

**INSTRUCTIONS FOR THE INSTALLATION
AND OPERATION OF
GREBE TYPE CR-9 AND CR-5
INTERMEDIATE-WAVE REGENERATIVE
RECEIVERS**

INSTALLATION:—The receiver should be placed in a position convenient for operating control.

Connect the Antenna and Ground Leads to the terminals so marked.

Connect a 6-Volt Storage Battery to the terminals marked "Filament Battery."

Connect two 22½-Volt Battery units in series. Connect the junction of these batteries to the terminal marked "Detector." Connect the ends of these batteries to the remaining terminals marked "Amplifier."

NOTE:—Make certain that all the battery leads are connected to the proper terminals and that the polarities are not reversed. Connect the telephone terminals to one of the plugs supplied with the set.

Turn all three rheostat wheels to the "off" position and place the vacuum tubes in the

sockets. Insert the telephone plug into the jack marked "Detector," and turn the detector rheostat wheel to 2.

OPERATION:—Combinations of antenna inductance and antenna series capacity, as indicated by the Inductance Switch and the Condenser Dial, result in the wave-length shown for these combinations on the Wave-length Chart. The Tickler Dial controls the regenerative action and its proper setting for spark signals is best determined by advancing the dial until the signal is of maximum audibility without distortion. For C. W. signals the dial must be advanced beyond this point, i. e., until oscillations occur a condition easily recognized by a soft hissing sound in the telephones.

As many signals are inaudible until regenerative action takes place, it is advisable to adjust the Condenser and Tickler Dials simultaneously. The Vernier Wheels are essential in accurately tuning all weak signals, especially C. W. and telephones.

After tuning and detector adjustments have been made, the telephone plug may be changed to the 1st Stage Amplifier position and the corresponding rheostat adjusted for maximum signal strength. The same procedure is followed in adjusting the

second stage. When it is desired to use a loud-speaker this instrument should be connected to the terminals marked "Loud Speaker," and the telephone plug inserted into the second stage jack just far enough to light all three filaments.

When it is desired to use the amplifier section in conjunction with external tuning and detector apparatus, connect the output of the external detector to the other plug supplied with the set. Also connect the filament leads of the external detector to the terminals marked "External Filament." Thus, when the plug is inserted into the jack marked "External Detector," the automatic control device will cause the external filament to be lighted and the filament of the detector tube in the CR-9 to be extinguished.

LOCATION OF FAULTS:—

(a) If adjustment of Tickler fails to produce regeneration but no appreciable increase in signal strength, adjust Condenser.

(b) If vacuum tube filaments flicker or fail to light remove the tubes and clean the ends of their contactors with a file or sandpaper. If this does not eliminate the trouble, it may be necessary to adjust the filament control blades of jacks.

NOTE:—Remove ALL plate battery connections before making these adjustments, to prevent short circuit resulting in the burning out of vacuum tube filaments.

(c) If both stages fail to produce amplification, the trouble may be traced to faulty plate batteries, or the reversal of the filament battery leads. Defective tubes cause the majority of other troubles. It is desirable to try the tubes in various combinations for detector, 1st and 2nd stages.

Grinding noises are caused by:

