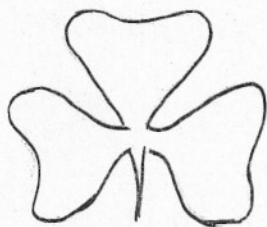


# RAMBLER

CLUB CALL: VE3RAM

MONITORED FREQS  
3760 KHZ, 146.940 MHZ.

R.S.O. Inc. Affiliate  
A.R.L.R.L. Inc. Affiliate



Sure and Begorra Best Wishes  
for St. Patricks Day !

Vol 13 No. 3, OTTAWA VALLEY MOBILE RADIO CLUB, INCORPORATED, Ottawa, Ontario, March 1970.

Editor: Ed Morgan, VE3GX, 755 Hamlet Road, Ottawa 8, Ontario (Tel. 733-1721)

## 1970 EXECUTIVE

<u>President:</u>	Bernie Best,	VE3SH, 745-3151.
<u>Vice Pres:</u>	Art Childerhose,	VE3CGD, 839-2896.
<u>Tech. Adviser:</u>	Tony Vandenberg,	VE3FXG, 745-6928.
<u>Public Relations:</u>		
<u>Secretary:</u>	Bert Foulds,	VE3DDK, 728-5606.
<u>Treasurer:</u>	Trev Hagan,	VE3BMC, 745-0235.
<u>Past Pres:</u>	Mike Patriarche,	VE3DNJ, 224-4979.

POT HOLE NET: Official Club NET. Meets every Saturday and Sunday at 10 AM local time on 3760 kHz. All amateurs are welcome to participate. Membership in the Club is not a requirement.

SWAP NET: The Club Sponsored SWAP NET is conducted by VE3GX every Saturday as part of the Pot Hole Net on 3760 kHz. This service is also provided every Monday at 8 PM as part of the Capital City Net on 146.940 MHz FM.

MONITORING FACILITY: Sponsored by the Club as a Service to Amateur Radio. VE3CGO monitors 3760 kHz SSB and 146.940 MHz FM daily from approx 8 AM to 6.30 PM. If you require assistance, telephone calls, or have traffic, call VE3CGO. Please allow a period of up to one minute for a reply.

## NOTICE OF MONTHLY MEETING

PLACE: N.R.C. Sussex Street, Room 3039.

TIME & DATE: 8 PM THURSDAY, 12 March 1970.

## PROGRAM

### BUSINESS

SHOW & TELL: HOMEBREW SSB LINEAR AMPLIFIER NIGHT  
Featuring: (a) Gib Walker, VE3BGX  
(b) Emil Nilsson, VE3CQD.

### COFFEE & COOKIES

### RAG CHEW

## REPORT ON THE LAST MEETING

VE3FXG Tony demonstrated his two meter FM Walkie-Talkie consisting of a Police Band FM receiver and a Sonabuooy transmitter. His packaging of the equipment to form an extremely compact unit was most interesting. He also talked on the charging circuits for the ni-cad batteries as well as the method for regulating the output to obtain the necessary 6 and 9 volt outputs for receiver and transmitter operation. He also demonstrated the versatility and features incorporated into his package. Certainly a very professional job of packaging and one that will be hard to better. A most interesting subject since many of us are presently engaged in the construction of similar projects. Art VE3CGD complemented Tony's talk and demonstration by a chalk-talk on the design of solid state regulators for transistor projects. A most interesting series gentlemen and I am sure that all (continued on page 2)

learned many interesting facts and approaches to this aspect of 2 meter FM operation. Thank you very much gentlemen!

REPEATER GROUP

The Repeater Group are adding a new input frequency to VE2CRA (presently 146.46 in and 146.94 out) The new frequency is 443.3 MHZ which will output on the the usual 146.940. This will be followed by a repeater output transmitter on 448.3 MHZ in the not too distant future. The addition of the transmitter will mean that the repeater will input on either frequency and output on both. Ultimately the two will be separated and become distinct systems. The 400 MHZ interest has been stimulated by the recent release of some lovely 400 MHZ gear at a cost comparable to the 2 meter gear.

ANNOUNCEMENT: The Repeater Group have requested that all persons using the facility observe a longer pause between transmissions to enable "break-ins" for emergency or other traffic. The following is your editor: "Instead of using the CB "break" to get in, why not insert your call in lieu (a much more professional and intelligent method) This eliminates the question "Who is the breaker" and other odious practices associated with this method.

WELCOME ABOARD

To new member VE2JE "Buck" Ewart, Arundel, P.Q. and to VE3AZY, Colin Rowe of Ottawa. A most hearty welcome to our Club gentlemen! Your active participation is welcomed.

