK STORE (Cost $10.00 postage and GST included) The 1992 edition contains maps and listings of, repeaters for border states and Canadian repeaters.

THE NEW STUDY GUIDE FOR THE ADVANCED QUALIFICATION NOW AVAILABLE
$16.95 plus $2.25 postage plus 7% GST, 8%PST write to above address.

December 16, 1992 meeting at Andres Wines. Bus will leave Limeridge Mall S.W. corner Petro-Canada at 6:00pm and proceed to Eastgate Mall to N.E. at Fortino's at 6:30pm. Cost is approx. $5.00. The bus will hold 48 people. Contact Emsley VE3JAI @ 627-0333 or David VE3DWJ @ 383-9808 for your reservations.

Contest on 10 meters Spansor ARRL Multi signal , cw, phone, Dec 12, 13
Time 00:00z to 24:00z. See you on 10 meters Rick VE3OZY.

o Terminated longwire
Requires some space, but performs well. Directional with a wider bandwidth than the longwire at shorter lengths.

o Sloping Vee
Similar to the Inverted Vee, the sloping vee is semi-directional. Easy to install, inexpensive, ans easy to build.

o Beverage
Good all band antenna with a tuner. Easy to build and set-up. Requires some space and not suitalbe for small lots.

o Marconi
Large antenna requiring some space, but good for the lower HF bands. Semi-directional, the marconi is easy to build and cheap to construct.

o Folded Marconi
Cheap and easy to install antenna. Made from 300 ribbon cable (TV). Set up in a 'hockey stick' form. Use a tuner. Works well in the 40-160 range. Requires a ground plane.

o Loop
Consists of a full wave length and can be set-up horizontally or vertically polarized with the antenna in the vertical position or set-up parallel to the ground for lower frequencies.

o Sloper
Common design for most hams. Antenna is a slooping dipole or sloping quarter wave. Easy to bulid and install. Semi-directional in the direction of the slope.

Both of the following antennas are using 12 guage wire.

Wire Dipoles: Use the formula 468/fMHz to cut the dipole. String it up in the area you have planned. Attach your coax and a balun. Check the SWR. If it is within your spec's it's ready to use. If not, do the following:

o Check the SWR from the bottow of the band to the top.don't step on anyone having a QSO. Use the least amount of power to do this. I'll use 40m as an example.

7.0	1.7:1
7.05	1.8:1
7.1	2.1:1
7.15	2.2:1
7.2	2.5:1
7.25	3.0:1
7.3	3.5:1

This indicates that the antenna is too long and the resonate frequency of the antenna is below the band. This could happen because of the following:

- o A thicker diameter wire was used.
- o You mis-measured.
- o Something near the antenna is resonating with it.
- o Too low to the ground.

Solution: trim off about six inches either side and try again.

THE HAMILTON AMATEUR RADIO CLUB

P.O. BOX 91215, Effort Square Postal Outlet, Hamilton, Ontario L8N 4G4

CLUB MEETINGS:
Meetings are held on the third Wednesday of each month except July and August at the Nash Auditorium, Chedoke Hospital. Start time is 8:00pm. Non-members and friends are welcome, coffee and donuts are on the house!

EXECUTIVE MEETINGS:
The Board of Directors meets at &:30pm on the fourth Wednesday of each month in the Radio Room, Red Cross Building, 400 King St East, Hamilton. Members are ncouraged to attend.

CLUB STATION:
The HARC maintains an emergency radio station in the Red Cross Building, 400 King St East, Hamilton.

MEMBERSHIP:
Membership in the Club costs $25.00 per club year, 1 September to 31 August. Additional family members (no bulletin) are $1.00 per year.

EDUCATION and LICENSE TESTING
Amateur radio license courses are regularly scheduled. License testing through the Club is performed on the second Wednesday of each month (by Appointment). Contact the appropriate person responsible listed on the front cover.

REPEATER:
VE3NCF 146.760 MHz (input-.600), located on the Hamilton escarpment, is available for use by all amateurs. Special features (mailbox, link info) are privileges of membership. Part of the VE3RPT link system. Contact the executive for codes.