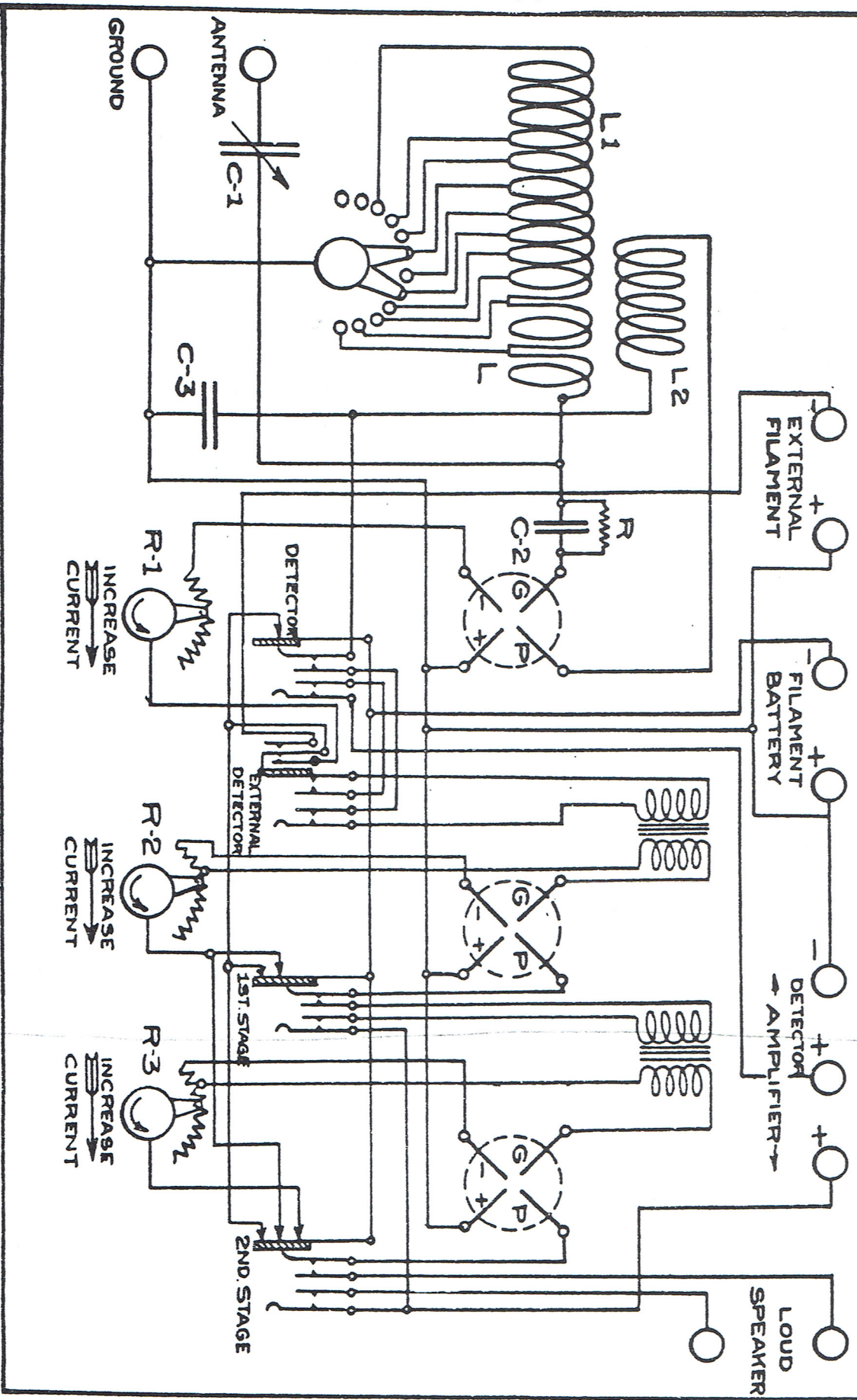
- 1.—Faulty connections.
- 2.—Defective plate batteries.
- 3.—Defective vacuum tubes.

Unlike static, these noises persist when the antenna has been disconnected and they may be eliminated by tightening binding posts, cleaning the ends of vacuum tube contactors, or replacing defective tubes or batteries.

