

**FROM THE BULLETIN BOARDS (Cont'd)**

The Tenth General Assembly of IARU Region 2 (North and South America) has been rescheduled. It will now be held in Orlando, Florida, September 4-8. High on the agenda: preparations for a World Administrative Radio Conference (WARC) with power to reallocate our amateur frequencies, expected in 1992-1994.

Lawrence, G4DMA, and Morag Howell, GM1LL, should soon be on Canada's Ward Hunt Island to provide communications for a British polar expedition starting this month. They'll be in contact with expedition members on commercial frequencies in the 2-4-MHz range--and in contact with the outside world on the amateur bands. To keep things interesting, they plan to experiment with VHF. Look for G4DMA/VE8 and GM1LL/VE8 on 14.345, 28.885, 50.110, and 144.123 MHz, and other frequencies, and on the AMSAT OSCAR 13 satellite.

CRRL has responded to DOC's proposals on deregulation. In its submission, CRRL indicated that the deregulation would meet many present and future needs of the Canadian Amateur Service. However, CRRL had some concerns:

The proposal specified a 6-kHz maximum bandwidth for the 10, 100-10, 150-MHz band. This would allow SSB operation which could interfere with FIXED stations that are primary users of this band. Such interference could cause amateurs to lose the band worldwide. CRRL asked DOC to specify a maximum bandwidth of 1 kHz.

DOC's proposal allowed an amateur to establish a home, portable and mobile station under one call, but not to operate these concurrently. CRRL asked DOC to permit this again so amateurs operating computer-controlled bulletin board stations while, say, operating mobile, would not have to get a second station licence and a second call.

CRRL asked DOC to continue with VE0 calls for stations on ships in international waters.

CRRL noted that deregulation, specifically deregulation of mode subbands, could upset the equilibrium between the Canadian and US Amateur Radio communities. If Canadian amateurs came to understand that, under deregulation, they were free to operate any mode on any frequency in the amateur bands--without regard for the international Amateur Radio community--there could be reaction in the US which would result in, say, expansion of US phone subbands. CRRL asked DOC to emphasize to amateurs the importance of observing voluntary band plans developed through IARU, the International Amateur Radio Union.

There's a new procedure for requesting special amateur callsign prefixes to commemorate anniversaries or promote special events. Requests should now sent to a DOC district office. Decision to grant a special prefix will be made by staff at a DOC regional office rather than by DOC, Ottawa.

**Amateur Packet Radio**

What is Packet Radio?

- o A digital communications mode in Amateur Radio that provides error-free communications
  - o May be used on HF, VHF, UHF (the speed goes up with frequency)
- What do I need for Packet Radio?
- o A transceiver (SSB for HF, FM/PM for VHF)
  - o A terminal or computer (with an interface for the TNC)
  - o A Terminal Node Controller (the thing that does most of the work)

What's it used for?

- o QSO's just like RTTY but no errors (except those you make typing)
- o Messaging: Bulletin boards for personal and broadcast mail
- o Formal traffic (rapidly replacing CW traffic nets - no errors, auto delivery)
- o File transfer (Computer to computer, ASCII, binary, whatever)
- o High speed multihop data (whatever you choose) communication

FIG. 1. Packet Radio System

**Amateur Packet Radio**

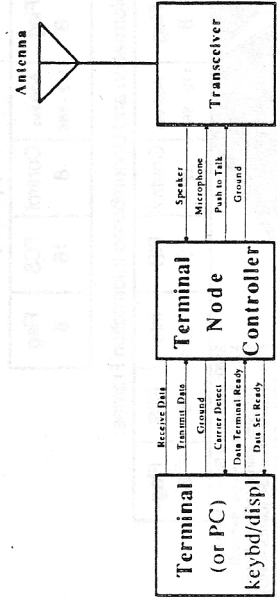


FIG. 2. Packet Radio System

FROM THE BULLETIN BOARDS

ARRL

In these days of record-breaking sun spots, thousands of DX QSL cards go through the ARRL Outgoing QSL Bureau. I waded through the stacks of cards the other day to find Joe Garcia, NJ1Q, busily at work tossing cards into the appropriate country slots. He mentioned to me that the previous record of single shipments by members was shattered recently. The details are as follows: The original record was held by Donald Havlicek, N8DE, with 35 pounds of cards. That record was tied on January 26, 1989 by Stanley Pope, K9MFI who also submitted 35 pounds of cards. It gets better. On January 31 Robert Cox, K3EST, sent 43 pounds of cards in to the bureau. The record-shattering shipment arrived February 2 -- 54 pounds, sent in by Michael Koss, W9SU/W8PAX! As sunspot cycle 22 continues to bless us with tremendous propagation, I am certain that Michael's record will not stand for long! Anyone have an extra back brace?

