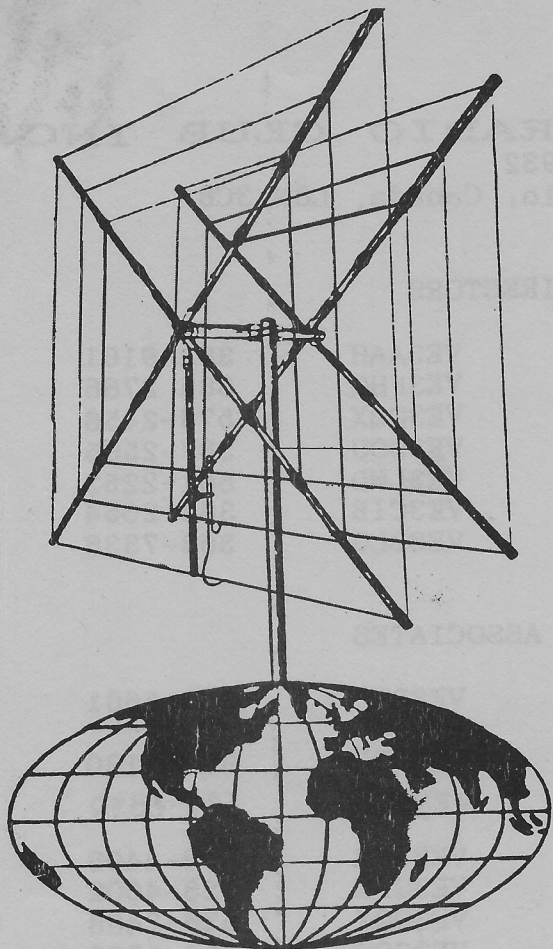


NEW  
MAIL BOX  
45T

Apr. 1987



# THE HAMILTON AMATEUR

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

**VE3OZY**

Rick Danby (MB712)  
6 Clinton Street,  
Hamilton, ONTARIO,  
L8L 3J8.

# THE HAMILTON AMATEUR RADIO CLUB INC.

Established 1932

P.O. Box 253, Hamilton, Ontario, Canada. L8N 3C8

## 1987 OFFICERS & DIRECTORS

PRESIDENT	:	Gordon Barber	VE3AAH	383-9161
PAST PRESIDENT	:	Glenn Gibson	VE3FHQ	385 2786
1st VICE-PRESIDENT	:	Everet Englert	VE3OQX	578-2458
2nd VICE-PRESIDENT	:	Peter Goodson	VE3DOU	387-2585
SECRETARY	:	Wayne Staat	VE3LWD	561-2253
TREASURER	:	Bob Wilson	VE3CIB	383-2054
MEMBERSHIP	:	George Olenick	VE3BLG	383-7338

## COMMITTEE CHAIRMEN & ASSOCIATES

AWARDS & CONTESTS	:	Norman Smith	VE3BK	385-5661
CLUB HISTORIAN	:			
CLUB PROPERTY	:	Bill McCaslin	VE3ARX	634-5190
EDITOR	:	Jim Walsh	VE3POA	689 6839
EDUCATION	:			
EMERGENCY SERVICES	:	Jack Heywood	VE3JTR	689-4406
HEALTH & WELFARE	:	Stan Bolibruch	VE3GFE	528-4002
PROGRAMS	:	Everet Englert	VE3OQX	578-2458
PUBLIC SERVICE	:	Fiore Manga	VE3OQG	560-6329
PUBLICITY	:			
REFRESHMENTS	:	John Faber	VE3CNF	692-3805
REPEATER	:	Glenn Simpson	VE3DSP	385-8478
SWAP NET CONTROL	:	Ralph Tufts	VE3BYM	388-6146
TECHNICAL	:	Mark Gibson	VE3MWH	389-4308
TECHNICAL	:	Paul Fleck	VE3HTF	383-1101
VE3DC LICENCEE	:	Glenn Gibson	VE3FHQ	385-2786
VE3NCF LICENCEE	:	Ed Charlesworth	VE3ZF	634-2520
VE3RCB LICENCEE	:	John Kassay	VE3FDK	385-0422

The Hamilton Amateur Radio Club meets at 8:00 pm on the 3rd Wednesday of each month except July & August. The location is the Nash Auditorium, in the Chedoke Hospital grounds, Hamilton. Non-members & friends are welcome.