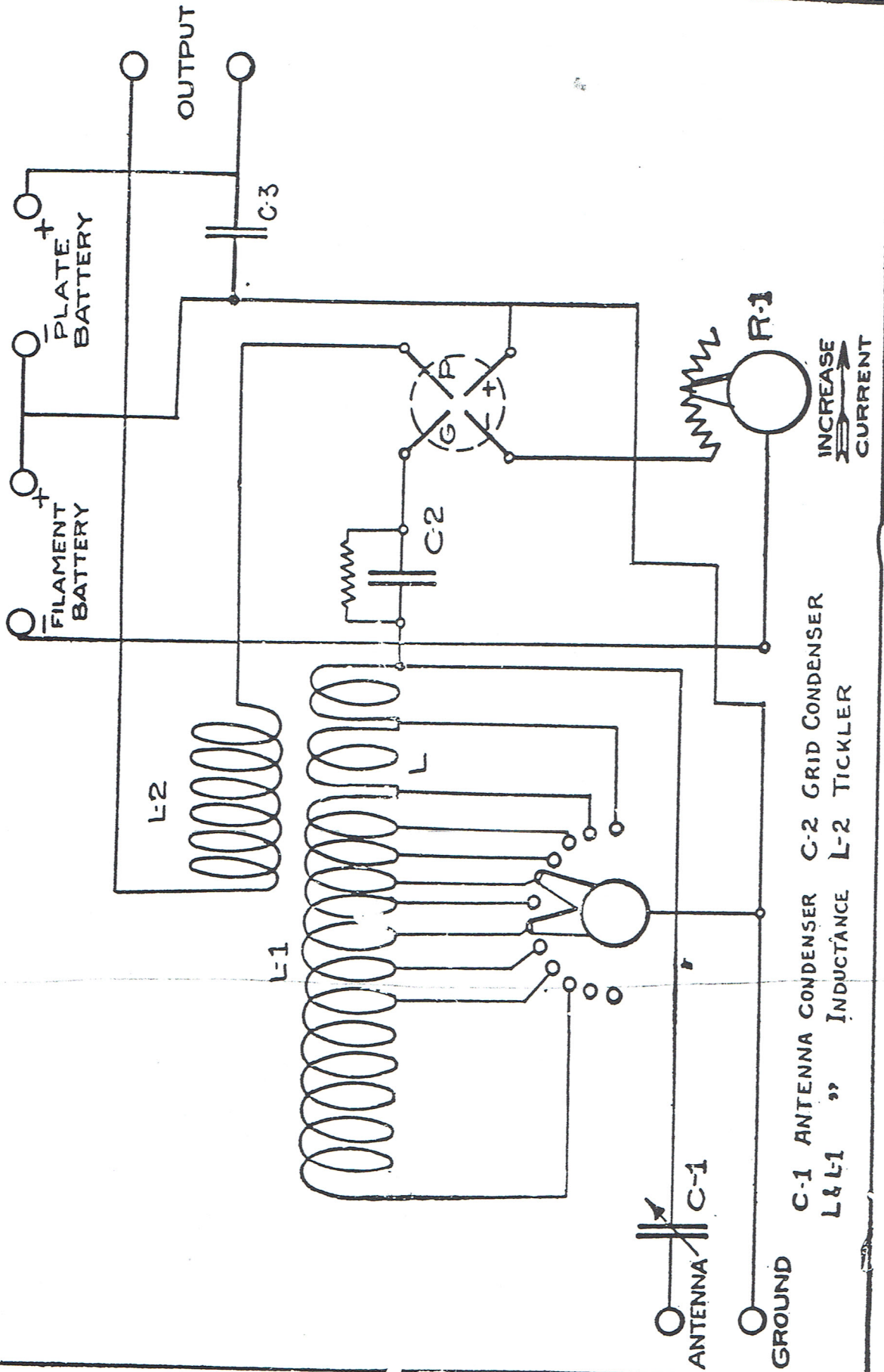
Complete wiring diagrams for both the Type CR-9 and CR-5 are shown. A careful study of these circuits will prove helpful in the operation of the receivers.

TYPE CR-5:—The operation of the CR-5 Receiver is essentially the same as the Type

**INTERNAL WIRING DIAGRAM
FOR
GREBE INTERMEDIATE-WAVE REGENERATIVE RECEIVER
TYPE CR-9 150-3000 METERS**



**INTERNAL WIRING DIAGRAM
FOR
GREBE INTERMEDIATE-WAVE REGENERATIVE RECEIVER
TYPE CR-5.**



CR-9 with the exception that the amplifiers are not included. Refer to the diagrams for proper connections.

