

DOPLER DIRECTION FINDING ANTENNA by George Dew, VE2OWW

The Doppler effect, as you no doubt know, is an apparent change in a signal's frequency resulting from a motion of either the source or the receiver. For example, if you are mobile driving toward VE3TWO's transmitter, the carrier will appear (to your receiver) to be slightly above 147.3 MHz. Unless your car is quite a bit faster than mine this effect won't cause you any problems.

If, on the other hand, you stay in one place but move your antenna alternately toward and away from the transmitter, the carrier frequency will appear to alternately increase and decrease very slightly. This well studied phenomenon is often created intentionally by transmitters, and is referred to as "frequency modulation." Sound familiar? If you next connect an FM receiver to your antenna, and move the antenna back and forth very fast (let's say 1000 times a second), you will hear a tone from the receiver. The frequency deviation, and therefore the the amplitude of the received tone, depends on the distance you move the antenna.

It should be noted that this tone will only be detected if the distance between the transmitting and receiving antennas is changing, and repeated that the amplitude of the tone depends on the magnitude of the change. Armed with this knowledge, you can now find the direction to an unknown transmitter: simply wave your antenna very rapidly in different directions until you hear the loudest tone. You are now waving towards the transmitter.

There are certain technical problems involved in moving your antenna at this speed. (Remember the first rule of electrical engineering: Never trust anything with moving parts.) Fortunately the same

bias to either diode will allow it to pass the received RF signal from that antenna; a reverse bias will block the signal. Of course, appropriate components must be added to ensure that RF is not passed back into the control circuit and that the DC offset is not applied to the receiver. Two practical circuits are shown.

Circuit #1 uses an inverter to give out-of-phase square waves. When the input signal is low, D1 is forward biased and D2 has no bias signal. This switches ANT1 on and ANT2 off; the reverse is true when the input is high. With this circuit the control oscillator and switching circuit must be placed at the antenna assembly.

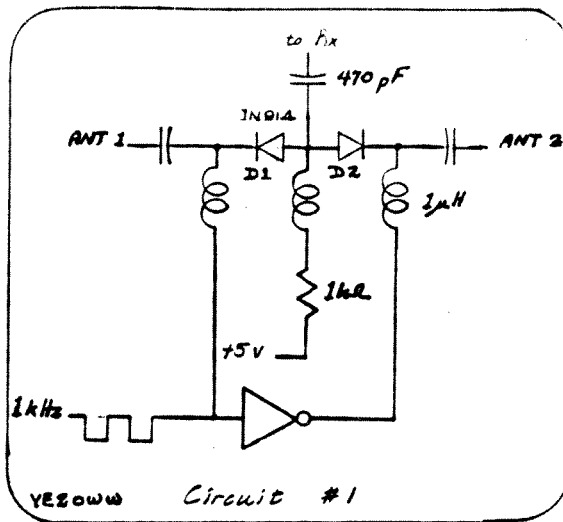
Circuit #2 achieves the same result with a single square wave input. When the input is positive, D1 is on and D2 is off; when the input is negative the reverse is true. This configuration allows the diodes to be placed at the antenna and connected to the control (and receiver) through a single length of coax.

Practical Considerations

For receive only operation, any small signal diode (e.g. 1N914) may be used. If Tx/Rx operation is desired, PIN type diodes should be selected.

For transmission, the oscillator must be held in one state, so that one diode is biased on and the other is biased off. In this mode the antennas will operate as a two-element beam. The inductors may be made by winding #28 enamelled wire on 1M 1/2 Watt resistors.

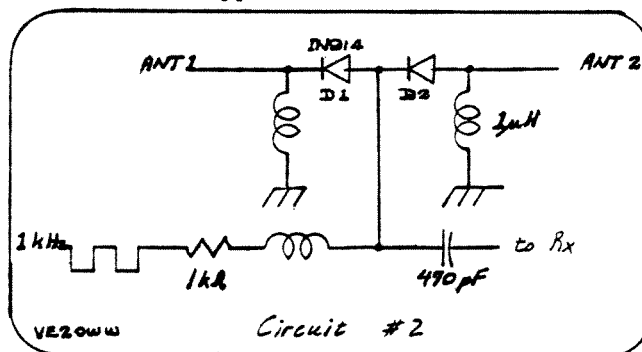
Circuit diagrams for square wave oscillators and design details for antennas are available from George VE2OWW or Doug VE3ATY.



effect may be created by mounting two antennas a short distance apart (1/8 to 1/4 wave) and switching the receiver rapidly between them. The following section describes a straightforward method of implementing such a switch.