Membership fees are \$20.00 per annum with a common renewal date of January 1st. Included is a subscription to the club bulletin. Family memberships are available at \$1.00 for each additional person.

VE3NCF Repeater is owned and operated by The Hamilton Amateur Radio Club. It is located on the Hamilton escarpment and is available for use by any amateur within range. Input is 146.160 MHz Output is 146.760 MHz

The swap net is held on VE3NCF every Tuesday at 8.00 pm except during July & August.

APRIL 1987 MEETING  
THE HAMILTON AMATEUR RADIO CLUB

DATE: Wednesday, April 15, 1987  
TIME: 8 O'clock P.M.  
PLACE: Nash Auditorium, Chedoke Hospital  
SPEAKER: John Summach VE3MFA  
TOPIC: Radio Frequency Interference.

THE PRESIDENTS MESSAGE

A couple of years ago the H.A.R.C. big project was a new I44 MHz repeater installation with bells, whistles and gongs.

The big project this year is the Red Cross amateur station installation. It involves equipments and antennae for UHF and I44 MHz operation. Initially the equipment is that owned by H.A.R.C. Eventually it is possible that the Red Cross will obtain funds to purchase more modern equipment.

The Hamilton Red Cross is very interested in amateur radio as a means of communication when an emergency occurs. At such times the regular sources of information are not totally satisfactory.

This year on July 1st it has been proposed that H.A.R.C. set up an amateur station in Gage Park. Operations will be on UHF and I44 MHz.

It will be an excellent opportunity to demonstrate amateur radio station operation to a large group of people. Informationsheets could be given to those who show interest, on how to go about obtaining an amateur operator's station license.

H.A.R.C 1987 President  
Gordon Barber  
VE3AAH

////////////////////////////////////

The Auditor's report for 1986 has been accepted and will be included in the bulletin next month. Thanks to Gerry Goldberg VE3HLI and Bernie Granby VE3EKY.

Dates to remember

April 11 Durham Regional Flea Market, Pickering High School, Ajax.

May 11 The Amstel Marathon.

June 6 Central Ontario Flea Market, Guelph & Kitchener-Waterloo ARCs, Bingeman Park, Kitchener.

At the April 15th meeting we will be honoring the Recipients of the "Order Of Merit" and the Certificates will be given out at this time. These members are: Mike Spenuk VE3JTQ, Fiore Manga VE3OQG and Ralph Tufts VE3BYM. Please try to be on hand to personally give your thanks to these members for their work on your behalf in helping to keep the club running smoothly.

NORM VE3BK

////////////////////////////////////

SUPPORT THE ADVERTISERS -- THEY HAVE SUPPORTED YOUR CLUB

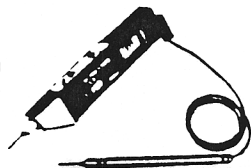
# THE WALTER SMITH CO.

72 FERGUSON AVE N    PHONE 527-5615  
HAMILTON, ONTARIO L8R 1L4  
ELECTRICAL AND ELECTRONIC INSTRUMENT SERVICE

## Test Equipment

VE3OCY

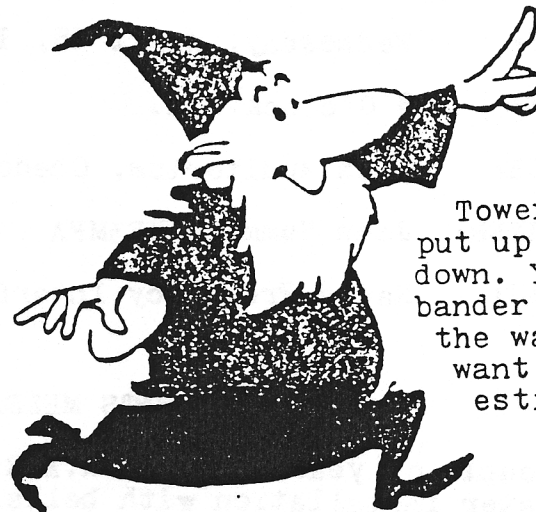
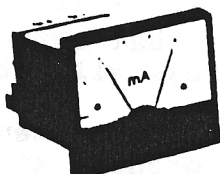
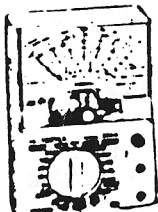
PENCIL IN TESTER