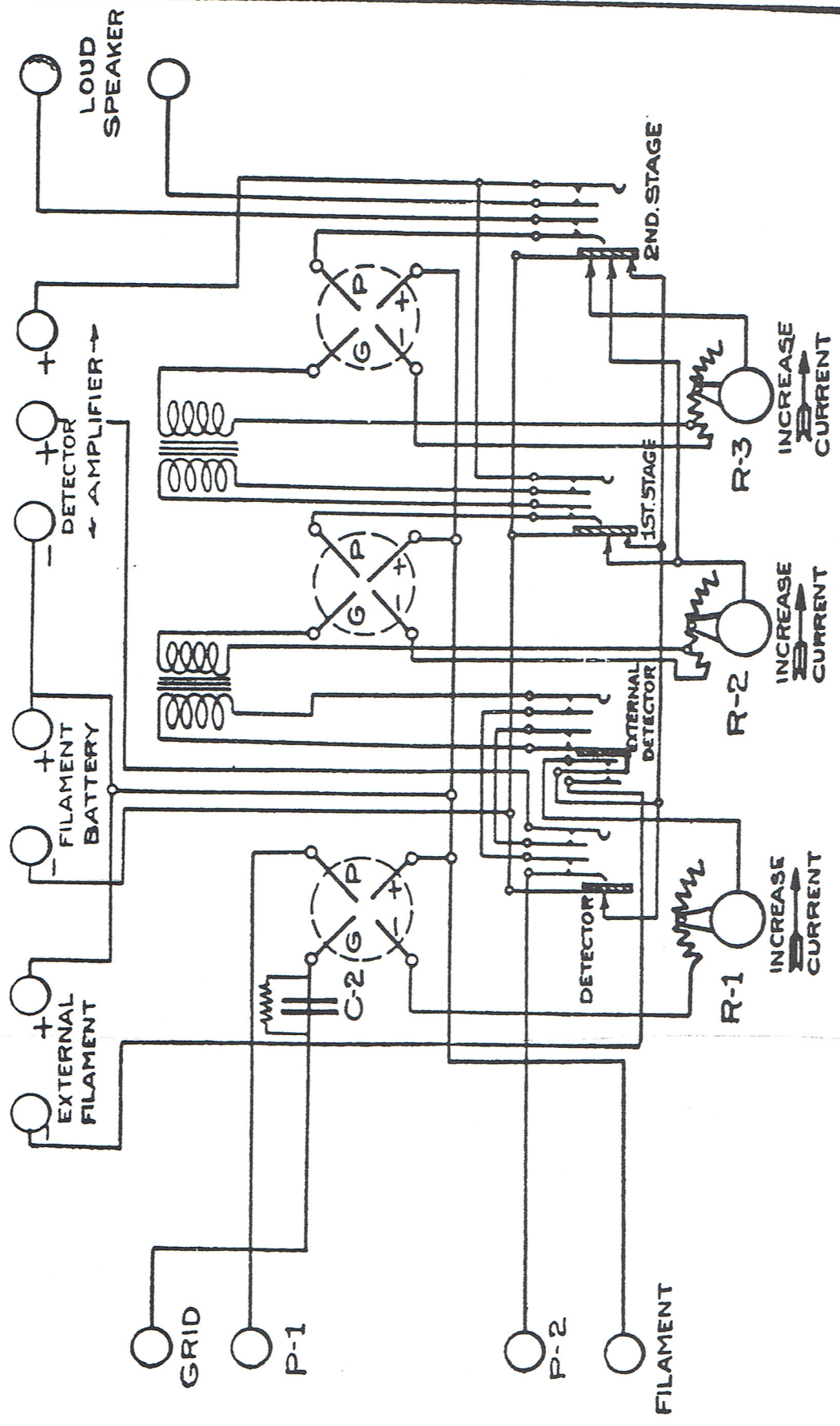
The Type CR-5 Receiver in combination with the Type Rork Two-Stage amplifier is equivalent to the Type CR-9. Diagrams and instructions covering the Receiver-amplifier combinations are given in the "Instructions for the Installation and Operation of Amplifier and Detector-Amplifier units."