Diode Switching Circuit

The required antenna switching may be accomplished by inserting series diodes in the antenna feed lines. Application of a forward DC





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1990-1991**

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**NEXT MEETING
OF THE OVMRC
21 March, 1991
1930 HOURS**

**Third Floor
Multi-Service Centre
1480 Heron Road,**

**(East of Alta Vista Drive
near Baycrest Drive on south
side of Heron Road**

CALENDAR OF EVENTS

GUEST SPEAKER

**Ed Sieb, VE3RDZ
Treasures of the North**

APRIL MEETING

**Show and Tell
& Doppler DF Antenna
Demonstration**

Flea Market - 20 April

**MAY MEETING
Bunny Hunt**

**JUNE
Annual General Meeting**

RAMBLER COMMITTEE

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Chas. King, VE3PDK
Jerry Wells, VE3CDS
Pat Brewer, VE3KJQ
Jeff Wilson, VE3RCI
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Mike Beausoleil, VE3BGP
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Eric Still, VE3OTT
Kevin Still

OTTAWA AREA AMATEUR RADIO NETS

POT HOLE NET - Sundays 1000 hrs 3.760 MHz (includes Swap Net)

SWAP NET - (Ed Morgan, VE3GX regular feature of Pot Hole Net and Capital City FM Net. Call Ed 733-1721 for listings and queries.

POT LID NET - Sundays 1100 hrs (except July and August) 3.620 MHz slow CW.

CAPITAL CITY FM NET - Mondays 2000 hrs 146.94 MHz Swap Net featured.

PACKET RADIO VOICE NET - Mondays 2000 + hrs. follows Capital City FM Net above.

MILITARY NET - Tuesdays 2000 hrs. 147.30 MHz

CUMBERLAND EMERGENCY NET - Wednesdays, 1930 hrs. 147.03 MHz

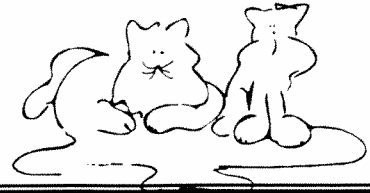
THE WISE OWL NET - Fridays, 2000 hrs. 147.30 (except July & August)

CHAMPLAIN MINI NET - Daily 1845 hrs. 147.06 MHz

OVMRC CODE PHONE - 825-0786 - 24-hr Morse Code practice

Strays

by Doug Carswell, VE3ATY



The February meeting has to be a high for this season, Golden Kilowatt's presentation was both informative and entertaining. Additionally the business portion of the meeting was completed by 8:30 providing all an opportunity for an eyeball. Also would you believe we ran out of raffle tickets for the Flea Market prize. Have to make sure we have enough tickets at the next meeting. The accommodations were crowded but at this time we should be back in the regular meeting room. Al Boyce indicated that he counted 75 in attendance. Gerry King indicated that he would bring the Bird wattmeter to the next meeting so you can check your hand-helds. It was announced in February issue of the Rambler that testing would occur in February. Sorry about that.

For me February is a watershed month in that the course is finished. As I write this months Strays the students have not had opportunity to write the exam so were not sure where we are with regard to the number of new hams that have joined our ranks. At this time of year we turn our eyes to closing events of the club year. As you know last year's May meeting was an "Appreciation Night". It is intended that we repeat the Appreciation Night meeting again. If there is anyone in the Amateur community that should be recognized for his or her's contribution that you know of, tell us within the next few days as it is time to plan the May meeting. The Club expresses its appreciation in many forms but in particular last year it took the form of Life Memberships and "Executive Vote of Thanks" and in some cases an informal thank you. We think of Life Members as a special group limited in numbers. You will see them at club meetings with gold name tags.

Your Executive received the review copies of the proposed bylaws. It is intended that revised bylaws provide a greater opportunity for Club Members to participate in the activities of the Club and make them more "readable" at the same time. It is not intended that this process be a closed exercise but during their embryonic stages we have to get them to the point wherein a coherent package can be presented to the membership at large. It is my intention that they not be divisive and if there is any possibility of that occurring I will ask that they simply be withdrawn and we forget the idea. When the Executive has reviewed the bylaws and the changes arising from that review have been made, they will be published for your consideration. If in your opinion the new set of rules do not work, say so. We can always remain with the old set that has served us well for many years.

