RAMBLER

AMATEUR RADIO

OTTAWA VALLEY MOBILE RADIO CLUB INCORPORATED

OTTAWA, ONTARIO

CLUB CALL: VE3RAM

MONITORED FREQS
3760 kHz, 146.94 MHz

Vol 11 No 9 OTTAWA VALLEY MOBILE RADIO CLUB, INCORPORATED, Ottawa, Ont. Sept 68

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REVIEW OF SERVICES PROVIDED BY THE OTTAWA VALLEY MOBILE RADIO CLUB, INCORPORATED

The following facilities are provided as a service to Amateur Radio. Membership in the Club is not required to take advantage of them.

(a) OTTAWA AREA QSL BUREAU: All amateurs residing in the Ottawa area may use P.O. Box 6161, Ottawa Ontario as their address for QSL purposes. Cards received are distributed at the Mobile Club and OARC meetings or may be picked up in person from the QSL Manager, VE3YC.

(b) MONITORING FACILITY: VE3CGO monitors 3760 kHz SSB and 146.940 MHz FM daily from approx 8 AM to 6.30 PM. If you have traffic for Ottawa, require assistance, information, tests, phone calls, give VE3CGO a call. The 3760 kHz service has been in operation for 10 years. The 146.940 MHz service was initiated one year ago.

(c) POT HOLE NET: Official Club NET. Meets every Saturday and Sunday morning at 10 AM local time on 3760 kHz. All amateurs welcome to participate.

(d) SWAP NET: Conducted by VE3YC as part of the Pot Hole NET on Saturdays only.

NOTICE OF MONTHLY MEETING

PLACE: NRC Sussex Street, Room 3039

TIME & DATE: 8.00 PM THURSDAY 12 September 68

PROGRAM

BUSINESS

SHOW & TELL: New Heathkit HW 100 5 band SSB transceiver (by VE3GAH)

PROPOSED NEW CLUB PROJECT: by VE3GGQ

COFFEE & COOKIES

RAG CHEW

REPORT ON THE LAST MEETING

The August meeting featured a conducted tour of the National Museum of Science and Technology located on St. Laurent Blvd at Russel Road. Those attending were most impressed with this new museum and I am sure that they will return for another visit in the near future. The museum is open daily except Monday from 9 AM to 9 PM.

COMING ATTRACTION - HIDDEN TRANSMITTER HUNT 15 Sept 68

By popular demand, we are holding our second Hidden Transmitter Hunt of the year on Sunday 15 September 68. The frequency is 3760 kHz and you don't have to be mobile on 75 to participate. Transistor radios etc. can be used effectively. All participants are to rendez-vous at 2 PM in the GEM Store parking lot on the Merivale Road. Bring along the family for an outing! I am certain that before the hunt is over you will have seen many new and strange parts of our fair city. Suggest that you have a map of the city available. The hunt will be confined to an area within the city limits. Tally-ho CU there !

TECHNICAL TOPICS
Check page 3 of this issue for another interesting article by VE3DNJ

CONGRATULATIONS
To the Ottawa Amateur Radio Club on the "New Look" Ground Wave. As the editor of our bulletin, I can well appreciate the amount of work involved.

It is hoped that the OARC and OVMRC can continue in harmony and in the spirit of co-operation. The two Clubs have different traditional activities and consequently should be able to continue to operate without competition or duplication of individual effort. One Club should complement the other.

PROPOSED NEW CLUB PROJECT
The National Museum of Science & Technology in Ottawa have been considering a new section devoted to the history of radio and communications. The Club Executive have discussed the possibility of our participation in a Club Project designed to assist museum officials in obtaining equipment depicting the evolution of this art. The Executive are of the opinion that since radio communication is our hobby and in many cases our vocation, we are in a position to make a worthwhile Public Service contribution to our National Museum. If the membership is in agreement with this proposal, a committee will be appointed by the Executive to implement the Project.

REPORT ON THE MONITORING FACILITY
VE3CGO reports that she has handled a considerable amount of traffic this summer on 3760 kHz and 146.940 MHz. The traffic originated from mobiles, campers, cottagers, tourists and out of town stations. She wishes to thank those who expressed their appreciation for the service.

RAMBLINGS
W2YYP Gary and family have been wending their way gradually to Sacramento. After leaying Ottawa, Gary worked for a month in Bellefontaine Ohio and then proceeded westward at a leisurely pace visitng friends enroute. Our last report indicated they were heading for Reno (We hope not for a divorce) and should now be basking in sunny California. We hope to be able to establish contact by radio as soon as they have a roof over their heads -...- We havent heard from Read W5PSY as yet, but presume that he reached California and is now settled and ready for QSOs with Ottawa.-...- VE3LX Gerry and family had a nice vacation at the cottage in VE2 land -...- VE3CGD Art has moved to Carp RR#3 and after he clears the land should be back on the air -...- VE3FBT Ron is mobile on 2 FM -...- VE3SH Bernie has installed transistor ignition and an alternator in his vehicle -...- K7LRV Dick is still busy most weekends piloting tow planes and gliders in Buckingham PQ.-...- VE3CDC Doug recently had a camping 48 hour pass on the Sea Way --he worked back to Ottawa on 2 and 75 mobile -...- It is gratifying to see that the democratic process is still workable--the many representations made to the DOT with respect to the licence increase has resulted in a second look into this very important area ---We certainly must appreciate this consideration -...- W.A. Caton, VE3ZZ, retired June 26th, 1968 as Chief, Radio Regulations, Canadian Department of Transport after 44 years service---Those attending the ARRL Convention in Ottawa in Nov last year were priveleged to hear a most interesting address by him-...- We wish him the very best of luck and happiness in his well earned retirement .-.-.