INSTRUCTIONS FOR THE INSTALLATION AND OPERATION OF GREBE TYPE RORK AND RORD DETECTOR AND DETECTOR-AMPLIFIER UNITS

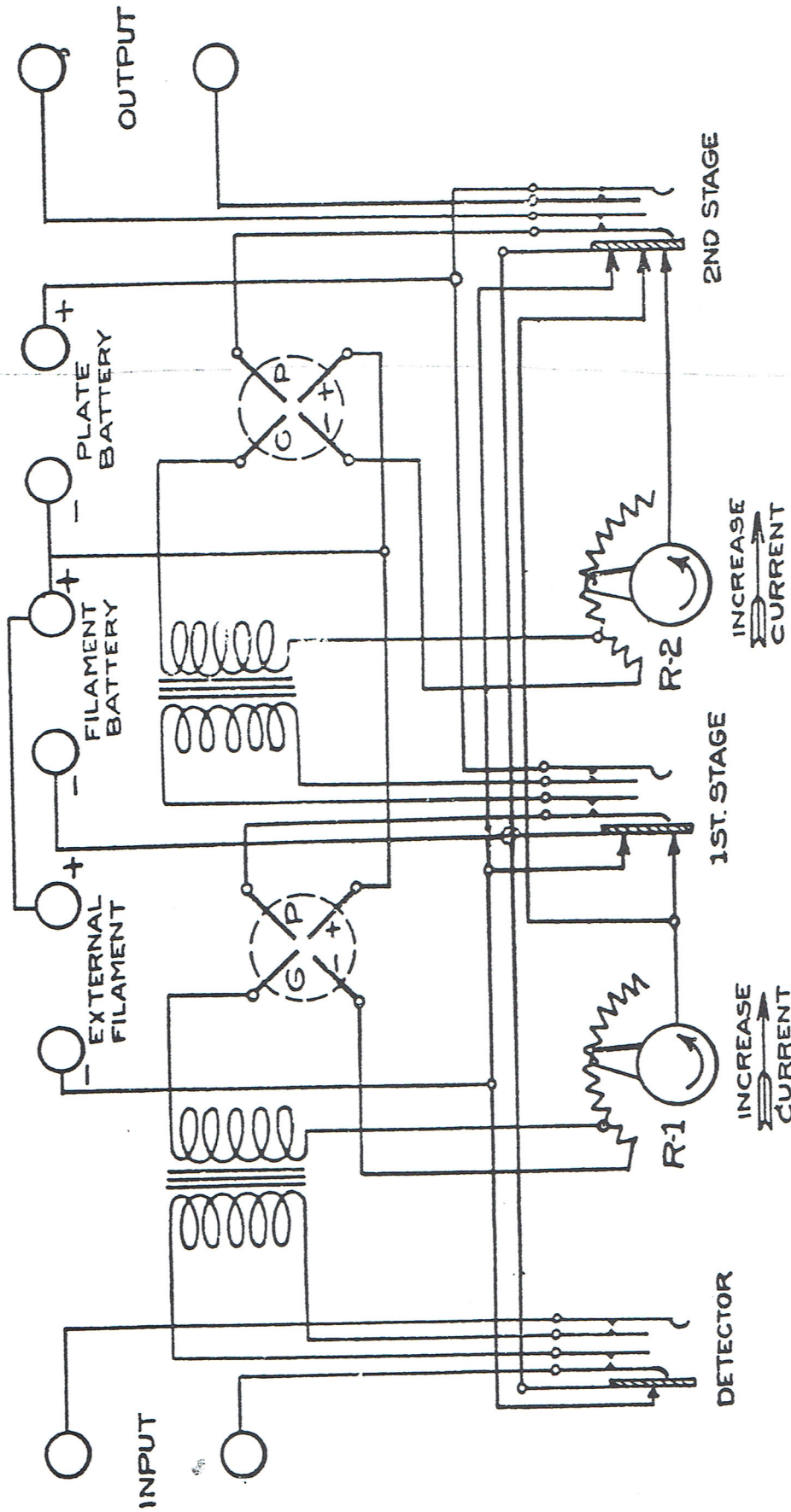
INSTALLATION OF THE TYPE RORD DETECTOR AND TWO-STAGE AMPLIFIER

The Detector-Amplifier unit should be placed as close to the receiver as possible in order to avoid lengthy leads. The four terminals on the left are provided for externally connecting the amplifier with the receiver. (See diagram of terminal block connections.)

**INTERNAL WIRING DIAGRAM
FOR
GREBE DETECTOR & TWO STAGE AMPLIFIER
TYPE RORD**



**INTERNAL WIRING DIAGRAM
FOR
GREBE TWO STAGE AMPLIFIER
TYPE - ROK.**



Connect a 6-Volt Battery to the terminals marked "Filament Battery."