See you at the next meeting.

73s - Doug



Children's
Hospital
Foundation
La Fondation
de l'Hôpital
pour enfants

TELEPHONE VOLUNTEERS NEEDED

CHILDREN'S MIRACLE NETWORK TELETHON

**JUNE 1 & 2, 1991 AT CJOH TV FOR THE
CHILDREN'S HOSPITAL OF EASTERN ONTARIO**

Special Grandparents Hour

Call John Leaker (Prospective VE3) at 739-9889

Secretary's Minutes

by Suzanne Lanouette-Carswell, VE3SLC



MINUTES O. V. M. R. CLUB February, 1991

1. Pres Doug VE3ATY called the meeting to order at 7:30 p.m. and welcomed all in attendance. There were several guests present.
2. Pres Doug thanked Chuck King VE3POK and all of his Rambler staff for the great job that they are doing with the publication of the club newsletter.
3. Pres Doug mentioned that the one of the course candidates, Don Foster wrote his exam yesterday and passed both the amateur and advanced and is now fully qualified.
4. Pres Doug reminded all to sign in and get their ticket on the door prizes.
5. Pres Doug reminded everyone that in April there will be a workshop. He asked that if there were any specific problems members wanted addressed at that time to sign the list placed on the table at the door. If anyone had suggestions for things to be done at the workshop, they could also write these down on the list.
6. Pres Doug asked if there were any technical problems that needed looking after. There were none.
7. Pres Doug informed all that the By-Laws committee had just given the Exec. a copy of their proposed changes and that the Exec. would be looking at them this week and that the general membership would be receiving a copy of the changes soon for consideration.
8. Pres Doug read out the motion that was made at the last General Meeting and that was published in this month's Rambler. He asked if there was any discussion on the motion. There was none. A vote was taken by show of hands. There were none opposed. The motion was passed.
9. Jeff Wilson VE3RCI reminded all that the Annual Club Dinner will be held on Sat. Feb. 23, 1991 at 7:00 p.m. at Anchors Restaurant at Dow's Lake Pavilion. He will be collecting names and numbers of all interested parties. Please inform him if you are coming and how many so numbers can be confirmed for seating.
10. Pres Doug once again asked for volunteers to help with the upcoming Bunny Hunt. All interested people should call him.
11. Pres Doug reminded all of the Flea Market in April and showed all the prize that was being offered. Tickets are available after the meeting. They are \$2.00 each or 3 for \$5.00. They can also be purchased from members.
12. Dan Holmes VE3EBI read the CARF Bulletin for February 15, 1991. He also had some copies of the old call book for anyone who wanted one. There were no questions.

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Secretary's Minutes from page 4 continue

13. Al Boyce VE3LNH informed all that he had been contacted by David Jones of the Citizen's Forum. He was looking for ways to get people to express their views on the problem of Canadian unity. He asked if the Amateur Radio Club might like to be involved. Al said no at first because he did not think that we should become involved in politics. It was made clear to Al that the Committee was non partisan. They just wanted to hear people's views. They are trying to contact 5 million people across Canada. Al called Dan Holmes VE3EBI and they both met with David. They also talked to DOC and looked at the regulations. There does not seem to be a problem with working with David. Al talked to Ed VE3RDZ, Barry VE3JF, and Jeff VE3RCI. They have got a packet program going where you can send in your views on the topic. They are also running a Net on Sundays at 1800 Z on 14.125 Mhz called the Forum Net. There is no censorship. All are encouraged to call in with their views. They are also looking for some bilingual net controllers to help them out. The Net and packet program will run until the of June 1991.

14. Pres Doug introduce the guest speaker for the evening Gerry King VE3GK whose topic was on "Short Wave Sending".

15. Gerry King gave a very amusing and informative presentation complete with slides, diagrams and handout, on towers and antennas and the series and parallel circuits that go with them.

16. Pres Doug thanked Gerry for coming to speak to the membership. He then introduced the second guest speaker Ralph Cameron.

17. Ralph Cameron spoke briefly on the Defence of Amateur Radio Fund of which he is a trustee. A trust agreement has been drawn up and after reviewing it, it will be simplified and reviewed again. He read the membership the objectives of the Fund and stated that he hoped to see a budget formulated and represented soon. He's not going to take part in further activities until the budget is done.

18. Pres Doug thanked Ralph for coming to speak to the membership.

19. One of the membership informed all, that according to the new DOC stats, they hope to have 1000 new amateur across Canada when the first round of examinations are completed.