CARF

This, in detail, is how DOC proposes to provide for Foreign Amateurs: Three new classes of Foreign Amateurs are to be created as follows:

- a) A General Amateur will be a Foreign Amateur who is permitted to operate using telegraphy and telephony below 28 MHz in his own country. This class of Foreign Amateur would get Advanced Amateur privileges while in Canada.
- b) A Novice Amateur will be a Foreign Amateur who is permitted to use indirect aural telegraphy (CW) below 28MHz in the Amateur's own country. This group would get Amateur class privileges.
- c) A Limited Amateur is a Foreign Amateur who is neither a General nor a Novice Amateur and this class would get Digital Amateur class privileges.

No definition is given in the Gazette for what lawyers call "indirect aural radiotelegraphy". DOC tells us that it means CW. Some say a less indirect definition and one more akin to ITU terminology would be, for example, "manually keyed radiotelegraphy".

Under this proposal, U.S. General, Advanced and Extra Amateurs would get Advanced Amateur privileges in Canada. U.S. Novice Amateurs would get Amateur privileges and U.S. Advanced, Extra and Technical Amateurs would get Digital Amateur privileges. Also not mentioned specifically in the summary, is the deletion of Regulation 50. It allowed Foreign Amateurs to use frequencies and types of emission used in their own county if those frequencies and types of emissions were authorized for use by Canadian Amateurs. DOC tells us that this regulation is now not considered, by Crown lawyers, to be enforceable. This deletion is worrying some Canadian Amateurs because, for example, Foreign Amateurs will

Amateur Packet Radio

Operating Procedures and Notes

- o Listen first (like with any amateur radio activity)
- o Make sure the radio's squelch and the TNC's threshold are set right (or you will clobber other users of the frequency). Remember, packet uses one frequency to support many connections at the same time with no interference.
- o If you want to carry on a conversation with another ham, it's nice to have a terminal program that has chat mode; that's a split screen with your side of the QSO on one half of the screen and the other side on the other half. (you need to have ECHO set OFF in the TNC).
- o Great for public service, formal traffic and emergency communications
  - everything is small and portable
  - fast, reliable, error-free
  - a record of all messages is possible (no more transcription)
  - you can take it with you in a briefcase
- o Still a lot of work needed to make connecting easier (networking)
- o Enjoy! It's the new RTTY!

ARRL - MAR 1989  
Packet Radio - 1

There was supposed to be  
a bibliography here but  
I ran out of time this  
month, so I'll put it in  
next month's bulletin.

Dave Rypma  
VE3IITC

## THE HAMILTON AMATEUR RADIO CLUB

BOX 253 Hamilton Ontario Canada L8N 3C8.

### CLUB MEETINGS:

8:00pm on the 3rd Wednesday of each month except for July & August. In the Nash Auditorium, Chedoke Hospital. Non-members & friends are welcome - coffee and donuts on the house!

### EXECUTIVE:

Meets on the fourth Wednesday of the month, except July & Aug. in the Radio Room, Red Cross, 400 King Street East.

### STATION:

An emergency radio station is maintained in the RED CROSS, HAMILTON BRANCH (400 King East).

### MEMBERSHIP:

\$25.00 per year with a common renewal date of January 1. Included is a subscription to the club bulletin. Additional Family Memberships (no bulletin) \$1.

### EDUCATION:

Informal meetings are being held in the Radio Room, Red Cross Building 400 King St East on Thursday evenings at 7:00 to help those who want to take their Amateur Licensing tests. Call Bob, VE3CIB (416-383-2054 in Hamilton) or Glen, VE3FHQ (416-385-2786 in Hamilton) for more information.

### REPEATER:

VE3NCF, Located on the Hamilton escarpment It is available for use by any amateur. Input: 146.16 Mhz. Output: 146.76 Mhz. Part of the VE3RPT Link system. Contact a member of the Club Executive for information concerning Emergency use, Autopatch, Mail-boxes, Links etc.