Connect two 22½-Volt Battery units in series. Connect the junction of these batteries to the terminal marked "Detector." + Connect the ends of these batteries to the terminals marked "Amplifier."

NOTE:—Make certain that all battery leads are connected to the proper terminals and that the polarities are not reversed.

Connect the telephone terminals to one of the plugs supplied with the unit.

Turn all the rheostat wheels to the "Off" position, and place the vacuum tubes in the sockets.

Insert the telephone plug in the jack marked "Detector" and turn the detector rheostat wheel to 2.

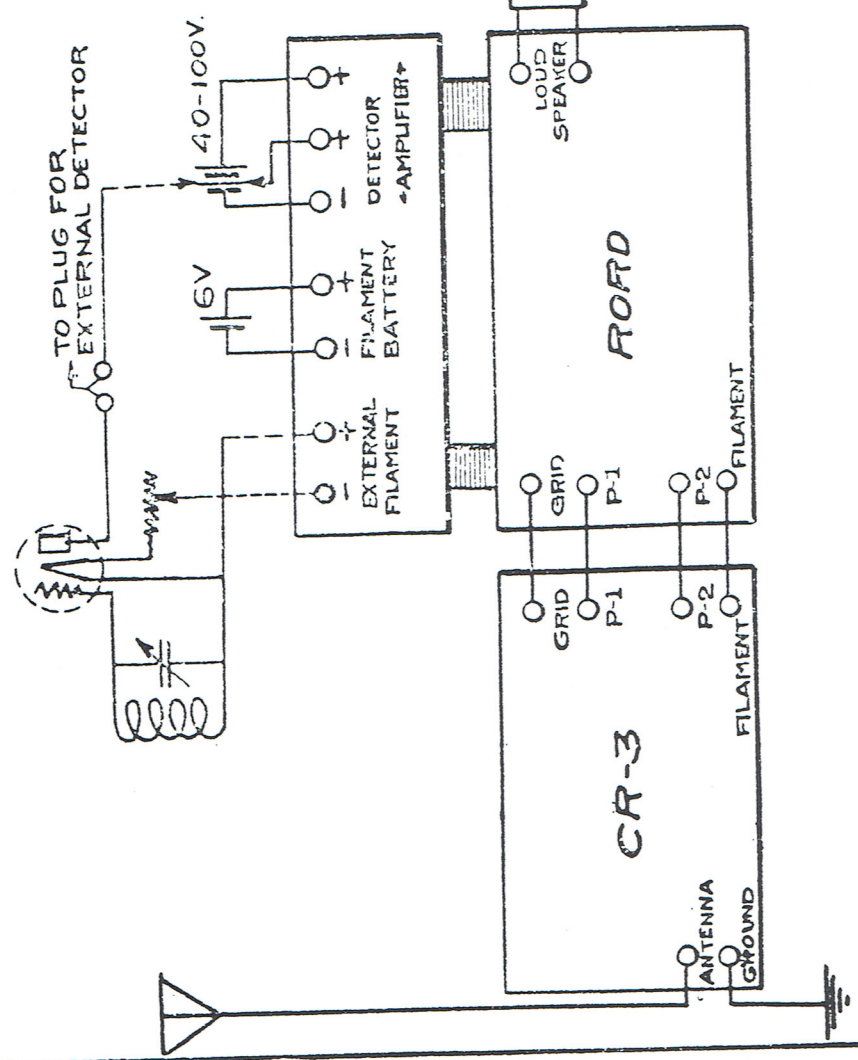
OPERATION OF THE TYPE RORD DETECTOR AND TWO-STAGE AMPLIFIER

After tuning and detector adjustments have been made, the telephone plug may be changed to the 1st stage amplifier position and the corresponding rheostat adjusted for maximum signal strength. The same procedure is followed in adjusting the 2nd stage.