20. Ralph Cameron pulled the first door prize ticket. It was won by Brice Whiteman and was a repeater directory. The second ticket was pulled by Ed Sieb and the winner was a guest student Peter-Patrick Baumgarter who received a call book.

21. Pres Doug called for a motion to adjourn the meeting. Craig VE3KKU and Henry VE3OMU moved it so and the meeting was adjourned. Everyone went back for coffee and conversation.

Sec. Sue VE3SLC

**UNIDEN HR2600 ALL MODE 10 METER MOBILE WITH ANTENNA
YOURS FOR ONLY TWO DOLLARS**

For the price of a two dollar raffle ticket, you could be the proud owner of a new mobile 10-meter rig complete with mobile antenna. Tickets are now on sale at a bargain price of three for five dollars or the regular price of two dollars each. The draw will take place at the OVMRC FLEA MARKET on 20 April, but you need not be there to win. Get your tickets from Pat Brewer, VE3KJQ or from any member of the Flea Market Committee or Club Executive

EDITOR'S CORNER



by Chas. King VE3PDK

This month, Chuck is vacationing south, dont worry about the slightly different format of The Rambler. Everything will be back to normal with next month publication. I take this opportunity to wish Chuck and his family a very good holiday.

Dont forget the Club needs your assistance every month to publish The Rambler, this is your newsletter.

HOW WELL DOES YOUR HANDIE HOLLER?

Wondering what the output
of your handie might be?

Bring it along to the ~~MARCH~~
meeting to Gerry, VE3GK's
clinic. Gerry will have a Byrd
43 Wattmeter set up to check
your handie's output.

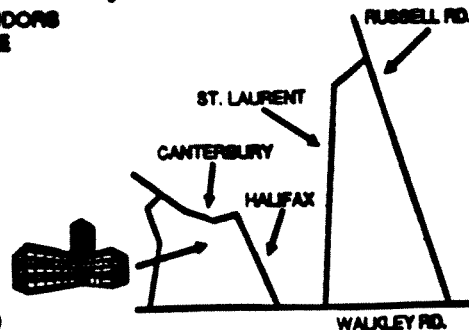
IS YOUR CALENDAR MARKED?

Ottawa Valley Mobile Radio Club
Annual Fleamarket

April 20, 1991 Canterbury High School
"Eastern Ontario's largest fleamarket
and 'eyeball'"

- *COMMERCIAL VENDORS
- *TABLES AVAILABLE
- *DOOR PRIZES
- *RAFFLE
- *REFRESHMENTS

For information contact:
Ken Barry VE3KJL
454 Woodside Cres.
Ottawa, Ontario
(613) 748-4823
DOORS OPEN 9:00am
TALK IN ON 147.30/90



NEWS AND VIEWS FROM HERE AND THERE



by Pat Brewer, VE3KJQ

This month marks the return of Halifax to our list of exchange bulletins from across the country. The editor of the Halifax Amateur Radio Club bulletin The Reflector feels that we should look to refurbishing old equipment in these tough economic times instead of buying new. If old equipment was available to new amateurs it would prevent them "doing without; or becoming frustrated and leaving the hobby altogether." From time to time you may have heard a transmission on 2 metres from an amateur who accidentally sat on their microphone. Walter VE1AWS suggests that all amateurs install a wideband RF detector on their dashboard to warn them as to when they are actually on the air. Plans may appear in the Halifax bulletin and I will keep you posted. The Halifax club amateur radio course had 22 students this year. The Club is gearing up for Field Day (last year they were just in front of us I think) and will be using computer logging this year as well as having a T-shirt. Any takers in our club?

Locally the Pioneer ARC TelePARC reports that local Amateur TV enthusiasts can be heard and SEEN on VE3TEL on Wednesdays at 8pm. On a recent night the following VE3s were seen: CZO, FFW, EKA, JDJ, and CZ. At the January meeting Doug VE3CDC reported that ten #19 sets have now been refurbished at the War Museum. Did you know that "daytime TV was invented by bosses as a punishment for employees who stay home when they're not really sick."

The February issue of the Ottawa ARC Groundwave has some interesting tidbits gleaned from the South Pickering ARC SPARK GAP. They suggest that you remember to include your transmatch when bonding your equipment to ground. The braid from discarded RG8U can be used. The Club found that one antenna couldn't be tuned until this had been done. "Polypropylene is the rope of choice for supporting wire antennas in trees; it is inexpensive, waterproof, light weight, strong, and slippery" (will not snag). It does eventually deteriorate in the sun and should be checked for fading or "hairs".