FIELD-DAY:
The Harc operates a multi-station site during Field-Day. Contact the Field-Day Coordinator on the front page for more information.

SWAP NET:
A swap net is held on VE3NCF every Tuesday night at 8:00pm except during the summer. The buy and sell listings are also available on the club packet BBS VE3DC operated by VE3JSJ on 145.590 or via modem 575-4745.

FLEAMARKET:
A fleamarket is held during September each year at the Ancaster Fairground. The 1993 fleamarket has yet to be set. The time will be 9.00am.

BULLETIN:
The Hamilton Amateur, the official news bulletin of the Club is published ten times a year and sent to all members (families share a bulletin).

CRESTS;
Anyone wanting a Club Crest or a Club Certificate contact VE3VEH Arie Verhoog.

HAMILTON AMATEUR RADIO CLUB SWAPSHOP LISTINGS

To list items:VE3NCF (146.760) Tuesday 8pm., OR call John (VE3JWJ)578-4275. Or leave a message on the VE3DC Packet BBS(145.590) or via modem on BBS at 575-4745.

Items accepted should be related to the enjoyment of our common hobby,Amateur Radio-this has been interpreted to include also computer equipment, C.B. and other electronic gear that can be used or converted to Amateur Radio use. All prices are negotiable unless other wise stated. Listings are read over the air for four weeks, published once in The Hamilton Amateur, and posted on the packet and computer BBS VE3DC (Sysop VE3JSJ - Gord) 145.590 and 575-4745. The Swap Shop meets every Tuesday evening, except the summer months at 8.00 p.m. on VE3NCF 146.760. During the Swap Shop, a telephone number is usually provided for those without 2 meter capabilities (SWL's , new hams, etc) to provide access to the net. Number in front of listing is the number of weeks already on.

AS OF NOV 24/92
ITEMS FOR SALE LIST

1 VE3WP, GEOFF, (416)648-4980
JOHNSON 25-30-3 1KW ANTENNA TUNE $125.00

1 VE3BLE, BLAKE, (416)529-4415 EVENINGS
DIAMOND K-30 TRUNKLID HATCHBACK MOUNT, NEW $30.00
TRC-449 CB MODIFIED, NO MIC, GREAT SHAPE $150.00

2 VE3DGG, DON, (416)528-4326
4 BASIC QUALIFICATION STUDY GUIDES $17.00 each

2 ARPI, (416)538-2050
MITAC-3026E LAPTOP call for prices
- COMPAQ LAPTOP 3-25-COLOR LAPTOP

2 VE3DXT, DEREK, (416)387-2936
YEASU 101E HF RIG MIKE, MANUAL SPARE FINALS $450.00

2 VE3VMO, VIC, (416)528-4326
REALISTIC NAVAJOE-TRC490 CB CONVERTED TO 10M $150.00
- MIDLAND 78-976 CB CONVERTED TO 10M $150.00

2 VE3CNU, RICK (416)525-2039
2400 BAUD INTERNAL MODEM IBM OR CLONE $50.00
- OAK VGA VIDEO CARD FOR IBM OR CLONE $50.00

1 VE3JWJ, JOHN (416)578-4275
COMPLETE STATION FOR SALE - YAESU FT-101ZD, ALL WORK BANDS , MIKE , MANUAL
YAESU FL200B HF AMPLIFIER 20 - 160 MTRS, MANUAL , NYE VIKING 3KW TUNNER
SOLD COMPLETE, WILL NOT SEPERATE, HAS ALL MANUALs $ 1750.00

2 VE3FMS, JACK (416)545-4860
BRUNELLE INSTRUMENTS FREQUENCY COUNTER MODEL 1000
MEASURES TO 1 GIG.,MEASURES -FREQ-PERIOD-TOTALIZER
BRAND NEW $400.00

3 VE3WWR, JOHN, (416)385-7694
CUSHCRAFT 4 ELEMENT BEAM 3 MONTHS OLD, NEVER OUTSIDE. $60.00