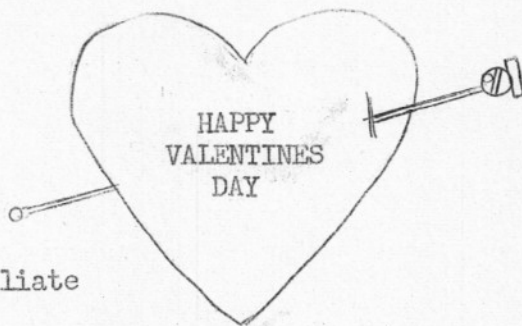


RAMBLER

CLUB CALL: VE3RAM

R.S.O., Inc. Chartered Affiliate



MONITORED FREQS
3760 KHZ, 146.94 MHZ

Vol.13 No. 2, OTTAWA VALLEY MOBILE RADIO CLUB, INCORPORATED, Ottawa, Ontario, February 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 Vandebelt,	VE3FXG,	745-6928
<u>Public Relations:</u>	Bob Jones,	VE3FRE,	822-2821
<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 provided on 2 meter FM every Monday at 8 PM as part of the Capital City Net on 146.940.

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 February 70

PROGRAM

BUSINESS

- SHOW & TELL: 2M Hand held Portable for Repeater Operation Based on the use of a Police Band Receiver and Sonobuoy Transmitter
- (a) The talk will also cover the care of Ni-cad batteries.
(By Tony VE3FXG)
 - (b) Battery Voltage Regulators will be the subject of a Talk by Art VE3CGD which will complement (a) above.

COFFEE & COOKIES

RAG CHEW

REPORT ON THE LAST MEETING

We had an excellent turn-out and it was nice to see so many of the xyls present to hear our fellow club member Doctor Maurice Haycock, VE3BDO talk on his trip to the North Pole last spring. It was a most fascinating talk illustrated by many 35 mm colour slides. It was evident from the rapt attention and comments heard that it was very much enjoyed by all. Thank you very much Doc for a most interesting and enjoyable evening.

WELCOME ABOARD

To the following new members: Russ Down, VE3EQZ, Pat Nicholl VE2UX, Andre Pilon, VE3CLW, George McCullum, VE3DIH. A most hearty welcome to our Club gentlemen. I am sure you will enjoy participating in our activities.

MEMBERSHIP DUES

The dues are beginning to roll in. Our coffers are low so we would appreciate your kind attention to this matter. If you are unable to attend the next meeting, why not mail in your dues to: Trev Hagan, VE3BMC, 2152 Fillmore Crescent, Ottawa 9, Ontario. Make your cheque payable to the Ottawa Valley Mobile Radio Club, Incorporated. 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. We hope to have the new membership roster included with the April edition of the Rambler.

AMATEUR RADIO EMERGENCY CORPS (AREC) SIMULATED EMERGENCY TEST (SET) 24/25 Jan 70

This year the AREC devoted most of their resources to provide traffic outlets on 3535 kHz C.W. and 3770 kHz SSB. The Ottawa group normally conduct local mobile SETs on 2m FM and 75 m but the accent is on mobile operation. VE3FRE had the C.W. and SSB stations linked by 2 meter FM direct on 146.760MHZ to VE3CGO and VE3FXG. VE3CGO had the capability of simultaneous operation on VE2CRA repeater 146.460/146940, 3760 kHz, and the Trans Canada NET on 14140 kHz. VE3CGO was prepared to take over the SSB or C.W. outlet if necessary. VE3FXG was equipped for simultaneous operation on 146.760 MHZ and Repeater VE2CRA. VE3FXG and VE3CGO served as the telephone delivery points for Ottawa traffic from VE3FRE as well as the origination points for Ottawa traffic. Mr. Holcombe, Deputy Director E.M.O. for Ottawa Carleton district toured the facilities at VE3FRE and VE3CGO in a radio equipped AREC car. He enjoyed the tour and was impressed with amateur radio traffic handling capability. CBC TV was on hand at VE3FRE and gave amateur radio excellent coverage on the 11 PM news Saturday night. Many favourable comments were received from the general public on the TV news spot. VE3CGO, EC for Carleton County (Ottawa and surrounding district) wishes to express her thanks to the 25 radio amateurs who manned the three stations from 10 AM until 10 PM Saturday and Sunday. She especially wishes to thank Jonesy, VE3FRE who organized the VE3FRE traffic outlet, arranged for the publicity and spent the entire period on site. APPROX. TRAFFIC TOTALS: (final report will be submitted to ARRL, SEC containing final totals) ORIGINATED: 80, RECEIVED: 140, RELAYED: 70, DELIVERED: 68