DIGITAL IN TESTER



IN TESTER

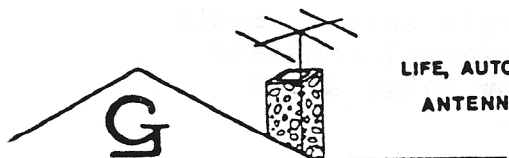


Towers ...  
put up or take  
down. Your tri-  
bander mounted  
the way you  
want it. Free  
estimates.

PROFESSIONAL ANTENNA  
Installation and Repairs  
42 Horning Dr.  
Hamilton, Ontario L9C-6L1

JOHN LUDWIG

Tel. (416) 523-0930



LIFE, AUTO, FIRE, & HAM RIGS,  
ANTENNAS AND TOWERS

**GOLDBERG INSURANCE BROKERS**

Call Gerry at VE3 HL1,  
632-5296 or 528-7688

593 Brant St.  
Burlington Ont.

Get those projects off to a good start, build them on a B-C-D Electronics Printed Circuit board foundation. We manufacture boards from the ARRL Handbook, ETI magazine, also Radio Electronics, Elektor, etc magazines. Send for free list. No quantity too small, no set-up charges like the big guys. Try us you'll be pleasantly surprised.

All boards are G10 Epoxy fibreglass coated with liquid flux. We also manufacture to your specs and schematics.

Noise Bridge .....\$2.00  
Mosfet Dipmeter ..... 1.40  
FET Voltmeter ..... 1.50  
Operating Impedance Bridge 2.00

## B-C-D ELECTRONICS

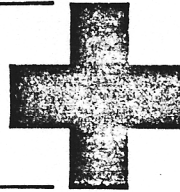
P.O. BOX 6326 STA. F.

HAMILTON, ONTARIO L9C 6L9

The Canadian Red Cross Society

SOUTHERN REGIONAL OFFICE

La Société canadienne de la Croix-Rouge



10 King Street East, Hamilton, Ontario L8N 1C3 (416) 522-8485

March 3, 1987,

Mr. Bill McCaslin,  
704 Cedar Avenue,  
BURLINGTON, Ontario,  
L7T 2R7.

Dear Bill:

This letter is to recap our conversation today about the possibility of recruiting volunteers from your Amateur Radio Club who would be willing to help us out in the day-time in case of minor emergencies.

In the event of a fire in the city of Hamilton during the day time, if a person or family is burned out and has no place to stay, the Red Cross will provide emergency help for a period of up to 72 hours after the fire. We have arrangements set up in place to provide food, shelter and clothing for the fire victims.

In the event of a fire occurring during the day time, the Fire Department would contact the name of a volunteer on the day roster list (provided to them by the Red Cross), and request that assistance be given to the person/family. The volunteer would then drive a Red Cross wagon to the address given by the Fire Department and arrange to pick up the person/family and take them to the motel we use to house people during a minor disaster (Town Manor Motel, Main and Caroline Streets in Hamilton). The volunteer would then assess the immediate needs of the family - such as whether an emergency supply of clothing is needed. If it is, the volunteer would then take the family to Eatons Basement and help the family purchase some basic clothing items. During the 72 hours that the Red Cross looks after fire victims, it becomes the family or person's responsibility to find new accommodation or work with their social worker/home care worker etc. Our responsibility is to provide immediate temporary relief for 72 hours.

The volunteers would not find themselves called out often as hopefully fires will not occur regularly. However, we do need to be covered during the day time, in order to be able to respond to this important need. Those volunteering would be given an orientation session by the Red Cross and provided with the necessary kit bag/forms etc.

The day time volunteers would be on call from 8.30 a.m. - 5.00 p.m. Having six volunteers on the list should ensure that someone is at home to receive a call and cover for vacations etc.