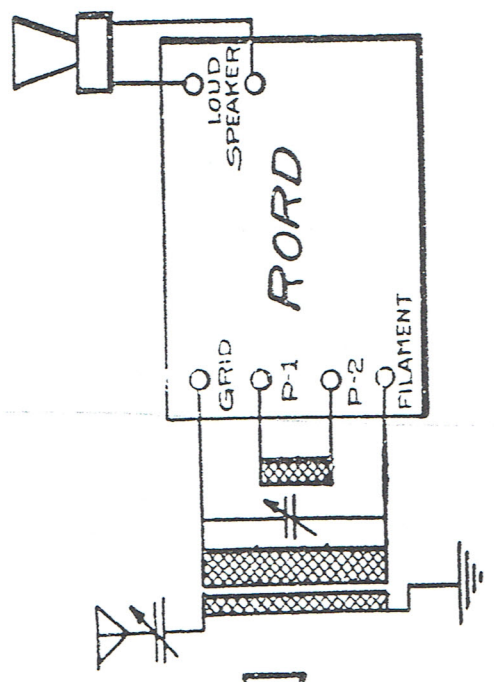
When it is desired to use a loud speaker, this

EXTERNAL WIRING DIAGRAMS FOR COMBINATIONS

TYPES CR-3 & RORD

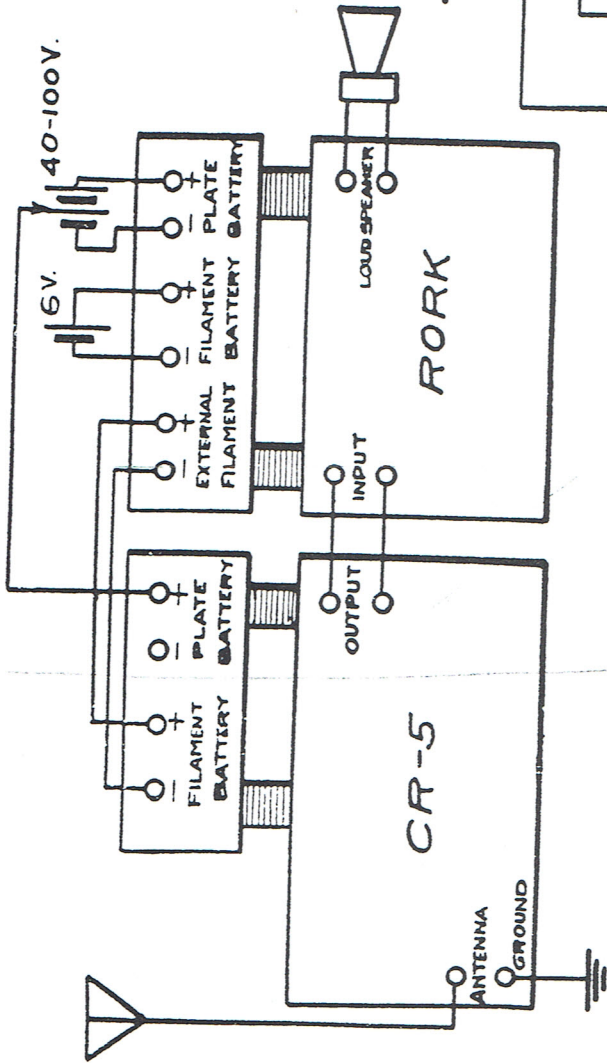


LATTICE COILS & TYPE RORD

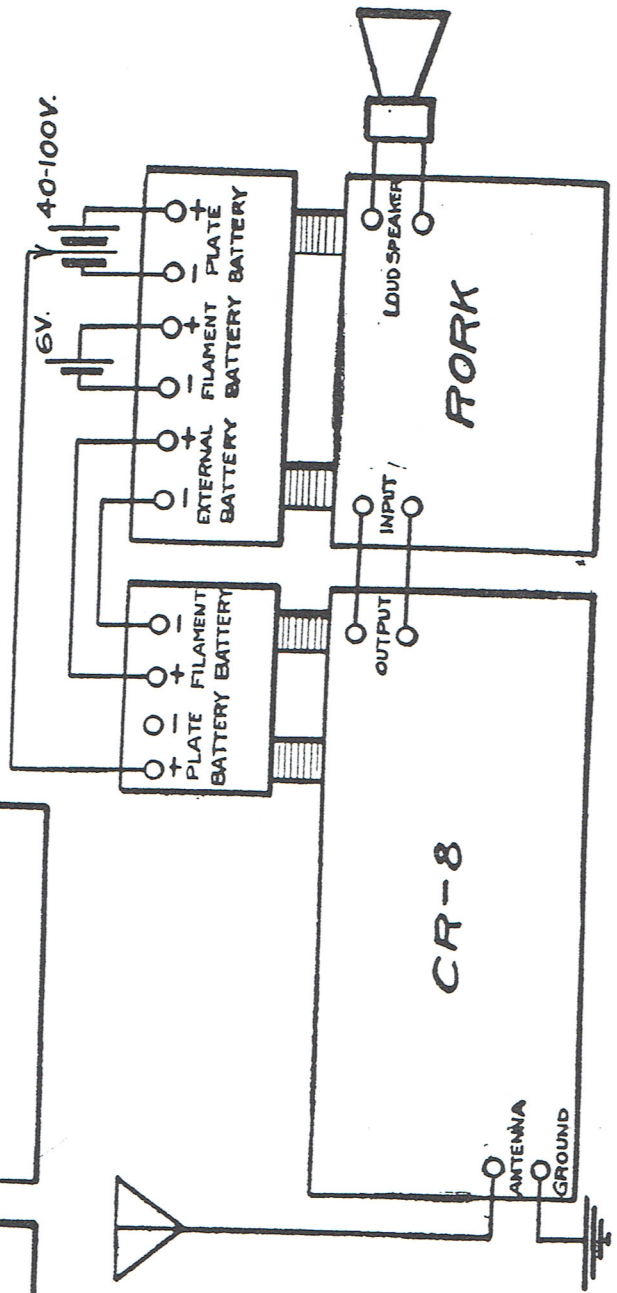


EXTERNAL WIRING DIAGRAMS FOR COMBINATIONS

TYPES CR-5 & ROK.



TYPE CR-8 & ROK.



instrument should be connected to the terminals marked "Loud Speaker" and the telephone plug inserted in the second stage jack just far enough to close the filament circuit of all three tubes.

When the amplifier section is used with external tuning and detecting apparatus, connect the output of the external apparatus to a telephone plug. Also connect the filament leads to the terminals marked "External Detector." Thus, when the plug is inserted in the jack marked "External Detector" the automatic control device will cause the external detector tube filament to light and the detector tube filament in the Rord will be extinguished.

LOCATION OF FAULTS:—

(a) If vacuum tube filaments flicker or fail to light, remove the tubes and clean the ends of the contactors with a file or sand-paper. If this does not eliminate the trouble, it may be necessary to adjust the automatic control jacks.

NOTE:—Remove All Plate Battery connections before making jack adjustments to prevent short circuit resulting in the burning out of vacuum tube filaments.

(b) If both stages fail to produce amplification, the trouble may be traced to faulty plate batteries, or the reversal of the filament battery leads. Defective tubes cause a majority of other