The Scarborough ARC celebrates its 45th anniversary this year having been formed in 1946. President Gordon VE3CNA's involvement in the Club started in 1956 and "there have been lots of changes, interesting times and good fellowship". The Club bulletin also has a neat article on an invisible 10M antenna. The antenna is a quarter wave loop suspended in a tree. The loop is 34ft 9in and the ends are attached to a 6ft 5in matching stub of 75ohm coax. This in turn is connected to 50ohm RG8 to go to the shack. Good reports have been received from stations broadside to the antenna. Unfortunately the name of the builder was cut off in copying.

The London ARCLARC Bulletin has two articles that point out that items in the Rambler do not go unnoticed in other bulletins. They have reproduced Larry VE3WLN's now famous article on importing from the US, and they noted my own article quoting their bulletin on the tornado alert in London. The Club is planning a field trip for their April meeting to Guelph to visit the Fred Hammond Amateur Radio Museum.

Off in Chatham, Clear Signals of the Chatham-Kent ARC states that the January meeting was very "enlightening". The theme was family safety and representatives from police, fire, and Ontario Hydro spoke to a large crowd. Here are two interesting new calls in Chatham, VE3FUZ (he's a policeman) and VE3TAX (she's a tax collector). It almost tempts one to let your licence lapse so that you can reapply for a different call. This club has 108 members by the way.

On to Windsor and the Border City RC Newsletter. The President laments the loss of the local CBC-TV station. A number of local amateurs were employed there and the Club repeater was on the transmitter tower. They also report hearing our own Chuck VE3PDK on the local repeaters during the Christmas holidays. The Club

**ATTENTION NEW HAMS!
JOE NORTON TRUST AWARD FOR AMATEUR RADIO**

The Ottawa Amateur Radio Club Inc. (OARC) awards annually the Joe Norton Trust Award (JNTA) for the advancement of amateur radio. This is a cash award of approximately \$650 this year! To be eligible, a candidate must be a resident of the National Capital Region and must have been licensed during the period from June 1, 1989 and June 1, 1991. To enter you must send a written submission of between 600 and 900 words to the OARC executive, setting out your interests, achievements and plans to contribute to the advancement of amateur radio. The deadline for submission is June 3, 1991 and the winner will be notified on or before August 15, 1991. For complete details and rules contact Jeff Wilson VE3RCI, JNTA Chairman, at (613) 833-0638. Copies of the rules will be available at the next OVMRC meeting.

continue from page 7 News from Here and There

is experimenting on their Monday night net with full duplex operation for people with dual band rigs. The net still accepts single band as well. For people with the capability it is just like talking on the phone. You transmit on one frequency, while simultaneously receiving on another frequency.

This month we have news from both the January and February issues of the **Sudbury ARC SARCommunicator**. In January and February members of the Club held a breakfast meeting at a local restaurant to discuss ARES matters and chat. This is to become a regular monthly event. Reminds me of the stories of the early days of our club. A new digipeater in Sudbury (VE3SUD) should make linking into other Northern Ontario centres possible in the near future. How about these words of wisdom, "You can always spot the expert in the crowd. It's the person who says that the project will take the longest to complete and will cost the most."

The project of the **Saskatoon ARC** to run a station in the Western Development Museum is going well. The Greensheet reports that antenna installation went up in ideal antenna weather, minus 20 degrees Celcius and gusty winds. The Club now has 49 members.

Finally we end up with the **Calgary Amateur Radio Association** bulletin Key Klix. Like so many other bulletins (I've lost count) Key Klix reproduced Larry's article on tariff items. Club President Alan VE6TZY appeared on CFCN-TV taking about the information coming out of Lithuania via LY2WW and LY2WR (who was in the parliament building describing events taking place there). The Club has also been involved in a very interesting and unusual project for the past several months. A young Russian girl who was a victim of the Chernobyl disaster has been in Calgary for treatment at the Childrens Hospital. Although her father was with her, her mother and sister were back in her home in Pinsk, Byelorussia. Local amateurs in cooperation with amateurs in the Soviet Union and with the respective radio authorities set up a net to pass messages between the two countries. The messages have been both of a personal and medical nature. The net was operating every morning at 1600z on 21.342, no word as to whether it is still on. This is certainly an example of a particularly rewarding kind of amateur radio operation.