It should be pointed out that all of these messages were formal type messages with proper ARRL pre-ambles and check. It was a new experience for a number of us and excellent practice for all of us. I think we proved to the National Traffic System that we can handle long haul formal traffic if required to do so and can revert to our normal local SETs in future. In fact we have many more stringent tests of our abilities doing public service communications for OXFAM, Cystic Fibrosis etc. throughout the year!

QSL BUREAU P.O. BOX 6161 PHASE OUT

The QSL Bureau was initiated in March 66 as a Club service to Ottawa area radio amateurs. Unfortunately, over the years the vast majority of cards received were for amateurs not members of our Club or the O.A.R.C. thus making delivery difficult. In addition, the Post Office used the box as the final destination for for C.B. or G.R.S. QSL cards and anything with a radio connotation with a poor address. In view of the foregoing, the Executive have regretfully decided to phase out the service.

NEXT MONTHS TECHNICAL TOPICS: Feature article by Ron Tughan, VE3FBT on Modification to Heathkit "SB" series to provide Incremental Receiver Tuning.

TECHNICAL TOPICS "FET PRE-AMP FOR 2 METER FM"

The following article appeared in the Telephone Co. Pioneer Amateur Radio Club Bulletin. The circuit was designed by Bob Pepper VE2AO (ex VE3GKR) and the article was written by Arlyn VE3AOE. "Using the Texas Instruments TIS88 FET an average measured noise figure of 2.5 db with a gain of 18-22db was achieved. This amounts to a significant improvement in the receivers ability to receive weak signals with man-made noise being the limiting factor.

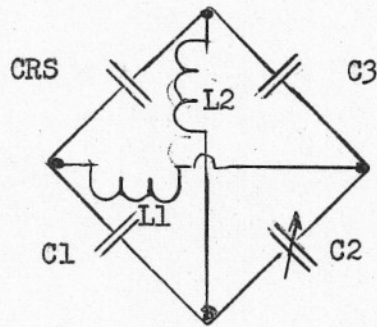
Due to the inherent stability problems associated with inductive neutralization under the extreme temperature variations experienced in mobile operation, an attempt was made to eliminate this drawback. With proper isolation between the input and output circuits, more than adequate control was achieved using the circuit shown in Figure 2. A slight re-arrangement of the components involved results in the familiar capacitive bridge configuration illustrated in Figure 1. If in the ratio:

$$\frac{C_{RS}}{C_1} = \frac{C_3}{C_2}$$

the capacitive bridge will be perfectly balanced; hence the voltage across L₂ (output coil) will not be imposed across L₁ (input coil). With a gain of 20db at 146 MHZ, the

(continued on page 3)

degree of attenuation in the balanced configuration is 60db (measured) which results in a 40db margin before the amplifier will oscillate!