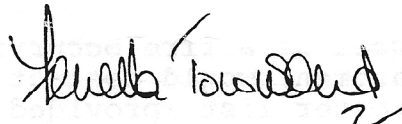
We would welcome any of your members who could see their way to volunteering for this worthwhile duty. Fire is a very frightening event and none of us know when we might be a victim. It's comforting and reassuring to know that there is a system in place through the Red Cross that can help people out during a tragic time. The hours would not be onerous and it may be (hopefully) that the day-time volunteers would not get a call in months but we must be ready to act when called upon.

We would appreciate it if you could make mention of this at your next meeting of the Club and if an item could be placed in your newsletter.

Any help any of your members can give us would be sincerely appreciated. Thanks for your help with this project, Bill.

Look forward to meeting you again when you are next down at the Red Cross.

Yours sincerely,



Fenella Townsend,  
Manager, Community Services.

P.S. I would estimate that each fire emergency call for the volunteer would take between 2-3 hours, so we are not talking about a big time investment.

H.A.R.C. MAIL BOXES (March 17 '87)

CALL SIGN

BOX #

NAME

9MZHT 56 Dave	10 KB8AW Bill	Allen VE3HNG 66
KB8AW 10 Bill	11 VE3ZF Ed	Arunas VE3ITJ 60
VE3AAH 16 Gordon	12 VE3ITQ Fred	Bernard VE3EKY 39
VE3ANW 34 Robert	13 VE3NKW John	Bill KB8AW 10
VE3ARX 40 William	14 VE3OZG Hugh	Bob VE3MMH 72
VE3BK 45 Norm	15 VE3CNF John	Boris VE3ITY 20
VE3BLG 69 George	16 VE3AAH Gordon	Brian VE3YI 27
VE3BOY 22 John	17 VE3OQX Everet	Burt VE3NCN 32
VE3BYM 29 Ralph	19 VE3EHL Ed	Dave 9MZHT 56
VE3CNF 15 John	20 VE3ITY Boris	Dave VE3JUR 35
VE3CYC 65 John	21 VE3JUC Tom	Donald VE3OCY 75
VE3DOU 67 Peter	22 VE3BOY John	Ed VE3EHL 19
VE3DPC 86 Frank	23 VE3FMS Jack	Ed VE3ZF 11
VE3DSP 46 Glenn	24 VE3OIZ William	Everet VE3OQX 17
VE3DVV 64 John	25 VE3OCD Joseph	Fiore VE3OQG 50
VE3EGL 57 Ken	26 VE3OCW Ted	Frank VE3DPC 86
VE3EGT 31 Les	27 VE3YI Brian	Fred VE3GCP 73
VE3EHL 19 Ed	28 VE3OIN Ken	Fred VE3ITQ 12
VE3EKY 39 Bernard	29 VE3BYM Ralph	George VE3BLG 69
VE3FBU 71 James	30 VE3OCQ Robert	Gerald VE3HLI 58
VE3FDK 70 John	31 VE3EGT Les	Glenn VE3DSP 46
VE3FDM 42 Peter	32 VE3NCN Burt	Glenn VE3FHQ 52
VE3FEZ 49 Peter	33 VE3MWH Mark	Gordon VE3AAH 16
VE3FHB 47 Ken	34 VE3ANW Robert	Gordon VE3JSJ 74
VE3FHQ 52 Glenn	35 VE3JUR Dave	Harold VE3JTC 63
VE3FMG 55 Michael	36 VE3OII Philip	Hugh VE3OZG 14
VE3FMS 23 Jack	37 VE3RW John	Jack VE3FMS 23
VE3FMT 48 Jim	39 VE3EKY Bernard	Jack VE3IUD 62
VE3GCP 73 Fred	40 VE3ARX William	Jack VE3JTR 77
VE3GFE 41 Stan	41 VE3GFE Stan	James VE3FBU 71
VE3HLI 58 Gerald	42 VE3FDM Peter	Jim VE3FMT 48
VE3HNG 66 Allen	43 VE3NYC Paul	Jim VE3SON 82
VE3HTF 80 Paul	44 VE3NKZ Ted	John VE3BOY 22
VE3IM 59 Tom	45 VE3BK Norm	John VE3CNF 15
VE3ITJ 60 Arunas	46 VE3DSP Glenn	John VE3CYC 65
VE3ITQ 12 Fred	47 VE3FHB Ken	John VE3DVV 64
VE3ITY 20 Boris	48 VE3FMT Jim	John VE3FDK 70
VE3IUD 62 Jack	49 VE3FEZ Peter	John VE3NKW 13
