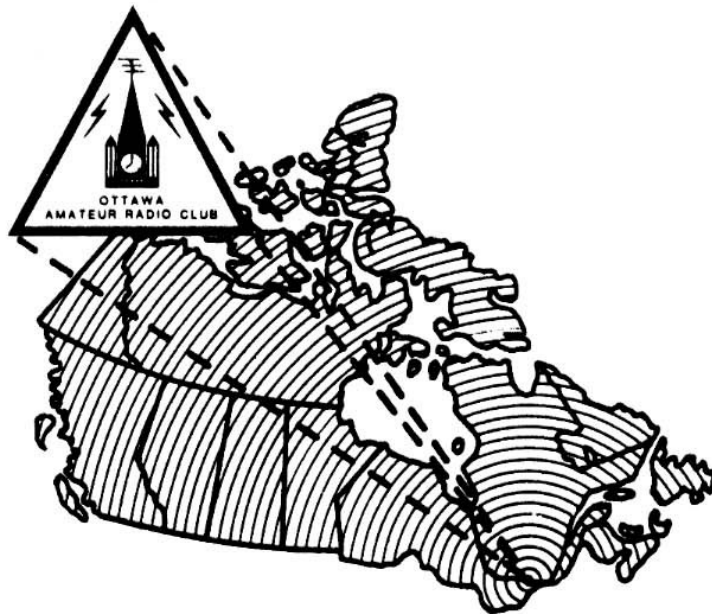


MAY 1991

# THE GROUNDWAVE



NEXT MEETING WILL BE HELD  
WEDNESDAY, MAY 1, 1991

Club Call VE3RC

Repeater VE2CRA



The Ottawa Amateur Radio Club, Inc., Box 8873, Ottawa, Ont., K1G 3J2

<b>President</b>	Dave Goodwin, VE2ZP	684-1432	
<b>Vice President</b>	Peter Jago, VE3PWJ	836-1013	836-6860
<b>Secretary</b>	John Connor, VE3RMM	727-5805	
<b>Treasurer</b>	Mike Kelly, VE3FFK	722-5918	788-5782
<b>Past-President</b>	Paul Cooper, VE3JLP	821-2167	
<b>Directors</b>	Clare Fowler, VE3NPC	232-1081	
	Dave Parks, VE3GSA	225-1206	
	Rob Morrison, VE3ZZR	722-3837	992-4334
<b>Packet Group Chairman</b>	Doug Yuill, VE3OCU	567-2700	788-2733
<b>Repeater Chairman</b>	Harrie Jones, VE3HYS	739-9365	738-2372
<b>Net Manager</b>	Wayne Greenough, VE3JSQ		
<b>EMI Committee Chairman</b>	Ralph Cameron, VE3BBM	825-1634	225-2850
<b>Membership Chairman</b>	Mike Kelly, VE3FFK	722-5918	788-5782
<b>Nat. Cap. Award Manager</b>	Brian Summers, VE3JKZ	523-1535	996-7885
<b>Publicity</b>	Mike Pilon, VE3BUP	731-1567	
<b>Groundwave Editor</b>	Mike James, VE3PDE	592-2962	995-2730
<b>Graphic Design</b>	Maria Townson, VE3KIP	828-9573	
<b>Contributing Editor</b>	J. Gord MacKay, VE3JMT	831-1004	
<b>Production Committee</b>	Paul Campbell, VE3CEP	733-0148	
	Chuck Baker, VE3PAP	824-1941	
	Ted May, VE3ADZ	741-0862	943-0497

**THE OTTAWA AMATEUR RADIO CLUB, INC.** is an association of Radio Amateurs devoted to the promotion of interest in Amateur Radio communications in the National Capital Area; and to the advancement and achievement of club members.

**REGULAR MEETINGS** of the OARC, Inc., are held on the first **Wednesday** of each month (except **July** and **August**) in the **Champlain Room** (2nd floor or the old **Teacher's College**) of the **RMOC HQ** complex on Lisgar St., Ottawa, at **1930 hours**. A bulletin board is available for posting notices of interest to other members about 1915 hours. Further details about each meeting appears elsewhere in this publication.

**PACKET RADIO MEETINGS** are held at 1930 hours on Jan. 31, 1991; March 28, 1991; and May 30, 1991, at the **McNabb Community Centre**, Percy and Gladstone. This is an OARC technical meeting open to all who have an interest in packet radio.