where CRS is the feedback capacitance of the FET
0.9pf for the TIS88

Fig. 1 Capacitive Bridge Circuit

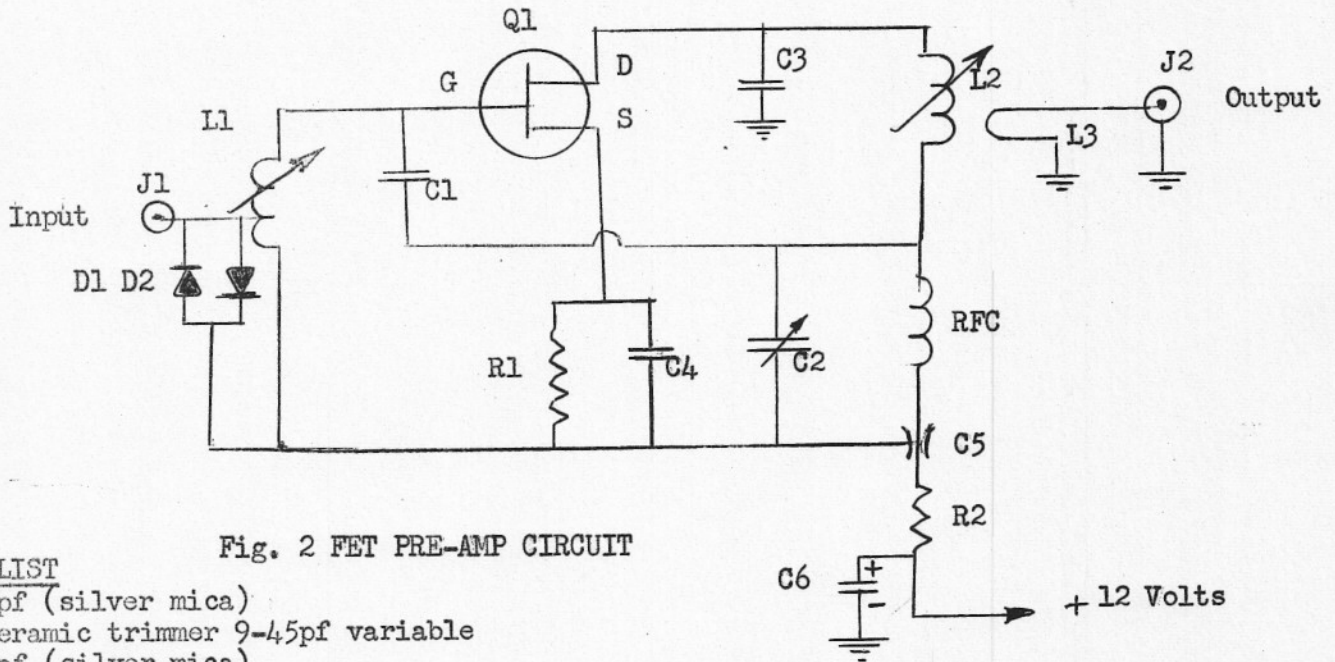


Fig. 2 FET PRE-AMP CIRCUIT

PARTS LIST

- C1 - 5pf (silver mica)
- C2 - ceramic trimmer 9-45pf variable
- C3 - 5pf (silver mica)
- * C5 - .001 uf feed thru capacitor
- C6 - 10 uf electrolytic
- D1, D2, hi-speed switching diodes-germanium
- J1, J2, -phono jacks
- L1 - 3/16" coil form (blue slug) 5 turns #22 tap at 1 turn from cold end
- L2 - " " " " " 7 turns #22 close wound
- L3 - One turn link on cold end of L2
- Q1 - TIS 88 or TIS 88A (Texas Instruments) MPF106, MPF107 (Motorola)
- RFC - 10 uH rf choke
- R1 - 220 ohms, adjust for 5-8 ma source current
- R2 - 56 ohms
- * C4 - .001 uf discap