FORTHCOMING ACTIVITIES

18 April 70 is the date for Miles For Millions Walk. Our role for this event has not been decided at this time but should be available for the meeting. Our Spring Auction is scheduled for 25 April 70 at the usual place, EMO HQ, 495 Richmond Road. VE3AOE, Arlyn has been appointed Chairman, assisted by VE3CGD, Art.

LAST CALL FOR MEMBERSHIP DUES.....LAST CALL

We will be including the 1970 Membership Roster with the next issue of the Rambler. Make certain that you are on it by ensuring that your dues are paid. If you are unable to make the meeting please make your cheque or M.O. payable to the Ottawa Valley Mobile Radio Club, Incorporated, and send it to our Treasurer, Trev Hagan, VE3BMC, 2152 Fillmore Crescent, Ottawa 9, Ontario. Indicate whether or not you are mobile. Dues: \$3.50 per year for FULL members (mobile) and for Associate (licenced but not mobile). DX members (former members who have moved away from the area pay \$1.00 per year. Our thanks in advance!

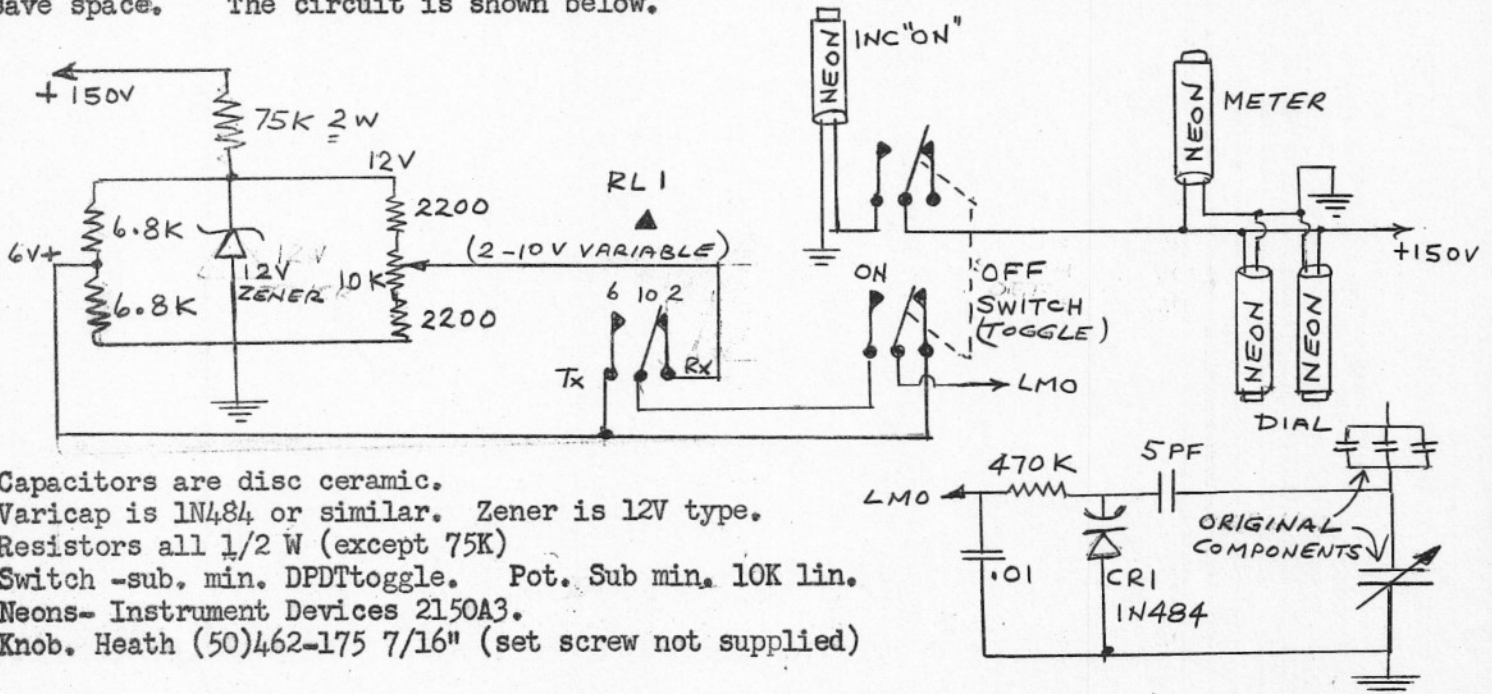
LICENCE RENEWAL TIME

Just a reminder that it is time to pay up your \$10.00 Amateur Licence Fee!