VE3JSJ 74 Gordon	50 VE3OQG Fiore	John VE3RW 37
VE3JTC 63 Harold	52 VE3FHQ Glenn	Joseph VE3OCD 25
VE3JTQ 61 Michael	53 VE3OZY Rick	Ken VE3EGL 57
VE3JTR 77 Jack	54 VE3PLI Paul	Ken VE3FHB 47
VE3JUC 21 Tom	55 VE3FMG Michael	Ken VE3OIN 28
VE3JUR 35 Dave	56 9MZHT Dave	Kurt VE3PUI 85
VE3KTV 84 Spiro	57 VE3EGL Ken	Les VE3EGT 31
VE3LWD 76 Wayne	58 VE3HLI Gerald	Mark VE3MWH 33
VE3MMH 72 Bob	59 VE3IM Tom	Max VE3OIW 81
VE3MWH 33 Mark	60 VE3ITJ Arunas	Michael VE3FMG 55
VE3NCN 32 Burt	61 VE3JTQ Michael	Michael VE3JTQ 61
VE3NKW 13 John	62 VE3IUD Jack	Nick VE3SJL 68
VE3NKZ 44 Ted	63 VE3JTC Harold	Norm VE3BK 45
VE3NYC 43 Paul	64 VE3DVV John	Paul VE3HTF 80
VE3OCD 25 Joseph	65 VE3CYC John	Paul VE3NYC 43
VE3OCQ 30 Robert	66 VE3HNG Allen	Paul VE3PLI 54
VE3OCW 26 Ted	67 VE3DOU Peter	Peter VE3DOU 67
VE3OCY 75 Donald	68 VE3SJL Nick	Peter VE3FDM 42
VE3OII 36 Philip	69 VE3BLG George	Peter VE3FEZ 49
VE3OIN 28 Ken	70 VE3FDK John	Philip VE3OII 36
VE3OIW 81 Max	71 VE3FBU James	Ralph VE3BYM 29
VE3OIZ 24 William	72 VE3MMH Bob	Rick VE3OZY 53
VE3OQG 50 Fiore	73 VE3GCP Fred	Robert VE3ANW 34
VE3OQX 17 Everet	74 VE3JSJ Gordon	Robert VE3OCQ 30
VE3OZE 83 Wade	75 VE3OCY Donald	Spiro VE3KTV 84
VE3OZG 14 Hugh	76 VE3LWD Wayne	Stan VE3GFE 41
VE3OZY 53 Rick	77 VE3JTR Jack	Ted VE3NKZ 44
VE3PLI 54 Paul	80 VE3HTF Paul	Ted VE3OCW 26
VE3PUI 85 Kurt	81 VE3OIW Max	Tom VE3IM 59
VE3RW 37 John	82 VE3SON Jim	Tom VE3JUC 21
VE3SJL 68 Nick	83 VE3OZE Wade	Wade VE3OZE 83
VE3SON 82 Jim	84 VE3KTV Spiro	Wayne VE3LWD 76
VE3YI 27 Brian	85 VE3PUI Kurt	William VE3ARX 40
VE3ZF 11 Ed	86 VE3DPC Frank	William VE3OIZ 24

1, Jalan Kantan (RS1)  
Taman Uda Jaya  
68000 Ampang  
Selangor, MALAYSIA  
24 February 1987

Dear Glenn and family (and fellow Hans in Hamilton and area),

This letter has been in the planning and thinking process far too long, but I thought I should get some Malaysian operating experience under my belt before I sent you some of the details. Well it's been some months now since I fired up the old FT301D for the first time on the 10th of October 1986. Sad to report, conditions from this side of the world for the equipment and antenna I'm using are not conducive to contacting anyone on the North American continent. I've only hear a few - several W6's, one London and one Ottawa VE3. Those guys were all running large linears with superb antennas; I couldn't get any of them. Conditions in this part of the world have been OK, though. I've managed to work Europe regularly, Africa, USSR, China, Australia, Borneo, Diego Garcia, Christmas Island, etc. That list sure is different from what you would expect to see in Hamilton from a modest station during the lowest of lows in the sunspot cycle. I did manage to talk to George Collins (VE3FXT/7P8BE) in Africa a couple of times. Hope to do so again; it's kind of nice to find someone out there in the ether who's a familiar voice.

