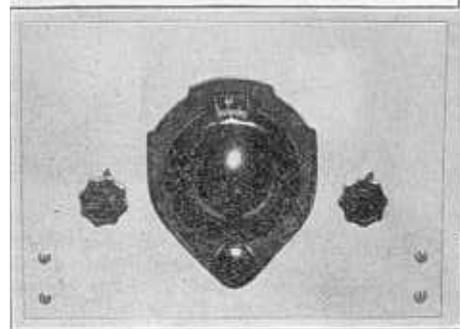


Front and rear views of the "Two Stage Pre-Selector." Ideal unit for reducing noise and images.



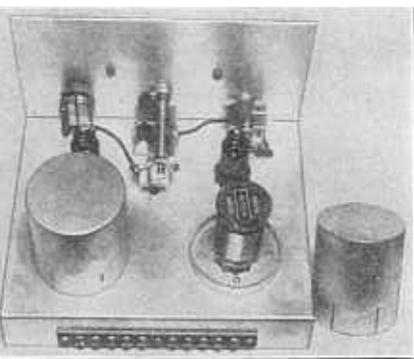
This unit will improve any superheterodyne

Two Stage Pre-Selector

The pre-selector is a worthwhile addition to any superheterodyne, particularly those not having too much sensitivity. This one, in particular, will work well with present superheterodynes having no R.F. ahead of the first detector. Even those already having one stage of R.F. can be improved by the use of this unit. Not only does it increase the sensitivity of your present superheterodyne, but it also goes a long way toward eliminating images—that is, two-spot tuning. Noise is also reduced somewhat due to the overall increase in sensitivity and selectivity of the receiver.

A power supply for operating this pre-amplifier is not included in the unit. Inasmuch as it is to be used with some sort of receiver, the power can be taken directly from the receiver power supply. From 180 to 250 volts are required for the plate supply and 6.3 volts for the heaters. If your present receiver employs 2.5 volt tubes, such as the 58's and 56's, then it will be necessary to employ two ~~type 58 pentodes~~ pentodes in place of the 6K7 metal tubes shown in the diagram. If the glass tubes are used, it is necessary to shield them in order to prevent feedback. In this regard, the metal tubes are superior because of their thorough shielding.

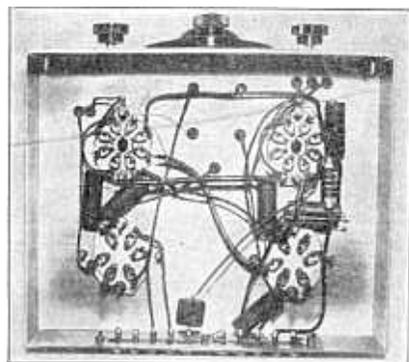
It will be noticed that the two plug-in coils, which are SWK-6, 3-winding Hammarlund coils, are shielded with Hammarlund "CS" coil shields. Do not



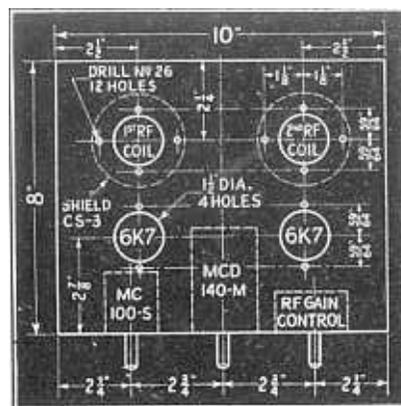
This unit will improve any superheterodyne

attempt to operate the amplifier without these shields because it just won't work. Also it will be noticed that the dual 140 mmf. condenser has a shield plate between the two stators. This must also be grounded in order to eliminate feedback.

Band spread is not employed for the simple reason that it is not necessary. R. F. stages tune rather broad as compared to the tuning control of the receiver. In the first R.F. stage—that is, the one nearest the antenna circuit, the interwound winding is employed for trimming. Here we have a 100 mmf. condenser connected across the winding with one side grounded. The grounded side is that nearest the grounded side of the larger winding. The small coil at



Bottom view showing the wiring.



Drilling dimensions for the chassis.

the bottom of the form, usually termed the tickler, is used as the antenna coupling coil. This coil remains unused in the second stage. The interwound winding serves as the plate coupling coil and the large winding as the grid coil for the second amplifier tube. This also is tuned with a 140 mmf. condenser. With proper adjustment, of the 100 mmf. padding condenser, the two circuits will track very nicely.

There are many arrangements which can be used for coupling the pre-selector to the receiver proper. However, the arrangement shown is the simplest and is entirely satisfactory. Merely connect the output terminal of the converter to the antenna post of your receiver. The negative side of the converter need not be connected to the receiver because this connection is already made through the power supply. In wiring up the receiver, all leads should be short and direct.

Long leads in a high gain amplifier of this type will cause no end of trouble. The longest lead is the one going from the second coil to the plate of the first 6K7. It will be noticed that this lead is shielded in order to reduce feed back. Do not employ ordinary shielded wire. This lead should be made with hook-up wire having heavy insulation, and a short length of braided shielding material should be placed over the wire. If the capacity between the shielded wire is too great, considerable sensitivity will be lost. The converter has a volume control of its own which should be operated independent of the receiver. The correct setting for the volume control can only be learned by experience.

Parts List

HAMMARLUND

- 1—MCD-140-M two gang condenser
- 1—MC-100-M trimmer condenser
- 1—CHX R.F. choke
- 2—S-8 sockets
- 2—S-6 sockets
- 2—CS coil shields
- 2—SWK-6 6-prong coil sets 17-270 M.

CORNELL DUBILIER

(Condensers)

- 6—.1 mf. paper
- 1—500 mmf. mica

I. R. C.

(Resistors)

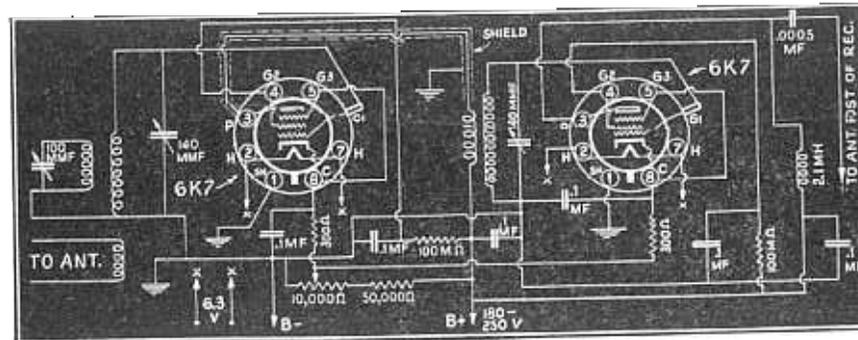
- 2—300 ohm 1/2 watt
- 2—100,000 ohm 1/2 watt
- 1—50,000 ohm 1 watt
- 1—10,000 ohm potentiometer

MISC.

- 1—8 x 10 x 2" chassis
- 1—7 x 10" panel (aluminum)
- 1—Dial
- 2—Knobs
- Binding post strips, screws, etc.

R. C. A.

- 2—6K7 Metal tubes



Wiring diagram and values of "Two Stage Pre-selector."