-30-

73 & HAPPY MOBILING.....CU AT THE MEETING

(See Page 3 for Technical Topics)

TECHNICAL TOPICS-Transistor Biasing

In the July Rambler we concluded our discussion of the FET, and indicated that for many applications the conventional transistor was still supreme. In this article, the use of the transistor in a basic amplifier configuration will be discussed.

Without going into the internal physics of the transistor, we can represent it by a "black box" with three connections: the emitter, base, and collector. Their functions are, from a circuit point of view, similiar to the cathode, grid, and plate of ancient times. The normal terminal polarities for both NPN and PNP transistors are shown in Fig. 1. Note that the polarity of the voltages applied to the NPN transistor are analogous to those of the vacuum tube, while for the PNP they are opposite in every respect.

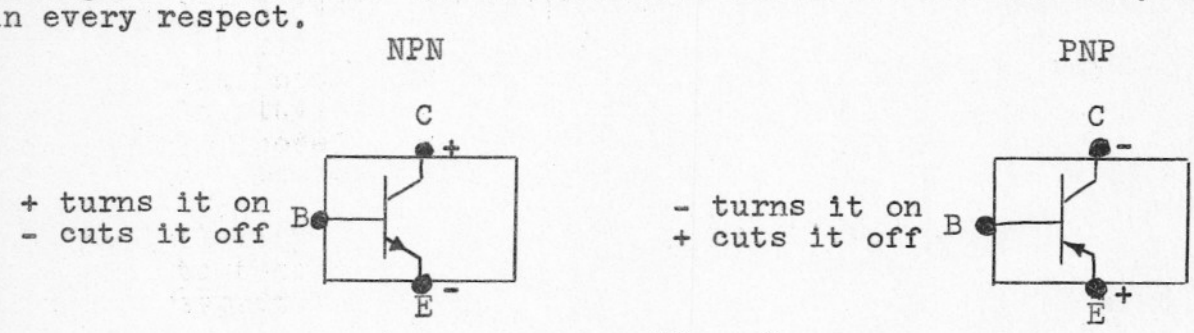

Fig. 1.

For simplicity we will deal with the NPN, remembering that PNP usage is similiar, but with all polarities reversed. Notice that for the NPN a positive base voltage will cause collector current to flow (compare to the positive grid of bygone days). A primary difference between tube and transistor behavior is that a transistor is cut off when the base is grounded (zero volts). This means that for CW and AM, where we use a class C power amplifier, "zero bias" is used. The base of the transistor is grounded for DC (through an RF choke, for example) cutting off the transistor. The RF driving voltage overcomes the zero bias and the transistor conducts for something less than half of each cycle (class C).

Transistors are commonly used as low power linear audio amplifiers. In this application the transistor is biased so that a no-signal collector current, or idling current, is flowing all the time (class A). Many people find class A transistor biasing complicated, but a simple formula plus a few rules-of-thumb remove the mystery. Fig. 2 shows the circuit of a low-level audio amplifier.

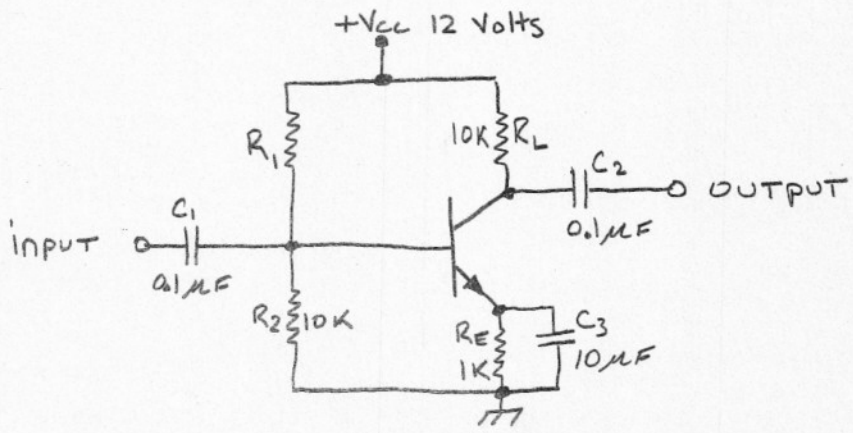

Fig. 2.

In the above figure, R_1 and R_2 form a voltage divider which sets the bias at its correct value. R_E stabilizes the amplifier, while R_L is the load resistor. Component values shown represent a compromise, but will work well with almost any low power transistor. One calculation must be carried out to get the value of R_1:

$$R_1 = \frac{R_2(V_{cc} - I_E R_E - X)}{I_E R_E + X}.$$

Use resistances in ohms, current in amps, and note that X is a "fudge factor" so that:

(1) X=0.7 for silicon transistors.
(2) X=0.3 for germanium transistors.

The no-signal emitter current I_E is usually picked quite arbitrarily at one milliamp, but you can use whatever you desire, within the rating of the transistor.

-VE3DNJ-