### FIELD-DAY:

HARC operates a multi-station site during Field-Day. Contact Paul, VE3HTF for information.

### SWAP-NET:

Every Tuesday at 8.00 pm on VE3NCF (146.76/16) except during July & August. Contact Ralph, VE3BYM (388-6146) if you have items to buy or sell.

### FLEA-MARKET:

Held during October each year (Thanksgiving Day Weekend).

### BULLETIN:

"The Hamilton Amateur", the official news bulletin of the club, is published 10 times a year and sent to all full club members (family members share a bulletin) during the first 2 weeks of the month (except July and August). Most bulletin material is also available on the club's packet bulletin board station, VE3DC operated by VE3JSJ, on 145.030 FM.

## SLOW SCAN TELEVISION (SSTV) FOR THE COMMODORE 64 COMPUTER

A few years ago I was looking for an electronic building project that might rejuvenate my interest in the ham radio hobby. What I found was a SSTV receive and transmit system for use with the Commodore 64 computer - all for \$39.95 (US). This was exactly what I was looking for.

I sent the money right away, and in a few weeks I received a kit consisting of a drilled pc board, a disk program, a CBM 64 interface connector and the building instructions. After collecting about \$25 worth of junk box and Radio Shack components I put the kit together, tuned it up and was receiving and sending SSTV pictures. It really was a worthwhile project. I recommend it to anyone who might want to learn a lot about SSTV with a relatively small outlay in money.

However, before you rush out for your Postal Money Order you should know a bit more about CBM 64 SSTV pictures. The pictures are low resolution black and white produced from 8 gray levels. Line drawings, B&W graphics and lettering produce the best pictures, whereas color photos or graphics will copy from good to completely unintelligible.

The floppy disk that comes with the kit contains the send/receive program, test tones and gray scale for aligning the interface and a selection of ready made SSTV picture that can be used as is or modified with graphics programs such as Print Shop, Doodle or Koala. There is even a program that allows you to display your own or copied images in a "slide show" format.

Most of the SSTV activity that I am familiar with is on 14.230 Mhz. Most of the transmissions are high resolution color pictures which are readily copied with the CBM system in B&W.

I must point out again that CBM 64 SSTV is pretty crude stuff compared to your home TV, but it is fun and it will give you a good idea of what SSTV can offer.

For more information you can write: KINNEY SOFTWARE,

974 Hodson Road,

Pownal, Maine, U.S.A.

04609

Glenn, VE3FTD

# The Swap Shop

by

## Ralph VE3BYM



### FOR SALE

VE3AKW Robert Model 65XE computer, 5 1/4 floppy, matrix printer, 25 to 30 Games and more \$500.00

VE3OCG Bob 541-5125 Hamilton TI 994Alpha Computer, 232 port Input 73 de Ralph VE3BYM: negotiable.

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## THE 15th ANNUAL CENTRAL ONTARIO AMATEUR RADIO FLEA MARKET

JOINTLY SPONSERED BY:

GUELPH AMATEUR RADIO CLUB      KITCHENER-WATERLOO AMATEUR RADIO CLUB

# SATURDAY, JUNE 10th, 1989

8:00 A.M. to 2:00 P.M.

AT  
DOORS OPEN TO VENDORS ONLY FROM 6:00 A.M.

## "BINGEMAN PARK"

1380 VICTORIA STREET NORTH - KITCHENER ONTARIO

# The

## Hamilton

### Amateur

April 1989

(Established 1932)

### CLUB MEETING

19 April 1989

Robert KKinley,  
VE3GIV.