troubles. It is desirable to try the tubes in various combinations for detector, 1st and 2nd stage.

(c) Grinding Noises are caused by:—

- 1.—Faulty Connections.
- 2.—Defective plate batteries.
- 3.—Defective vacuum tubes.

Unlike static, these noises persist when the antenna is disconnected. They may be eliminated by tightening all terminals, cleaning vacuum tube contactors or replacing defective tubes or batteries.

INSTALLATION OF TYPE RORK TWO-STAGE AMPLIFIER

Connect a 6-Volt Storage battery to the terminals marked "Filament Battery."

Connect two 22½-Volt battery units in series; connect the ends of these two batteries to the terminals marked "Plate Battery."

NOTE:—When the amplifier is used with the Grebe Type CR-5 or CR-8 Receiver, a connection may be made from the junction of the two 22½-Volt batteries to the + Plate Battery Terminal on the receiver. With this circuit a single plate battery is made to serve both units. No connection need be made to the—"Plate Battery" terminal on the receiver as this circuit is completed through the positive side of the Filament

Battery which is common to both Receiver and Amplifier. Connect the "Filament Battery" terminals of the receiver to the "External Filament" terminals of the amplifier. Connect the output or telephone terminals of the receiver to the terminals marked "Input" on the amplifier.

OPERATION OF THE TYPE RORK TWO-STAGE AMPLIFIER

For operation of this unit refer to instructions under "Operation of Type Rord Detector and Two-Stage Amplifier," but disregard third paragraph which relates to the use of the "External Detector plug."