**THE OARC EXECUTIVE** normally meets on the second Wednesday of each month at 1930 hours. Contact the President to confirm the date of the next meeting.

**DEADLINE FOR COPY** is the second Wednesday of each month. Make yourself better known to fellow members and other amateurs, too, by giving us an article, technical or otherwise, relative to our hobby.

**MATERIAL PUBLISHED** herein does not necessarily represent the official OARC viewpoint. Items may be reprinted by Amateur Radio or other publications provided that proper credit is given to the author and to the OARC, Inc.

**JUNIOR MEMBERSHIPS** - To encourage young people to join the club and to participate in amateur radio, the club is opening a junior class of membership. Dues will be at a 50% discount but the junior member must pick up his/her copy of the **Groundwave** (preferably at the meeting).

**RADIO AMATEUR CALL BOOKS** are available at many local libraries. Ask at the information desk.

**SAFETY BELTS, 2-METER RIG AND AN ENGRAVING PENCIL** are available for loan to club members. The 2-

meter rig may be borrowed by members who are hospitalized. The engraving pencil (to mark valuables for identification in case of loss or theft) and the safety belts with pole straps are available to any member. For the belts, a refundable deposit consisting of a check equal to the replacement value of the belts is required. Contact the President for the 2-meter rig or the engraving pencil; and Paul, VE3ICV, at 820-6643 (West End) or Brian, VE3JKZ, at 523-1535 (East End) for the belts.

**THE CAPITAL CITY NET** meets every Monday at **2000 hours** on the **Club Repeater VE2CRA (146.34/.94)** to pass traffic and to make announcements of interest to Amateurs in the National Capital Region.

**PACKET RADIO VOICE NET** meets following the **Capital City Net** on **VE2CRA** at **2040 hours**. This is an informal net to answer questions about packet radio, pass along operating hints and provide information for future packet operators.

**THE SWAP NET**, is a service provided and conducted by Ed Morgan, VE3GX. This feature appears on the **Capital City Net**, noted in the foregoing paragraph. To list items and make inquiries, call Ed Morgan at 733-1721.

**POT-HOLE NET** is a SSB/HF net sponsored by the Ottawa Valley Mobile Radio Club, and conducted **every Sunday** at **1000 hours** on **3.760 MHz**. All amateurs are welcome to check in. The Swap-Net is a regular feature.

**POT-LID CW NET** is an informal slow-speed CW net sponsored and conducted by Ed Morgan, VE3GX, and meeting **every Sunday**, except during **July** and **August**, at **1100 hours** on **3.620 MHz**, to promote interest in CW and CW procedures.

**REPEATERS**

VE2CRA	Voice	146.94/34	443.300/448.300
VE3OCR		223.34/224.94	
VE3OCR	Packet	145.01(sx)	Inter city links
VE3OCR	Packet	145.07(sx)	Local Area Net for QSO and Packet BBS
	56 Kbps Packet	220.55/433.55	
VE3DXD	DX Info	146.25/146.85	

For further information, please contact repeater chairman.

MINUTES OF THE OARC GENERAL MEETING  
OF APRIL 3, 1991

The April meeting of the Ottawa Amateur Radio Club was called to order at 1940 local by the president VE2ZP.

The first item of business for the evening was a presentation of a plaque to George Caskey, VE3NJJ, in recognition of George's efforts on behalf of the club. VE3JLP, in charge of the nominating committee, announced that he was seeking volunteers for the executive for next year.

VE3GSA announced that the CRRL Board meeting will take place on June 1 and 2, with a joint meeting of the CRRL and CARF boards to take place on June 2 in Kingston.

VE3EBI presented the CARF bulletin.

Projects for homebrew night were presented by the participants. The projects entered included equipment for Oscar 13 Mode S, by VE3NPC; circuit board fabrication techniques by VE3XTU; a 2M antenna assembly for DF work by VE3FFK; the packet group's PI boards, by VE3IFB; and a 68302 based packet switch by VE3OCU. After much deliberation, the judges awarded first prize to VE3NPC, second to VE3IFB and third to VE3XTU.

While the prizes for homebrew night were being judged, the crowd was entertained by an excellent presentation by Sandy Cameron, VE3AAC, from CJOH, talking about their satellite news gathering truck. The presentation included a video and a tour of the truck itself in the parking lot.

The final item of the night was a video from a Field Day effort from last year, brought to us by VE3MVV.

There being no further business, the meeting was adjourned at 2220.