See you next month.

DX de YOU

by Jeff Wilson



CQ CQ CQ DX DE VE3RCI! Calling all OVMRC members. Bring me your best DX catches of the month, any mode, any band (yes, VHF and above, too!). This DX column is based on the reports that you provide to me at each monthly meeting. You can also call me at 833-0638 or send me your logs via Packet Radio to VE3RCI @ VE3NAV. This column will only work if you support it. Let's hear who you've been working.

On the HF Bands

From Alan, VE3LNH

Just one good one from Al...VE3SNL/A7 (Canada Dry II, Doha, Qatar) Feb 17, 2032Z 14.124 SSB, QSL via DA2CF. We better catch Gary before they pack up the station for their long awaited return home!

From Me, VE3RCI

UM8MRC (Kirghiz S.S.R.) 1424Z 28.516 SSB. During the ARRL SSB DXContest - VP2V/VE5RA (Br. Virgin Is. - sure beats the prairies in (February!) 1410Z 28.490; VP5B (Turks & Caicos Is.) 1601Z 28.530; 4U1ITU (ITU, Geneva, Switz.) 1923Z 21.387; CN8ST (Morocco) 1934Z 14.185; HC1HC (Ecuador) 0154Z 21.245; TY2LS (Benin) 0326Z 21.300 QSL via IK8DOI - a new one!; OY9JD (Faroe Is.) 0400Z 14.325 - another new one; and ES1/JT1BY (Estonian vacation from Mongolia) 0417Z 14.206; 6Y5IC (Jamaica) 0456Z 21.292, and so many new prefixes for old countries I lost count!. Finally, I had a nice QSO with Charlie A22CL (ex-VE6ASL), 1840Z 28.270 SSB, who has been in Etsha, Botswana for the last 7 years setting us a grain Co-op. So nice to have a DX rag chew, but notice it was outside of the US phone band. A22CL is on most days around that time.

From George, VE2OWW

George was just scanning the band during the ARRL DX contest (Mar2-3), and worked 11 countries, all on 10m phone using an Icom 745 feeding a dipole on the roof. Most of the stations worked reported output power of 300 to 1000 W, but with my simple "100 W" rig I usually managed to get them on the first or second call.

New prefixes for me included: SKOLM, PJOB, RA3QR, CT1BOP, YU3FW and LA9DI. Good work George, I'm glad so see you're enjoying HF Dxing while you can. The recent arrival of your first harmonic may restrict your operations in the future, but congratulations!

The novices out there should take note that when 10 and 15 meters are open in the evenings, they are great for low power stations to pick up some good DX. You usually can hear the DX station and can't hear the US stations. Jerry and I agree that these are the best times for CW DXing when running 100 watts into wire or vertical antennas.

Please note that when sending SASEs to US QSL managers, the return postage rates to Canada have recently increased from \$0.30 to \$0.40 US. All for now. Let's hear from you silent readers!

73, Jeff.

NOVICE NEWS

Congratulations to those of you who have obtained your license. And to those of you who have not, do not be discouraged, you can always have another try at it at a future date. There are many many people who took two or three or even more tries to obtain their license. As many of you know Brice Wightman VE3EDR has a 37' sail boat in Florida and each year around this time he gets a crew together and they sail from Florida around the Bahama islands.

While he's there he keeps in touch with Ottawa by means of a daily radio communication with an operator in Ottawa. Last year it was my privilege to be the Ottawa contact. Every evening at 8pm we established contact on 14.060 MHZ and he told me where he was and gave me a report on the weather. I of course passed this information on to his wife and any one else concerned. This year I am again the Ottawa contact and will be doing the same job.

I understand some of you novices would like to listen in on these transmissions. I would certainly encourage anyone to do so. It would be good practice and a little more interesting than copying meaningless letters and numbers from a machine. All messages are in morse code. The speed is somewhere between 10 and 15 WPM. This year we will be using 14.054 MHZ and the time will be 7.55 PM daily starting March 5 1991 and finishing April 24 1991. These dates are not firm. If you don't hear us on March 5 tune in the next evening, and the next. Sometimes it takes a while to get settled in Florida. For those of you who do not yet have a radio, I extend an invitation to come to my house and listen on my rig. Just give me a call at 746 4823 and we will arrange an evening. Our thought for the month is about the banker who fell out of his pleasure boat and called for help. A nearby boat owner said " Can you float alone for a while? " The banker said " How do you like that? I'm drowning and he wants to talk business.

