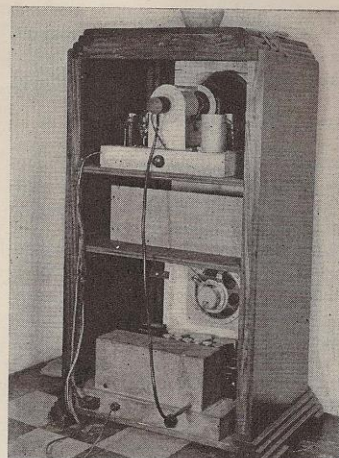




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THE FARNSWORTH TELEVISION RECEIVER

ALTHOUGH DEVELOPMENT WORK is still in progress, Farnsworth Television, Inc., has felt justified in releasing the preliminary details of their television receiver. The fundamental schematic diagram appears on the opposite page.

At first glance, the receiver circuits appear to be more or less conventional.

In any event, the sound channel may be considered entirely so, except, as in the case of the video channel, for the high intermediate frequency employed. The use of the so-called "acorn" tubes in the sound channel is likewise on the unconventional side.

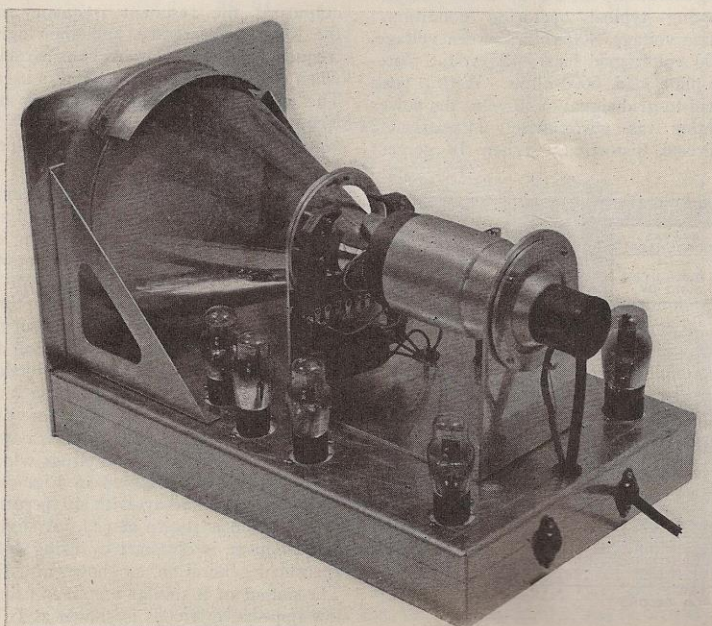
It is immediately apparent from the

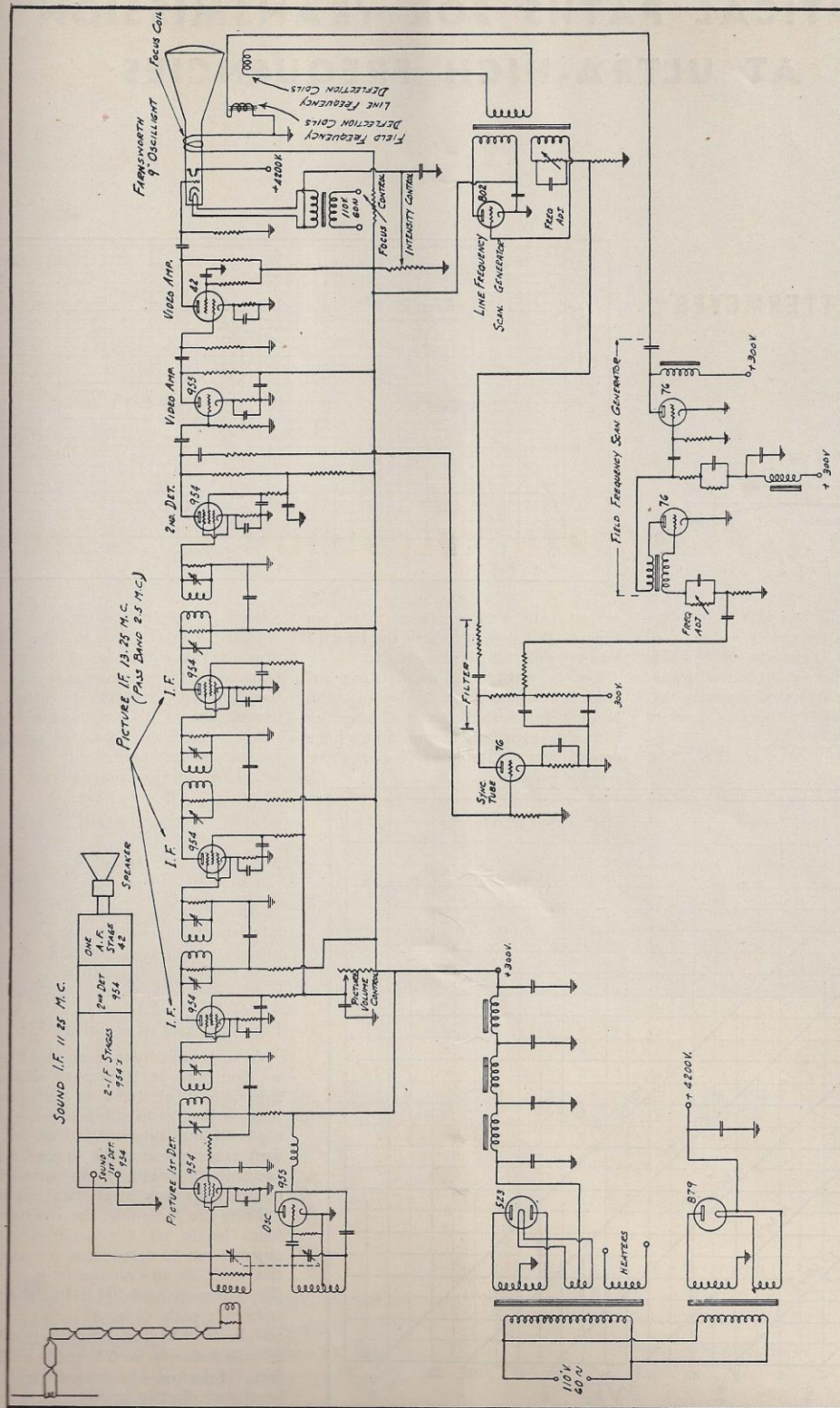
diagram that the same oscillator functions to supply two intermediate frequencies—one, at 11.25 mc, for sound and the other, at 13.25 mc, for picture.

Presumably, the requisite bandwidth for reasonably high audio quality can be obtained by the usual tuned-circuit i-f transformers, without the use of bandwidening resistances such as will be seen shunted across the video i-f transformers. Crystal filters for intermediate frequencies as high as 13.25 mc are not entirely feasible at the present state of the art, although the beautifully sharp cut-off of these filters, along with their nearly square response characteristics should offer an ideal solution to this problem if they could be built to function at these high frequencies—but more research work is necessary. Resonant line filters may have same possibilities as i-f coupling elements.

It is of interest to note the high degree of smoothing necessary for the video circuit B-voltage supply. While figures are not available, it is probably reasonable to assume that the three-section power supply filter gives an attenuation in excess of 70 db to frequencies of 120 cycles and above.

It will be seen in the accompanying illustration of the rear of the receiver that it is built on three chassis. At the top is the Oscillight unit, the middle shelf holds the sound receiver and the remaining parts of the circuit along with the loudspeaker occupy the bottom compartment.





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FUNDAMENTAL SCHEMATIC DIAGRAM OF THE FARNSWORTH TELEVISION RECEIVER