My station is barely able to put out about 70 to 80 watts with a rebuilt PA on the FT301D (some of you may remember me showing you those blown final transistors during my Amateur Radio classes in years past). The antenna is so far a piece of wire strung to a pole in the front yard - a reasonable end-fed, but only about 25 feet off the ground. That setup really needs the tuner I'm using. I can load that noodle up on 40, 20, 15 and 10 meters (although 10 doesn't appear to have much activity when I've tried it - no locals). Forty meters here is a bit of a disappointment because we only have 100 KHz to 7.1 MHz and even that part is loaded with commercial junk in the top half. I still have plans to put up a better wire beam antenna in future, but time ~~seems to be one thing in short supply here; I never wonder what I should do next, just how will I find the time to do it (both in my work and hobbies).~~

Some of you who are equipped with IBM-compatible PC's may be interested in a logging program I have written over the past few months; it records 300 characters of information (or less if you either don't like typing or you want to pound out the contacts as fast as you can) on each contact with a minimum of repeat input, supports keyed access by call, date, mode and frequency, allows you to mark contact groups for such things as contest and other special operating events, has comprehensive reporting capabilities and is configurable to the tastes of (I hope) most hams. This program allows you to query your contact file while you are on the air and drag up any previous contacts you may have had with the same call in the past as well as log the contact on the fly - more operating time and less (none?) paper work. The program requires a 256K PC and is written in Pascal. Any of you who are interested can get a copy from me at no charge (you supply the diskette).

I had hopes of getting on the air here with Color SSTV using the Ribbit scan converter, but parts are just too hard to come by so that project will have to await my return to Canada in July; after all, I will need something to do when the snow flies again next winter. (I can tell you, I'm not looking forward to it after two years of tropical conditions!!).

There are currently about 200 Amateur Radio operators in Malaysia, many of whom I have heard on the air; there certainly isn't any reason why any active ham shouldn't have a 9M2 card on the wall. Kuala Lumpur also has its own 2 meter repeater to serve the area, although it's one of only two in the country. I haven't used the IC02AT much here; interference to the repeater can sometimes be quite severe and you require a separate license to use the radio in the car.

Well, hope I've answered some of your questions about ham radio in Malaysia and I hope to see all of you again this summer in Hamilton and surroundings.

Incidentally, I would like to take this opportunity to thank those of you who attended the get-together at the Plainsman last summer; my wife and I both enjoyed and appreciated it.

Best of luck to you and the Hamilton Amateur Radio Club during the coming months.

Dave Rytma

9MZHT



## CONCERNING PROBLEMS OF INTERFERENCE

In view of the apparently deliberate interference which we have been experiencing recently on our repeater VE3NCF, I was interested to read the following instructions given to control operators on the VE3ULR repeater and associated link system.

Control operators are instructed to close down repeater VE3ULR and associated links for the following reasons only:-

1. Profane or abusive language.
2. Use of the Repeater system for calls with a commercial content.
3. Any discussion or complaining whatsoever about deliberate interference on VE3ULR *or on any other repeater.*

The reasoning behind item #3 is that the person or persons causing the deliberate interference get their jollies from from the frustration they cause to responsible users. If denied the satisfaction of hearing how frustrated we become, they will seek their kicks somewhere else.

I know how incredibly difficult it is to refrain from comment whenever an autopatch call is prematurely terminated by some idiot. There is however a technique, available to users, which makes it impossible for anyone other than the legitimate initiator, to terminate the call.

I also share with you all the concern about possible unfavorable reaction from the police forces in our area when the emergency numbers are dialed and disconnected whenever the number is answered. Perhaps it will be necessary to have a roster of repeater *'watch-dogs'* who would terminate such calls unless legitimate I.D. is given.

However, the place to discuss these details is at club-meetings and with members of the executive, but *not on the air.*

So, next time some idiot interferes with your use of VE3NCF or any other repeater, make no comment just try again. And if at the last you don't succeed, sign off on some *other* pretext and try again later.