TECHNICAL TOPICS By Ron Tugan, VE3FBT

MODIFICATION TO HEATHKIT "SB" SERIES TO PROVIDE INCREMENTAL RECEIVER TUNING

The particular unit referred to here is the SB101, but the circuit will be equally usable on the SB301 and SB310 receivers by simply omitting the transmit/receive relay feature. The modification though easy to make, does entail the removal and opening of the LMO voiding any Heath warranties. The original dial lamps have to be replaced by neons to save space. The circuit is shown below.



Capacitors are disc ceramic. Varicap is 1N484 or similar. Zener is 12V type. Resistors all 1/2 W (except 75K) Switch -sub, min. DPDT toggle. Pot. Sub min. 10K lin. Neons- Instrument Devices 2150A3. Knob. Heath (50)462-175 7/16" (set screw not supplied)

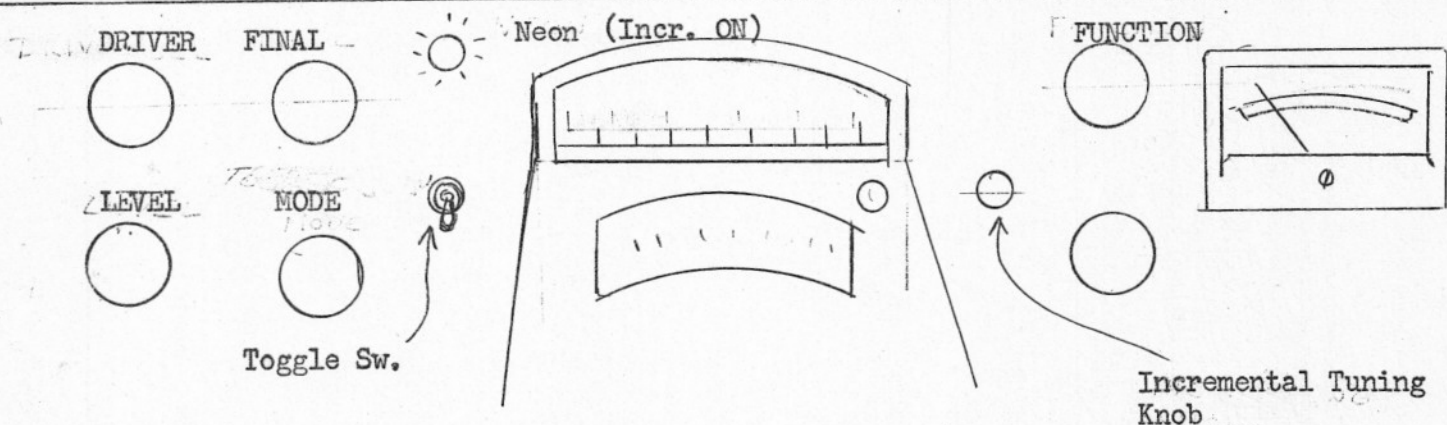


Method

1. Cut leads to dial lamps and disconnect rear terminals on IMO. Remove nuts (4) from bottom of IMO and withdraw unit bending dial pointer arm a little to clear the grooves in the tuning wheel. Remove the RIGHT HAND side of the IMO. Drill a suitable hole in the rear of the IMO case near the terminal strip to take the insulated feed through terminal. Install remainder of components in IMO keeping leads as short and rigid as possible. Close IMO and re-install in the unit. Connect up original leads. If you now wish to run a test, turn on the transceiver and tune to a station (or the calibrator). Place 2 V to 10 V on the new inc. tuning terminal and frequency should be heard to shift. Note: The calibration of the dial will be off. Don't worry about it until later.

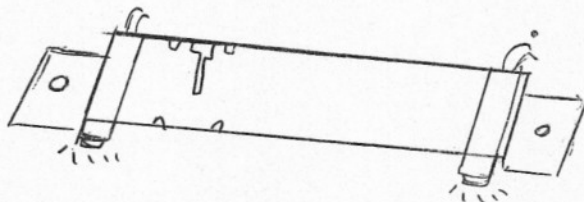
2. Install a 5 terminal strip on the vertical chassis divider (under chassis) close to the "bias adjust" pot. Now mount the various resistors on it together with the zener diode. Run the 2W 75K resistor direct from one terminal on the strip to V18 pin 1. (150V). I used the three contacts on RL 1 (6, 10 and 2) disconnecting the leads at the power plug and running them instead to the terminal strip....they should reach. Using thin plastic insulated wire run the leads for the pot and switch along existing leads (dressing them inside existing lacing) to the front panel. Leads to the pot, go through the cut-out in the IF circuit board. Leads to the switch go via the MOD circuit board cut-out.