APRIL TALK

Sandy Cameron of CJOH talked about their satellite news trucks - a mobile TV control room. Programs can be transmitted to the studio by 2 1/2 GHz microwave, if they are close, or by satellite (14 GHz uplink, 12 GHz downlink) otherwise. The truck was available for touring by the hams at the meeting.

FIELD DAY

Field Day will be a joint effort with the OVMRC. If you want to help, contact Jeff, VE3RCI. Field day will be the 4th weekend in June.

MAY MEETING

Speaker will be  
Derick Atter, G3GRO  
on  
Amateur Microwave Activity  
in UK.  
There will also be  
a video tape presentation of  
"World Radio Sport Team  
Championship

50 YEARS AGO

Serious radio interference on the south side of the city was caused by a sliver of steel that fell from a passing train and lodged against one of the steel girder rails over the Ross Street subway, causing a ground with the open wiring.

de St. Thomas Times Journal

A SHORT BIBLIOGRAPHY OF AMATEUR  
RADIO DIRECTION FINDING ARTICLES:  
APR 9/91

I make no claims as to its completeness, but here are a few magazine articles to look up for info on the topic. I have most of these on hand. The list is chronological, but many of the best articles are the oldest. Comments in (brackets) are my own. There is more stuff available in hard cover, but as it is less accessible by the average ham, so I have omitted it. If you want me to print that bibliography, or have any favourites that I have left out, let me know. Thanks.

Last Word.. Fleamarket  
73 de VE3FFK ..mike

Radio Direction Finding Techniques  
Dobruck  
QST Aug 75 P 30

Radio Fox Hunting in Europe Part 1  
Nicolai K Holter  
QST Aug 76 P 53

Radio Fox Hunting in Europe Part 2  
Nicolai K Holter  
QST Nov 76 P 43

DoppleScAnt  
Terrance Rogers  
QST May 78 P 24

Transmitter Hunting for Beginners  
Breckenridge S Smith  
QST Nov 79 P 65

Maveric Trackdown ( H.F. D.F.)  
Doug Demaw  
QST Jul 80 P 22

The ZL/Df Special (I don't have this one)  
Rice  
73 Mar 81 P 40

Simple Antenna and S Meter Modification  
for 2 Meter Direction Finding  
Peter O'Dell  
QST Mar 81 P 41

Simple Antenna & S Meter Mod. for 2  
Meter D.F.(Erratum)  
Peter O'Dell  
QST Apr 81 P 52

Lock It Down and Lock It Out Boxes for  
D.F. (Attenuators and Faraday Cages)  
Peter O'Dell  
QST Apr 81 P 41

2 Meter Fox Hunt Antenna (About a Mobile  
Antenna Mount for a D.F. Ant.)  
QST Apr 81 P 56

D.F. Breakthrough! (I don't have this  
article either)  
Cunningham  
73 Jun 81 P 32

Double-Ducky Direction Finder (the basis  
of the club project a few years back)  
David T Geiser  
QST Aug 81 P 11

Locating CATV Interference Sources (Real  
Doppler Effects with Moving Receivers)  
Phil Karn  
QST Nov 84 P 55

The Fox Box  
Ham Radio Nov 85 P 25

Happy Fliers Helping People (I don't have  
this one either)  
Ham Radio Horizons Nov 85 P 56

Dick Smith D.F. (Review and Schematic)  
Greg Swain  
73 Jul 86 P 64

Dick Smith D.F. (Improvements .. I think  
I have this issue, but can't find it.)  
73 Jul 87 P ??

Transmitter Hunting (Review of the book  
by Moell of the same name)  
Phil Nowak  
73 Mar 88 P 37

Datong DF Package (Hardware Review)  
Bill Clarke  
73 Mar 88 P 38

**Direction Finding Loop (Vhf Loop)**

Wm Bruce Cameron  
73 Jul 88 P 22

**Smart S Meter (Audible and led Bargraph type meter)**

Kuby Kubichek  
73 Aug 88 P 24

**Homing In (D.F. Introduction)**

Joe Moell  
73 Nov 88 P 18

**Homing In (Loop Antennas)**

Joe Moell  
73 Dec 88 P 52

<p><b>FLEA MARKET</b> Sunday, October 6th, at the RA, Canada Room</p>
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**THANKS**

A note of thanks to Ed, VE3GX, for the donation of two metal chassis to be used in the upgrading of the repeater system.

de Harrie, VE3HYS

**CENTRAL ONTARIO  
AMATEUR RADIO FLEAMARKET**

To be held Saturday, June 1, 1991, from 8:00 a.m. to 2:00 p.m., at Bingeman Park, 1380 Victoria Street North, Kitchener, Ont. Jointly sponsored by the Guelph Amateur Radio Club and Kitchener-Waterloo Amateur Radio Club.