Ideas on Interfacing to a Regional  
Communications System

### HARC EXECUTIVE FOR 1989:

PRESIDENT:	VE3HTC	Dave Rypma	689-3014
PAST PRESIDENT:	VE3DOX	Everett Englen	578-2458
1st VICE PRESIDENT:	VE3JTG	Michael Spanuk	389-1760
2nd VICE PRESIDENT:	VE3HTF	Paul Fleck	Auto Dial 80
SECRETARY:	VE3LMS	Grant Sewell	335-4034
TREASURER:	VE3SRK	Richard Leath	547-4878
MEMBERSHIP:	VE3JSJ	Gordon Murray	575-3647

### HARC COMMITTEE CHAIRPERSONS FOR 1989:

AWARDS & CONTESTS:	Position open	George Olanick	383-7338
HISTORIAN:	VE3BIG	Bill McCaslin	634-5190
PROPERTY:	VE3ARK	Jim Walsh	689-6839
BULLETIN EDITOR:	VE3SON	Glen Gibson	385-2786
EDUCATION:	VE3FHQ	Paul Hazen	664-5247
EMERGENCY COORD:	VE3NYC	Robert Clarke	Auto Dial 34
EMERGENCY COORD:	VE3ANW	Grant Sewell	335-4034
FLEA MARKET:	VE3LMS	Stan Boldvach	528-4002
HEALTH & WELFARE:	VE3GFE	Michael Spenuk	389-1780
PROGRAMS:	VE3JTG	Fred Robinson	575-5197
PUBLIC-SERVICE:	VE3GCP	Fred Robinson	575-5197
PUBLICITY:	VE3GCP	Volunteers needed!	
REFRESHMENTS:	VE3DSP	Glenn Simpson	385-8478
REPEATER:	VE3BYM	Ralph Tufts	389-6146
SWAP NET CONTROL:	VE3MWH	Mart Gibson	389-4308
TECHNICAL:	VE3HTF	Paul Fleck	Auto Dial 80
VE3OCG LICENCEE:	VE3FHQ	Glenn Gibson	385-2786
VE3NCF LICENCEE:	VE3DSP	Glenn Simpson	385-8478
VE3RCB LICENCEE:	VE3FDK	John Kassy	389-2054
CODE TESTING:	VE3CIB	Bob Willson	389-2054
	VE3BK	Norm Smith	385-5661

The 1989 'Homebrew Night' Competition

Wednesday, May 17, 1989

The Crawford Trophy is awarded annually for the best home made device for use in amateur radio.

The name "home brew" portrays the idea that the device was constructed in the home workshop; thereby requiring skill and patience in producing a product of quality. It also suggests that the device was made at home during leisure hours.

Purpose:

To encourage Radio Amateurs to build their own equipment. The prime purpose for making a device would be for improved amateur radio communications, and/or for testing of amateur radio equipment.

Rules:

1. The device submitted shall have been completed in the 12 months prior to presentation night (May 17, 1989).
2. Although a limited number of operations in the fabrication of the device may be processed outside the home workshop, the majority of the work shall have been done in the contestants own workshop, or that of a friend, during leisure hours.
3. A contestant cannot act as a judge for this competition.
4. Each contestant is to be given an opportunity to explain the purpose and operation of the device, and any other details he may deem helpful about the construction.

## The President's Message

Spring is coming and thoughts should be turning to Field Day planning for June. Some of us might also be up the lower assessing the damage done by ice in the last month and a bit; hope your's came out OK.

The bulletin has a slightly different look this month; the type is a bit larger and hopefully clearer and easier to read. Since this is my first attempt at using some desktop publishing tools, there's lots of room for improvement and that will come in the coming months. If you have any ideas on improving the format and layout, let Jim, VE3SON, or me know and we'll do what we can. Above all else, we need material to publish. If you have some pet subject (related to ham radio) or project, write it up and get into print. We'll all be glad you did (you too)!

The Order of Merit award will be presented at the April General Meeting. If you have a candidate you would like to submit for consideration, you can find a form in last month's HARC Bulletin. After filling it out, you can either get it to any member of the Executive Committee or bring it with you to the April meeting. Support a Ham who you think was outstanding last year!

Don, VE3OCY, has the club's Radio Direction Finding (RDF) equipment. You can borrow it if you would like to find out how it works or maybe determine if you could use one of your own. See Don if you're interested. If enough people are interested (20 sets of boards or more), Don will get boards made up and a technical forum will be set up to assist in parts acquisition and building consultation.

Paul Hazen, VE3NYC, is working with the Red Cross in Hamilton to formalize our arrangements with them; this involves setting up plans for call-out and the form of involvement we would have during times of emergency and the training needed to get there. Part of the plan is to modernize the emergency communications equipment (such as packet and computer) available to the club. If you have an interest or an opinion, contact Paul; I'm sure he would be glad of the assist or input.