OVARC ASSET REVIEW

Previously moved by Alan Boyce VE3LNH, seconded by Ian Kennedy VE3SNX that:

1. An inventory be taken of OVMRC assets;
2. This inventory be reported to the members of the club (this issue)
3. An evaluation be made of the use being made of each inventory item;
4. Recommendation be made to the Club on the continued retention or liquidation of each inventory; and
5. Any money realized by the sale of surplus inventory items be pooled with general Club funds.

OVMRC INVENTORY OF ASSETS (DRAFT 91-02-09)

This is the list of OVMRC Assets that I have been able to track down so far.

This list is followed by a list of equipment belonging to the National Museum of Science and Technology (NMST) (as part of the VE3JW exhibit) that is currently being held by club members.

I ask every member to go over this list and check a few things:

- 1 - Do you know of any other equipment?
- 2 - If so, where is it?
- 3 - Is this equipment fully described? (serial number, inventory num, etc.)
- 4 - Is this equipment in the place described?
- 5 - What do you think the club should do with each item?

In particular, I would like to know

- 6 - the inventory number of all museum equipment.
- 7 - the location of the Digital Clock from the museum
- 8 - the location of the Amplifier from the museum

Please send all corrections or additions to me Alan Boyce, 737-4937, or VE3LNH @ VE3KYT-1.

OVMRC EQUIPMENT as of 91-01-27

ITEM	MANUFACTURER	MODEL	S/N	INV NUM	CONTACT	DATE
1 TNC incl	MFJ	MFJ-1274			AL VE3LNH	91-01-27
-Power supply					AL VE3LNH	91-01-27
-Cable for FT230R					AL VE3LNH	91-01-27
-Manual					Ed VE3VLF	91-01-27
2 SWR Meter	Diawa	CN-620B	E08104		AL VE3LNH	91-01-27
3 2-MTR XCVR incl	KENWOOD	TR-7200G	111104		AL VE3LNH	91-01-27
-Mobile Bracket						
-Microphone						
-power cable						
4 12 V Power supply	KDC				AL VE3LNH	91-01-27
5 Mag Mount	Larsen				AL VE3LNH	91-01-27
6 2-mtr 5/8 ant & coil	Larsen				AL VE3LNH	91-01-27
7 CANTENNA DUMMY LOAD	Heathkit				AL VE3LNH	91-01-27
8 CW Key	Nye-Viking				AL VE3LNH	91-01-27
9 Ant/Xcvr Switch	Home-made				AL VE3LNH	91-01-27
10 RG58 Jumper cables	Home-made				AL VE3LNH	91-01-27
11 Power distribution sys	Home-made				AL VE3LNH	91-01-27
-power bars						
-12 V power supply						
-Switch panel						
12 Desk Lamp	Luxo				AL VE3LNH	91-01-27
13 Desk Lamp	Luxo				AL VE3LNH	91-01-27
14 Video Tape - "New World of Amateur Radio"					AL VE3LNH	91-01-27
15 Video Tape - Amateur Radio's Newest Frontiers"					AL VE3LNH	91-01-27
16 Diskettes for Apple system					AL VE3LNH	91-01-27
17 Communications Rcvr	Hallcrafters				AL VE3LNH	91-01-27
18 Communications Rcvr	Hammerlund	HQ-140-X			AL VE3LNH	91-01-27
19 HF Linear Amplifier	Heathkit	SB-200			Craig VE3KKU	91-01-27
20 HF Monitor Scope	Heathkit	SB-600			Craig VE3KKU	91-01-27
21 Antenna Relay					Craig VE3KKU	91-01-27
22 VE3JW Log Books					Craig VE3KKU	91-01-27
23 Manuals					Craig VE3KKU	91-01-27
24 Assorted Cables					Craig VE3KKU	91-01-27
25 Cassette Recorder	Radio Shack				Craig VE3KKU	91-01-27
26 2-MTR XCVR incl	Yaesu	FT-230R	2M120752		Ed VE3VLF	91-01-27
-DTMF Mic	Yaesu	YM-50A				
-Manual	Yaesu					
-Power Cable	Home-made					
-Cable	Home-made					
27 Power Cable					Ed VE3VLF	91-01-27

OVMRC INVENTORY OF ASSETS (DRAFT 91-02-09)