Submitted by VE3JSJ - Gordon.

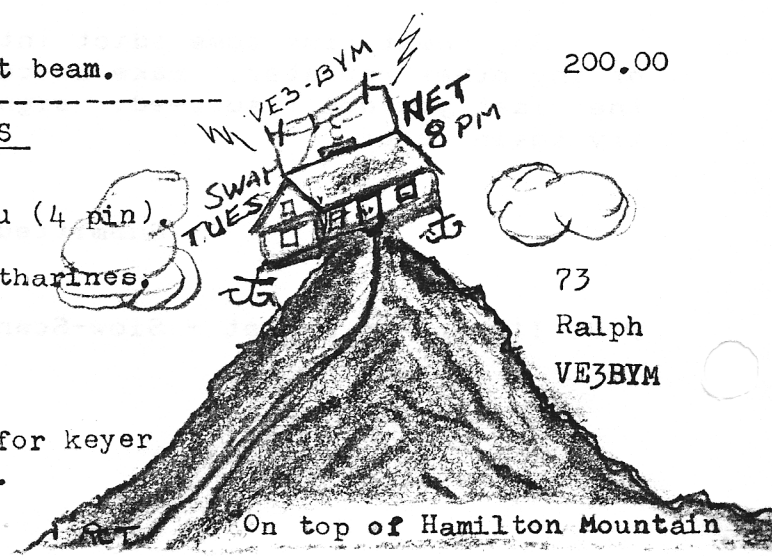
P.S. I'm now on Packet - Slow-Scan next year!

THE SWAP SHOP by Ralph VE3BYM

- VE3JL- Dave- 383-9888 Hamilton.  
Kenwood 7500 with 3.5 amp. power supply and manual. \$200.00
- VE3OZB- John- 536-2531 Burlington.  
Butternut HF6 Vertical with 160 meter coil. 175.00  
Alpha 76CA HF amp. 10 to 160 meters (uses 8874's). 2000.00
- VE3FMN- Wayne- 639-0106 Burlington.  
Kantronics APC2 Packet 300-1200 LNC H.F. - v.H.F. 250.00  
Yaesu 102 Hr xcvr 160-10 meters & warc , 300 watts. 800.00
- VE3JUR- Dave- 689-6671 Waterdown.  
Green monitor for computer. 100.00
- VE3NCN- Bert- 1-416-627-0573 West Flamborough.  
20" color T.V. pix tube replaced, would make a good monitor. 150.00
- VE3WU- Serasino 662-4526 Stoney Creek.  
17" Zenith color T.V. 100.00
- VE3OIG- Tom- 1-416-227-1522  
Sanyo 9" black and white used as a computer monitor 12/120V. 50.00
- SWL- Jack- 1-519-443-8802. Waterford.  
18ADT Vertical Antenna. firm 50.00  
Hallicrafter "World Wide Rcvr. 115.00  
6 Amateur SW xtals for the Drake RH series. 30.00
- VE3ISZ- Fred- 827-6824 Oakville.  
Sig. gen. 160 khz. to 112 mhz. \$20.00- marker gen. RCA WR99A. 20.00  
Lot Bar Gen. WR64B-\$25.00- vacuum desoldering station. 100.00  
Beckman #3020 Digital LCD readout volt meter 50.00  
2-Power supplies 5 Volts 20 amps. 12 Volts at 1 amp. 20.00  
1- Power supply 5 Volts at 10 amp., 20 Volts at 1 amp. 20.00  
ICE 2 meter xcvr 3 ch. 5 watts, 110 or 12 volts wid xtals. 54.00
- VE3HOA- Phil- 628-4290 Dundas.  
450 mhz, FM xcvr. no manual. 125.00
- VE3CBG- Ed- 1-416-682-8950 St. Catharines.  
2AU 1 to balun - \$15.00 - JT 16 voice syn.(Icom)2 mtr. xcvr. 60.00
- VE3EMS- Peter- 1-416-774-8766  
Yaesu FT726R All mode xcvr. 6,2,Hr, CW filter, spkr, mike, man. \$1500.
- VE3LWD- Wayne- 561-2253 Hamilton  
Cushcraft ATB (A-4) 3 element beam. 200.00