3. Placement of the pot, and switch is critical due to space limitations. I put mine in the positions indicated on the diagram below.



4. Supporting the panel from behind, centre punch and drill the holes for the switch and pot. Leaving room to install the speednut, mark, punch and drill the hole for the "Incr. ON" neon. Run leads up to the switch and pot and connect them. Install the switch and pot on the front panel. Put the knob on the pot. shaft. DO NOT connect the IMO lead to the Incr. input yet. Turn on the SB101 and place the Incr. tuning Sw. to ON. The neon should light on the front panel. Meter the voltage at the lead going to the LMO. With the Incr. Tuning OFF or with the unit in the transmit mode, this voltage should be 6 V exactly. In the receive mode with the Incr. tuning Sw. ON the voltage should vary from 2V to 10V with the pot. Six volts should be in the center of the pot's travel. If all this checks out OK then you may connect the lead to the IMO. Switch on the SB101 and switch OFF the Incr. tuning. 6V should now be clamping the IMO on frequency. Calibrate the IMO using the crystal Cal. and varying the tuneable coil (on top) at one end of the band, and the variable trimmer capacitor (on the back) until linearity and freq fall in correctly with the scale. The main mod. is now complete. It now remains only to fit dial lamps and dial markings.

5. Since there is no longer room for the original dial lamp assembly, I used three neons instead (Wackid Radio). Two of these are placed between the dial pointer assembly and the plastic dial window (SB101 Manual p.52) after loosening the two screws.



I drilled a hole in the back of the tuning meter assy. and placed a third neon inside the meter. Blacking out the meter case with black plastic tape stops it shining through the case lid. One side of these neons goes to ground. The other side wired in parallel to the 150V available at the hot side of the Incr. switch. These lamps give a pleasant orange glow to the dials and meter far superior to the original set-up. The controls are marked on the front panel using "Letteraset" markings. The centre Zero on the variable control is marked with a line and the knob has a line scribed on it opposite the set screw to use as a reference. Frequency shift in my unit is about 3 kHz either way. This range can be changed

(continued on page 4)

by varying circuit values if desired. The original idea came from Ron, VE3AGA and the project was made in collaboration with him. I am now planning to install a two transistor AF amp, taking audio from C120 to a jack at the rear. This will give me a constant value of audio independent of the AF gain control for use with the Heath Monitor Scope. The 6V derived for the incremental tuning will serve as a power source.

Other Worthwhile Mods made to my SB101 Include:

1. Internal speaker for mobiling.
2. Pair of chrome handles on front panel for handling and control protection.
3. Pots with knobs for internal adjustments (bias etc.)
4. Switch incorporated on the MIC/CW level pot. shaft to break plate V to V16 for AM reception on 40M broadcast band.
5. Use of a 6FV6 in place of V10 (6AU6) Increases Rx gain.
6. Built-in VSWR bridge, reading on RF LEVEL pen on meter via internal level pot and a switch (mounted above meter) to select fwd and rev pwr.

Editor's Note: This must be the most modified SB101 in captivity. Thank you for the Article. Incidentally Ron would be pleased to answer any queries on the modifications.

#### RAMBLINGS

VE3BGX, Gib has just returned from a business trip to Texas ---- Hutch ex VE3GFL is now VE2BJR ---golly we are going to have to have a bee to get him on the air----Operation GET HUTCH IN TOUCH ---- VE3CJD, Ed putting the finishing touches on his new HW100--- we should get a surprise someday soon with a Pot Hole Net call in from him----Speedy recovery to the good XYL Sue ---- VE3EMO, Danny and VE3CGO, Doreen have received their Manitoba Centennial Awards ---- VE3EQZ, Russ has finished the testing stages of his new HW100 and should soon be working lots of DX .-.-.

#### VE3FRE and FAMILY LEAVE THE CAPITAL CITY AREA

Jonesy and family have departed for Gander Newfoundland in response to a rather sudden posting. We will certainly miss Jonesy since he was an ardent Club Member and a real worker. Jonesy took on any job handed to him in his capacity as Club Public Relations Co-ordinator and Assistant EC in the AREC with willingness and completed them to perfection. They are presently at Gander and I am sure that he got on the air an hour after unpacking the SB900 from the car. To Jonesy, Dianne and family the very best of luck in your new posting---we will be in touch on the bands.

DON'T FORGET THIS IS THE LAST CALL FOR MEMBERSHIP DUES (THIRD AND LAST TO BE EXACT)  
(See your name in print on the new membership list next month )

GREETINGS: On the 17th of March to all the "little people" and psuedo Irishmen.  
May you find your pot of gold !