28 Apple II Computer incl.	Apple	A2S1016	A2S2-236643	Ed	VE3VLF	91-01-27
-Monitor	NEC	JB-1201M(A)	2200808			
-Disk Drive	Apple	A2M0003	459262			
-Disk Drive	Apple	A2M0003	497529			
-Cable						
29 Apple II Diskettes				Ed	VE3VLF	91-01-27
30 Computer Manuals	Assorted			Ed	VE3VLF	91-01-27
31 Printer	Epson (?)			Pat	VE3KJQ	91-01-27
32 Digital Clock	Heathkit			UNKNOWN		91-01-27
33 Audio Amp	???????			UNKNOWN		91-01-27
34 Gas Generator				Paul	VE3JLP	91-01-27
35 Gas Generator				Paul	VE3JLP	91-01-27
36 Gas Generator				Paul	VE3JLP	91-01-27
37 Cubical Quad Ant	Home-made			Paul	VE3JLP	91-01-27
38 Wire Antennas (Ass'd HF)	Home-made			Bill	VE3YK	91-01-27
39 Push-up Masts (3)				Bill	VE3YK	91-01-27
40 Guy Ropes				Bill	VE3YK	91-01-27
41 Audio Generator	Heathkit	IG-5282		Doug	VE3ATY	91-01-27
42 HF Transceiver incl.	Yaesu	FT-101E		Doug	VE3ATY	91-01-27
-Operating Manual						
-Maintenance Manual						
-Power cord						
43 Transceiver Mount	Yaesu (?)			Doug	VE3ATY	91-01-27
44 External VFO incl.	Yaesu	FV-101		Doug	VE3ATY	91-01-27
-Manual						
45 Dummy Load/Power Meter	Yaesu	YP-150		Doug	VE3ATY	91-01-27
46 Microphone (Dynamic)	Yaesu			Doug	VE3ATY	91-01-27
47 Power/SWR/mod. meter	Micronta	21-522		Doug	VE3ATY	91-01-27
48 Straight Key				Doug	VE3ATY	91-01-27
49 Antenna Matcher incl.	Archer			Doug	VE3ATY	91-01-27
-Fact Sheet						
50 Memory Keyer incl.	Heathkit	SA-5010		Doug	VE3ATY	91-01-27
-Manual						
-Power supply						
51 COAX Switch	Archer			Doug	VE3ATY	91-01-27
52 Low Pass Filter	Nye			Doug	VE3ATY	91-01-27
53 Transistor Checker	Micronta			Doug	VE3ATY	91-01-27
54 Signal Injector	Micronta			Doug	VE3ATY	91-01-27
55 COAX Cables	Home-made			Doug	VE3ATY	91-01-27
56 6SJ6 Tubes (2)				Doug	VE3ATY	91-01-27
57 Bag of Parts	Archer			Doug	VE3ATY	91-01-27

NMST EQUIPMENT as of 91-01-27

ITEM	MANUFACTURER	MODEL	S/N	INV NUM	CONTACT	DATE
1 Ant Rotator Controller	CDE			31125	Al	VE3LNH 91-01-27
2 2-MTR XCVR incl	Yaesu	FT-230R	2G022945	32863	Al	VE3LNH 91-01-27
-Mobile Bracket						
-power cable						
3 12-V Power Supply	Yaesu	FP-757HD	5G130255	52552	Al	VE3LNH 91-01-27
4 12-V Power Supply	Yaesu	FP-757HD	4C020093	32862	Al	VE3LNH 91-01-27
5 HF Transceiver incl	Yaesu	FT-757GX	5H180961	52551	Al	VE3LNH 91-01-27
-Handheld Mic	Yaesu	YM-47			Ed	VE3VLF 91-01-27
6 Desk Mic for FT-757	Yaesu	MD1		52556	Al	VE3LNH 91-01-27
7 Comms Controller	TONO	Theta-777		52578	Al	VE3LNH 91-01-27
8 HF Transceiver incl.	TEN-TEC	OMNI			Craig	VE3KKU 91-01-27
-Power Supply/Speaker						
-External VFO						
-Microphone						
-Manuals						
9 HF Linear Amplifier inc	TEN-TEC	44 Hercules			Craig	VE3KKU 91-01-27
-Power Supply						
10 CCTV Camera					Craig	VE3KKU 91-01-27
11 Tripod					Craig	VE3KKU 91-01-27
12 Monitor	Conrac				Craig	VE3KKU 91-01-27
13 SSTV Controller	Robot	400			Craig	VE3KKU 91-01-27