



### Three Circuit Regenerative Receiver

(Part 2)

By R. M. SHERRILL  
(Radio Engineer)

It is quite important in assembling this receiver to arrange the apparatus carefully. In this type of hook-up, when the plate circuit has been tuned to resonance with the grid circuit, some of the energy in the former is fed back to the latter through the internal capacity of the tube. This feed-back of energy is controlled by the plate variometer. If, however, some of the different pieces of apparatus are placed too close to each other, there may be a feedback of energy from one to the other which would be beyond the operator's control. Such an occurrence is often the cause of howling and general poor operation.

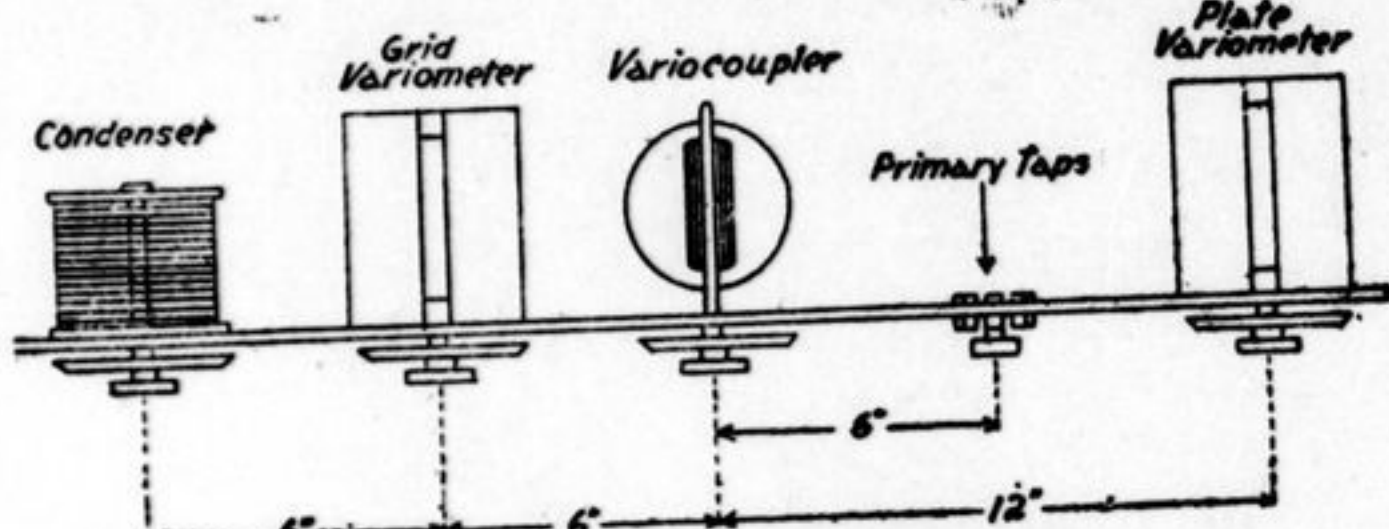
The grid and plate variometers especially must be kept separated. The arrangements in the diagram below provides for the proper separation of parts.

As there are five tuning adjust-

increase the signal strength as much more as possible.

The plate variometer is next adjusted. As it is turned up slowly from its zero position the signals should become louder until a point is reached where there is a click, and the tube breaks into oscillation, thereby distorting the signal. The proper adjustment of the plate variometer is obtained when the rotor is in the position just before that point where the oscillation starts.

The adjustment of the coupling between the primary and secondary depends considerably upon local conditions. If there is a lot of interference from other stations the secondary must be as loosely coupled as is necessary to cut out the interference. (The loosest coupling is obtained when the secondary is turned at right angles to the primary.) This of course weakens



Arrangement Of Parts For Three Circuit Regenerative Receiver

ments, this receiver is not very easy for an unfamiliar operator to use. This large number of controls however, provides a means of eliminating undesirable stations, and the difficulty in using them correctly may be easily overcome with a little patience and practice. The grid variometer is the main tuning adjustment. It is generally set upon the wave length desired and the other circuits are tuned to resonance with the grid circuit. The approximate settings of this variometer from the different stations heard, should be recorded and used in locating those stations again.

#### Tune Carefully

As soon as the grid variometer has been adjusted to give the loudest signal, the inductance switch on the primary and the primary condenser should be manipulated to

the signal strength somewhat. In general, from the loudest signals, the primary and secondary should be coupled as closely as possible without allowing other stations to interfere.