**IN CASE YOU MISSED IT**

To scan or not to scan, that is the question. Canadians travelling through the United States should be aware of the State and Local 'scanner' laws that forbid citizens from having radios in cars that can pick up police, fire, or other government transmissions, for example, New Jersey requires police issued short wave radio permits, while Kentucky law authorizes officials to immediately seize and destroy radio equipment capable of receiving police signals. A Michigan statute exempts some licensed Amateurs. The objective is to make it difficult for criminals to become aware of detection by police. Be forewarned. Thanks to WY5I report. (Item 3, CARF News Bulletin 5-91.)

Thursday 9 May 91 - Saturday 11 May 91. VE3OPP will be operating 9 May 1400 - 2200 local, 10 May 91 noon - 2000 local and 11 May 91 1000 - 1600 local on the lower end of the 40 and 80 metre band, perhaps utilizing 7065, 7068, 7160, 3739, 3749, and 3728. Also 2 metre simplex on 146.460 or 146.520. Will acknowledge with a VE3OPP QSL card all reception reports from SWLs and all QSL cards received from amateur stations provided a SASE is received. Reception reports and QSLs should be sent to VE3OPP Special Event Station c/o Bob Cooke, 8 Riverdale Road, Parry Sound, ON, P2A 1N9. The station will be operated solely by licensed Amateurs who are uniformed members or civilian employees of the Ontario Provincial Police. (Item 7, CARF News Bulletin 5-91.)

Saturday 4 May 91. Smiths Falls ARC 7th Annual Eastern Ontario Flea Market. Agricultural Fairgrounds, Lombardy, ON, 6 km south of Smiths Falls on HWY # 15. 0900 hrs. Admission \$2. Tables \$5. Talk-in VE3RLR 147.21 Mhz+ Info: J. Baxter Smith VE3BFX, 8 Lawrence Street, Smiths Falls, ON K7A 4K5 (613) 283-7852. Visit the CARF table. (Item 13, CARF News Bulletin 5-91.)

PROPOSED 1990-91 BUDGET

LAST MODIFIED APR 9/91 to reflect discussions at March executive meeting.

EXPENSES:		REVENUE:	
GROUNDWAVE	1500.00	MEMBERSHIP	2680.00
OPERATING EXPENSES	703.68	BANK INTEREST	212.40
DIRECTORY	5.46	DIRECTORIES	126.00
ADMINISTRATION	836.11	FLEA MARKET	1011.87
PACKET	8583.89	PACKET	6853.09
OTHER	1129.48	OTHER	35.00
-----		-----	
TOTAL	12758.62	TOTAL	10918.36

NET SURPLUS 1985-90: 2050.49  
 CASH IN BANK SEP. 90: 4324.48 (indicates surpluses in years before '85 also)  
 CASH IN BANK MAR. 90: 7368.87  
 ITEMS IN BUDGET BUT NOT YET PAID FOR: 7565.48  
 REVENUE IN BUDGET BUT NOT YET COLLECTED: 2610.00

THIS BUDGET WOULD REQUIRE SPENDING 1840.26 MORE THAN WE WILL EARN, BRINGING OUR BALANCE AT YEAR END DOWN TO 2413.39 IF PROJECTIONS ARE ACCURATE.

SOME HISTORY:

	1990-91	1989-90	1988-89	1987-88	1986-87	1985-86
PACKET EXPENSE	8583.89	804.53	738.84	380.54	838.91	40.00
PACKET REVENUE	6853.09	710.90	1252.50	00.00	652.74	209.50
NET	(1730.80)	(93.63)	513.66	(380.54)	(186.17)	169.50
TOTAL NET SHORTFALL 85-91=1707.98 (ALMOST ENTIRELY IN THIS BUDGET YEAR !)						
DIRECTORY REVENUE	126.00	297.00	1311.00	00.00	68.00	1649.00
DIRECTORY EXPENSE	5.46	00.00	1887.74	00.00	10.00	1343.57
NET	120.54	297.00	(576.74)	00.00	58.00	305.43
TOTAL NET GAIN 204.23						
MEMBERSHIP DUES	2680.00	2389.00	2051.00	2283.00	1957.00	1965.29
GROUNDWAVE COSTS	1500.00	1293.55	1491.32	1231.80	1520.83	1612.39
NET GAIN	1180.00	1095.45	559.68	1051.12	436.17	352.90
REVENUE:	1990-91	1989-90	1988-89	1987-88	1986-87	1985-86
MEMBERSHIP	2680.00	2389.00	2051.00	2283.00	1957.00	1965.29
BANK INTEREST	212.40	242.23	275.75	173.53	54.83	69.19
FLEA MARKET	1011.87	1311.70	1262.75	709.12	337.60	326.69
DIRECTORIES	126.00	297.00	1311.00	00.00	68.00	1649.00
PACKET	6853.09	710.90	1252.50	00.00	652.74	209.50
OTHER	35.00	25.00	112.50	55.01	409.18	857.71
-----						
TOTAL	10918.36	4974.93	6265.50	3044.66	3479.35	5077.38