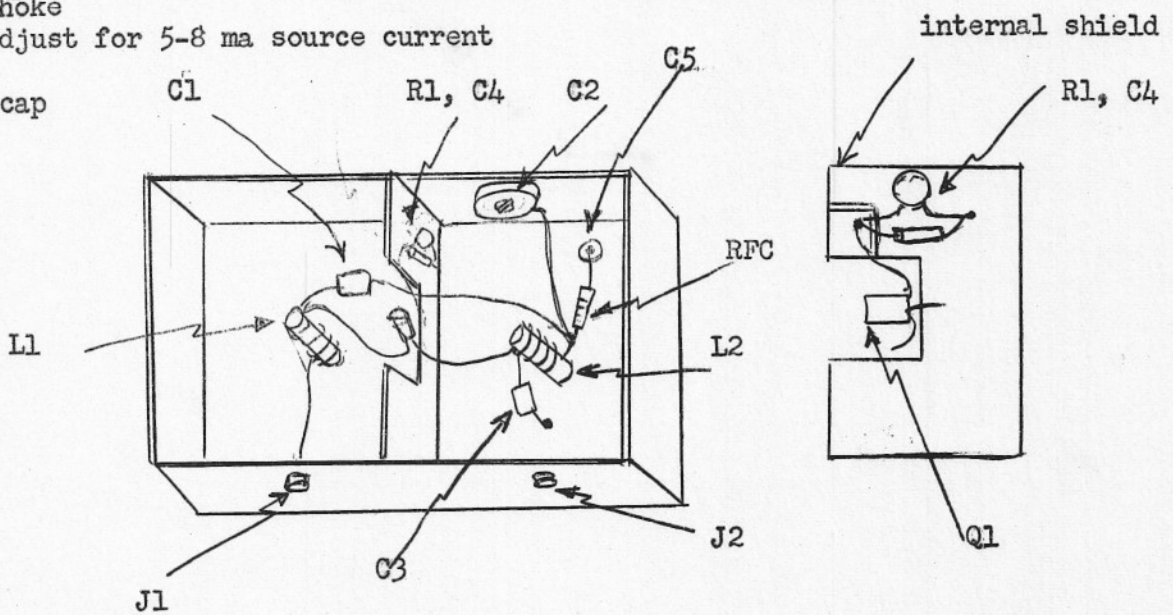


Fig. 3 a & b Physical layout of parts, showing partially etched internal shield

The value of C2 is made variable so that circuit tolerances can be overcome. Physical isolation between L1 & L2 must be maintained in order to achieve the balanced configuration.

(continued on page 4)

As the circuit layout is somewhat critical at VHF frequencies, a sketch of the physical construction is shown in Figure 3. The unit was constructed using copper clad fiberglass board for the basic structure. Actual size is approx 2" long, 1 1/4" wide and 1" high. The internal shield between the input and output circuits was formed from the same material. Leads should be kept as short as possible to limit stray capacitance.

Initial Tune-up

- (1) Connect antenna to the pre-amp input and feed the output to the normal receiver antenna jack. With voltage applied, peak L1 & L2 for maximum level as indicated by the limiter 1 current when receiving a suitable carrier. The amplifier may oscillate during this initial step however this should not pose a problem.
- (2) Reverse the pre-amp in the circuit (i.e. antenna to output jack and input connected to the receiver antenna jack). With voltage again applied, adjust the neutralizing capacitor C2 for Minimum signal indication. A strong signal is required for this adjustment because of the 60 db attenuation in the reverse direction.
- (3) Connect the pre-amp in the normal manner and re-peak L1 & L2.
- (4) Repeat step (2). This procedure is repeated because of slight inter-action in the adjustments.
- (5) Correctly install the pre-amp in its final position, re-peak L1 & L2 and listen to the distant signals pour in.

RADIO SOCIETY OF ONTARIO, INC. CLUB AFFILIATION

As you know our Club applied for affiliation with R.S.O., and much to our surprise received a beautiful Certificate dated 11 Dec 69. Our congratulations to the R.S.O. for having such imagination. I expected only a letter stating acceptance/rejection! The Certificate will be on display at the Club meeting for all to admire.

AMATEUR RADIO ESTATES OF VE3JW & VE3CMO

I am pleased to announce that the Club Sponsored SWAP NET has been successful in disposing of all the major pieces of equipment in both cases. The widows are very grateful for this service and were surprised at the amount of money realized. I am sure that most of the equipment would have been given away to "friends" if the service had not been offered to them before this occurred. Both widows can certainly use every penny!

RAMBLINGS

VE3BEB Harry finally has his HW 100 finished and on the air--it sounds fb ---- VE3CGO and VE3GX also have an HW 100 and are enjoying the increased facilities ----Doreen has earned her Wheat City Award and has completed the necessary Contacts for the Manitoba Centennial Award ---both are enjoying getting back on C.W. after a long absence ---- VE3CQD Emil is suffering from a broken rib obtained during the course of a combined skiing/ski-dooing party ---best wishes for a speedy recovery Emil ---- VE3GGQ Ted, VE3DNJ Mike, VE3CEZ Lyle and VE3FRE Jonesy have all been recent victims of the flu --- hope you all recover fully in a most rapid fashion.---- It is understood that the Club Witch Doctor is making with appropriate incantations to protect the rest of us,----He is also (as a double threat) constructing amulets in his workshop to be worn as his contribution to our members and to medical science---- Better hurry and renew your memberships--you wouldnt want to miss any of the valuable Club services! ---- W6JON ex-W2YYP is taking some courses to improve his mind---good show Gary ---- VE3EMQ Harry is now on 2 meter FM in addition to the advanced bands ---- VE3EMO Danny has almost completed his Manitoba Centennial Award and it has all been done on 75 meter SSB.--Quite an accomplishment!

73 & HAPPY MOBILING -----CU AT THE CLUB MEETING

HAPPY VALENTINES DAY TO ALL YOU YLOVERLY LOVERS