Training plans for the fall season are already in the planning stages. Know anyone who's looking for training? Would like to help? Have some thoughts worth sharing on the subject? Call Glen, VE3FHQ, who is coordinating on behalf of a bunch of other committed hams who are today involved. In an upcoming bulletin, I'll cover this subject in a bit more detail; I think those people deserve a word of thanks and recognition for their efforts (how about an "Order of Merit" nomination?).

Hope to see you at the 19 April 1989 meeting (8:00 PM) at the Nash Auditorium to Hear VE3GIV talk about Regional Communications.

Dave Rypma, VE3HTC

## Amateur Packet Radio

The Protocol (AX.25) so far:

LAYER		
7	APPLICATION	- Generic applications
6	PRESENTATION	- Presentation management
5	SESSION	- Synchronize and manage dialogue
4	TRANSPORT	- Reliable end - end transfer
3	NETWORK	- Message / network routing
2	DATA LINK	- Error detection / recovery (AX.25)
1	PHYSICAL	- Physical, mechanical & electrical

Radio Transceiver

*International Standards Organization (ISO)  
Open Systems Interconnect Reference Model (OSI/RM)*

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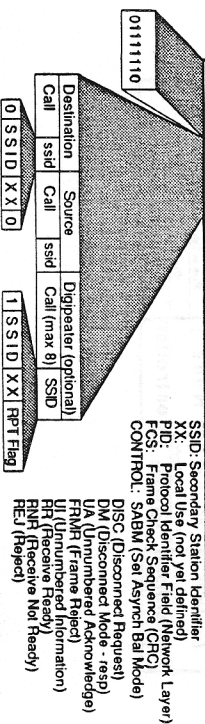
## Amateur Packet Radio

Packet Framing:  
Unnumbered and Supervisory Frames:

Flag	Address	Control	FCS	Flag
8	112 - 560	8	16	8

Information and Unnumbered Information Frames:

Flag	Address	Control	PID	Info	FCS	Flag
8	112 - 560	8	8	< 2048	16	8



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## FROM THE BULLETIN BOARDS (Cont'd)

be able to come to Canada and take part in contests on frequencies which are outside their congested sub-bands and not allowed in their own country.

The Gazette notice summary told us that the conditions for Amateur station operation on aircraft were to be revoked but nothing was said about Amateur stations on ships. A search had to be made to find that the ship Amateur station conditions are also to be revoked. We were told that the decision re ships was made at the last moment. DOC decided that the regulation of Amateur stations on aircraft and ships was more properly a responsibility of Transport Canada. Amateurs who want to operate their stations on aircraft or ships will require the permission of the Pilot or Captain as the case may be.

Attention CRRL News Service - You are quite welcome to use items from CARF News Bulletins provided you credit CARF. After all, we are both serving the Amateurs of CANADA. As my XYL says, you may be talking on F3 but you'll always be A1 with me.

As a result of DOC's decision to deregulate the sub-bands, many think replacement band plans are desirable. Before making any suggestions or recommending the adoption of the international plan, CARF, in accordance with long-standing Canadian custom would first like to ask individual Amateurs, clubs and associations for their up-to-date views regarding the frequencies and/or sub-bands and related modes and/or uses for each band which they feel should be adopted for the guidance of Canadian Amateurs. In making their recommendations Amateurs should take into account present usage patterns, that is: the frequencies and sub-bands and related modes and uses which are now followed on a Canada-wide basis and are essential for our local and long distance communications and experimentation.

Please have your recommendations in the CARF OFFICE BY 21 APRIL '89 so that we can consolidate your recommendations and publish them in June TGA for Canada-wide Amateur comment.

## CRRL

A notice in the February 4 Canada Gazette, Part 1, advises that DOC proposes to make public names, addresses and technical information pertaining to radio licensees--unless that information is classified for national security reasons or protected for public safety. Implementation of the proposal would formalize current DOC policy.

St Catharines, Ontario, amateurs have formed a SSB net that meets daily at 8 pm local time on 144.24 MHz. First on frequency becomes net control station! The US National Bureau of Standards, which operates WWV, has changed its name to the National Institute for Standards and Technology. Prefix hunters, take note: DOC may increase licence fees as early as 1990--but not for radio amateurs. Don't forget to renew your station licence before March 31.