Another way of reducing interference is by the proper combination of inductance and capacity in the primary circuit. When a signal has been tuned in at a certain condenser setting, it will be noticed that if more turns are added at the inductance switch the same station may be tuned in again at a lower setting on the condenser dial. The signal in the second case will be a little weaker generally but will be more free from interference.

The operator of this receiver must be careful in tuning to keep his plate variometer turned so that the tube will not oscillate or it will interfere with other receiving stations in the neighborhood.

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#### RADIO QUESTIONS AND ANSWERS

Mr. Sherrill will be glad to help you solve your radio problems. Write him, care of The Durham Chronicle.

R. P. W. wants to know: "Is there any objection to using more than 22½ volts on the plate of my detector tube? I am getting louder signals by using about 90 volts."

Ans.—For local stations it would probably be O. K. to use that voltage on your detector. For weaker signals however, the detector would be more sensitive with less plate voltage.

E. B. H. says: "I am using a 4-tube home-made Superdyne receiver. I am getting excellent results but have trouble in stopping the set from howling whenever I try to use the last tube. Can you suggest a remedy?"

Ans.—If the different pieces of

apparatus are properly separated the trouble may lie in one of the amplifying transformers. Try interchanging them. Then, if necessary, try replacing one or the other with a different one.

C. B. T. asks: "Is it better, when connecting two pairs of headsets to a crystal receiver, to put them in series or parallel?"

Ans.—If the headphones are exactly alike they may be put in parallel. Otherwise they should be connected in series.

#### EGREMONT COUNCIL

Council met October 6. Members all present. Minutes adopted.

The Reeve reported B. F. Sharp, 56 rods bonus wire fence, \$22.40; P. Kelly, road to gravel pit, \$2.00; H. Cowan, gravel, 64 cents; R. Seim, dragging road, \$1.13; J. Troy, raking stones, \$2.25; G. McEchern, for services McCannell's and Watt's drains \$3.00. Report adopted.

Com'r Calder reported, J. Weir, gravelling, 90 cents; T. Harrison, Jr., timber for bridges, \$26.7; Com'r Calder for services re Drury bridge; Egremont and Proton town line, McCannell's drain, \$4.50. Report adopted.

Com'r Groat reported, N. Horsburgh, 80 rods bonus wire fence, \$32.00; N. Dodds, gravelling, \$5.40; C. Schenk, raking stones, \$1.00; Fees, \$1.00. Report adopted.

Com'r Ferguson reported, E. Russell, repairing culvert, \$2.70; R. Watson, brushing, drawing stone and tile, \$13.27; J. McPhee, railing culvert, \$1.25; work and fees, \$10.80. Report adopted.

Com'r Mack reported, T. Tucker, repairing bridge and culvert, \$3.00; J. Lennox, gravel, \$2.00; W. J. Eden, gravel, \$6.00; W. Moore, gravel, \$4.80; Miss M. McDonald, gravel, \$1.20; T. Alchison, gravelling, etc., \$21.60. Report adopted.

Com'r Mack also reported the payment to the Treasurer of 75 cents received from the sale of plank to H. Lawrence.

By-laws were passed directing payment of Taxes into the Bank of Montreal at Holstein and Authorizing Tax Notices to be mailed and amending By-Law No. 458 re Special Rate Police Village of Holstein.

Mack—Groat.—That a sufficient sum of money be granted to construct a snow fence 70 feet in length and from 2 to 3 feet high at G. A. Concession 20, E. V. Mathews, Path Master agreeing to draw the material free of charge. Carried.

Ferguson—Mack.—That a Commission composed of the Reeve, Clerk and Treasurer accompany the Police Village Trustees to consult a Solicitor in reference to all matters arising between the Council and the Police Village Trustees. Carried.

Calder—Groat.—That the following accounts be paid:

Municipal World, Assessor and Treasurer's supplies; Dog Tags and Drainage Forms, \$57.40; Mrs. J. R. Philp, for services rendered by late Treasurer and postage and exchange, \$20.45; Clerk for services re settlement of accounts between Proton, Glenelg and Egremont, \$5.00, also services re Voters' List, \$2.00; C. Ramage and Son, printing account to date, \$120.75; R. Irwin, sheep killed, \$10.00; R. Aitken, inspecting sheep, \$1.00. Members of Council attended at meeting to date, \$15.00; R. Gibson, use of room, \$2.00. Carried.

Council adjourned to meet November 8, for general business.

DAVID ALLAN, CLERK.

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