EXPENSES:	1990-91	1989-90	1988-89	1987-88	1986-87	1985-86
GROUNDWAVE	1500.00	1293.55	1491.32	1231.80	1520.83	1612.39
OPERATING EXPENSES	703.68	283.46	633.55	311.41	247.50	287.49
DIRECTORY	5.46	00.00	1887.74	00.00	10.00	1343.57
ADMINISTRATION	836.11	814.20	181.81	666.53	338.79	413.25
PACKET	8583.89	804.53	738.84	380.54	838.91	40.00
OTHER	1129.48	455.96	1300.60	226.24	743.57	682.85
-----						
TOTAL	12758.62	3651.70	6233.86	2816.52	3699.60	4379.55
=====						
SURPLUS(DEFICIT)	(1840.26)	1313.23	31.64	228.14	(220.25)	697.83

EXPENSE ITEMS IN DETAIL

## ITEM 1 GROUNDWAVE:

POSTAGE 10x\$0.41x220 copies	902.00 (spent)
PAYMENT TO H.LANE (printing)	200.00 (spent)
PAYMENT TO CFRA (paper)	270.00 (spent)
ENVELOPES (\$0.03x10x200)	60.00 (spent)
SOME SLACK IN CASE I GOOFED	68.00
	-----
	1500.00

## ITEM 2 OPERATING EXPENSES:

EXPENSES RELATING TO FLEA MKT.	153.68 (spent)
GIFTS, SPKR. FEES, ETC.	50.00
AFFILIATIONS	50.00
PRIZES, PLAQUES, AWARDS, ETC.	200.00 (spent)
DONATIONS TO OUTSIDE GROUPS	100.00
FIELD DAY EXPENSES	150.00
	-----
	703.68

## ITEM 3 DIRECTORY:

??(ALREADY SPENT)	5.46 (spent)
	-----
	5.46

## ITEM 4 ADMINISTRATIVE EXPENSES:

LICENSES: VE2CRA	22.00
VE3NCR	22.00
VE3OCR	22.00
VE3RC	22.00
SITE RENTAL (CARLETON U.)	100.00 (spent)
OFFICE SUPPLIES	14.61 (spent)
P.O.BOX RENT	53.50 (spent)
INSURANCE (WAS 500 LAST YR.)	550.00
BANK CHARGES	30.00 (20 spent)
	-----
	836.11

## ITEM 5 PACKET:

ACCOUNTABLE ADVANCE	1200.00 (spent)
PC BOARD FABRICATION	930.70 (spent)
ETHERNET CONNECTION	273.19 (spent)
ACCOUNTABLE ADVANCE	600.00 (spent)
COMPUTER	400.00 (spent)
DISK CONTROLLER	180.00
DSY MODEMS	2500.00
PI BOARDS	2500.00
	-----
	8583.89

## ITEM 6 OTHER:

UNFORESEEN EXPENSES (MURPHY)	150.00
COFFEE FUND	25.00
MASTER EXEC FINALS	*
XTALS FOR 2M REMOTE RCVR.	*
2M RCVR CAVITY	*
2x70 CM RCVR CAVITY	*
70 CM ANTENNA MT. HARDWARE	* *=repeater related items
3x70 CM CAV'S TO REPL. CFRA	* brought to \$954.48 by
2M RPTR LOGIC IMPROVEMENTS	* deferring some items to
2x2M CAV'S TO REPL. CFRA EQPT.	* future years
	954.48
	-----
	1129.48