W A N T S

- VE3OQG- Florie- 560-6329 Hamilton  
Desk mike with lock for Yaesu (4 pin). 73
- VE3OIG- Paul- 1-416-227-1522 St. Catharines.  
2 meter all mode xcvr. Ralph
- VE3JUA- Sieb- 637-6266 Burlington.  
1986 73 Magazine. VE3BYM
- VE3ISZ- Fred- Schematic #8K-2AFSK for keyer  
(827-6824) board for RTTY modem.  
Oakville



## Batteries!

Lead-acid batteries, being ugly, heavy, and with no moving parts, get ignored or mistreated. But they need TLC, and if given it will last a long time. Hints:

### Ampere Hours

A 50 ampere hour battery should deliver five amps for ten hours or any combination that will multiply to 50. On recharge, it must get fifty ampere hours back, plus extra for losses; e.g. about six amperes for 10 hours. The calculations are often done "at the ten hour rate" (five amps for a 50 AH unit) which lead-acid batteries can absorb or deliver without distress. Ampere hour ratings are no longer often given; you have to guess. Most Canadian Tire type batteries are 40 to 60 ampere hours.

### Specific Gravity

Sulphuric acid reacts with the lead peroxide active material to form lead sulphate and water, releasing electrical current to a load. Acid is denser than water, so we check the battery by measuring the specific gravity with a hydrometer. 1100 (really 1.1) or lower is "discharged"; most batteries are fully charged at 1275 to 1300.

### Sulphation

Recharging converts lead sulphate back to lead peroxide. But if a battery is left discharged this sulphate becomes permanent. The battery is "sulphated" and has lost capacity. We're told we have **EIGHTEEN HOURS** in which to recharge a dis-charged battery before sulphation starts. The experts have been trying to get around this for 50 years.

### Self Discharge and Trickle Charging

A new 60 ampere hour battery will go flat in 6 months (4400 hours). This is the same as about 14 ma. of continuous load. In the light of the above, a trickle charge should be 20-30 ma for a pretty hefty battery. But even the self-regulating type of charger delivers up to 500 ma - and this, once the battery is charged, dissociates water and runs the battery dry. And unregulated chargers will deliver four of five amps to the fully charged battery which loses water quickly, may well overheat, warping plates and doing other damage. A protective resistor will limit the charge. Start with possibly 20 ohms, half watt.

### Terminals

Terminals react with stray acid, moisture in the air, etc. to develop high resistance. Clean them with a wire battery brush and treat them with anti-corrosion grease. Never use a hammer.

### Safety

Batteries emit flammable hydrogen on recharge. Sulfuric acid attacks skin, clothes, and eyes violently; wear glasses and gloves and keep a squirt bottle of bicarbonate of soda water solution ready. Internal resistance is very low; a solid short across a big battery melts tools, watches, finger rings. Carry batteries in a box with handles, and with dry soda in the bottom. Rinse off the battery with hot water now and again.

### Parallelling

Never leave batteries in parallel; their voltages differ slightly, and the higher voltage one will go flat charging the other.

### Cold and Heat

Chemical reactions slow down roughly 50% per 10 deg. C temperature drop. In winter store the battery outdoors; in summer, in a cool basement. But to use the battery, bring it to room temperature, as its capacity falls with temperature.

-end-

Frank VE3DPC

HR BULLETIN 9, FROM CRRL, LONDON, ONTARIO, 1987 MARCH 15, TO ALL RADIO AMATEURS BT

Item 1 DOC has officially informed CRRL and CARF that their Amateur Radio examination questions bank has been stocked with multiple-choice questions for all except the Digital Amateur examination. CRRL and CARF will be given printouts of the questions, and will be consulted before adding or changing questions. DOC is encouraging amateurs to submit changes or new questions through CRRL or CARF. The current practice of scheduling Amateur Radio examinations four times a year will end on June 01. After that, examinations will be scheduled as required, at the discretion of personnel in the DOC District Offices. There will be several different examinations in circulation. Examination papers will be reused. DOC also officially informed CRRL and CARF that it is studying the certification of private examiners. A project, designed to determine the best way of doing this, is currently under way in Ontario and Quebec.