REVENUE ITEMS IN DETAIL

## ITEM 1 MEMBERSHIP:

170x\$15	2550.00
4x\$20	80.00
5x\$10	50.00
	-----
	2680.00

## ITEM 2 BANK INTEREST:

RECEIVED SO FAR (3/91)	137.40
EXPECTED BAL. OF YEAR	75.00
	-----
	212.40

## ITEM 3 FLEAMARKET:

REVENUE REPORTED	1011.87
	-----
	1011.87

## ITEM 4 DIRECTORIES:

SOLD (assuming no more sold)	126.00
	-----
	126.00

## ITEM 5 PACKET:

DURING FLEA MARKET	7.1.00
BOARD SALES TO DATE	4282.09
SALES BAL. OF YR. (MY ESTIMATE)	2500.00
	-----
	6853.09

## ITEM 6 OTHER:

COFFEE FUND	25.00
DONATIONS	10.00
	-----
	35.00

NOTES: Joe Norton and JRSD funds excluded from the above record. This was done on a word processor, not a spread sheet, so addition errors are my own.

M. KELLY MAR 12/91

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THE OVMRC/OARC BUNNY HUNT  
JUNE 1, 1991

The Bunny Hunt - note the date is the first Saturday in June. Here are the rules for the "Bunny Hunt":

1. There will be two vhf transmitters operating in the Bunny Hunt and there will be several prizes (at least 4 - first hopefully valued around \$50.00 to \$60.00). The awarding of the prizes and the decisions of the judges and organizing committee members will be final. Full prize list to be announced when all funding is known.

Prizes will be awarded on the following basis (note: winning a prize disqualifies you from winning another prize):

- a) 1st prize - (this means first pick of prizes available) will go to the amateur who takes the least time to find both transmitter
- b) 2nd prize - (second pick of the prizes available) will go to the amateur who takes the least amount of time to find transmitter 2.

- c) 3rd prize - (third pick of available prizes) will go to the amateur who takes the least amount of time in finding transmitter 1.
  - d) 4th prize - (same deal - you get the pick of what remains) to the amateur with the most inventive method of finding the bunnies.
  - e) additional prizes - to be determined as their availability becomes known.
2. All announcements regarding and during the Bunny Hunt will be made over the repeater "VE3TWO". The first announcement will be made at 9:30 a.m.
  3. The bunny transmissions will begin at 9:35 a.m.
  4. Pre-registration for the Bunny Hunt can take place at a regular club (OARC or OVMRC) meeting. All participants must either pre-register at one of the club meetings or register at the starting point (to be announced) by no later than 9:15 a.m. The frequency of the first Bunny will be given out at the registration point on Sat. morning.

To help offset the cost of the prizes there is a registration fee of \$3.50 - a part of the registration is the signing of a statement that participants are responsible entirely for their own actions participants will be given a receipt indicating that they have registered and are eligible for prizes.

In the interest of promoting good fun and the amateur community, the OVMRC/OARC will contribute towards the yet to be determined prizes. Any funds received in excess of the costs of the prizes will be returned to the clubs on the basis the club's contribution toward the prizes.

5. The bunny transmitter will be activated at 9:35 with a duty cycle of on for two minutes and off for eight. As time progresses during the first bunny hunt the duty cycle will be adjusted so as to increase the on time.
6. Participants will not be allowed to transmit during the hunt. Teams must work from the same vehicle.
7. There will be spotters checking for the observance of the Highway Traffic Act and participants arriving at the first transmitter site faster than traffic laws permit or are observed to disregard the Highway Traffic Act will be disqualified.
8. Once participants are in the location of the first transmitter, they are requested to identify it promptly and there will be someone in the area to give the participants a card having obtained the participant's id and note the time at which the participant arrives (don't hang around - as it will reveal to the competitors that they are in the right area.)
9. The cards given to the participants will have a random number on it which will be used to record the departure time from the first transmitter site.
10. The second transmitter will be activated after it has been determined that the first transmitter location has been identified.
11. When a participant locates the second transmitter, the participant will be given a second card, again having a random number on it - this card will be used to indicate arrival time at the second transmitter.
12. The pairs of cards given to each participant will be handed in to the judges who will then use them to determine the time the participants required to go from one transmitter to the next. Prizes will be awarded at the barbecue site (to be announced). Participants are expected to bring their own food and charcoal to the site and enjoy an eyeball.

Remember, observe all of the traffic laws and be courteous as you try and locate the two bunnies. Good hunting.

\*\*\*\*\*

You can't fool all the people all the time but some highway interchange signs come pretty close.

de CARF News Bulletin 10-90