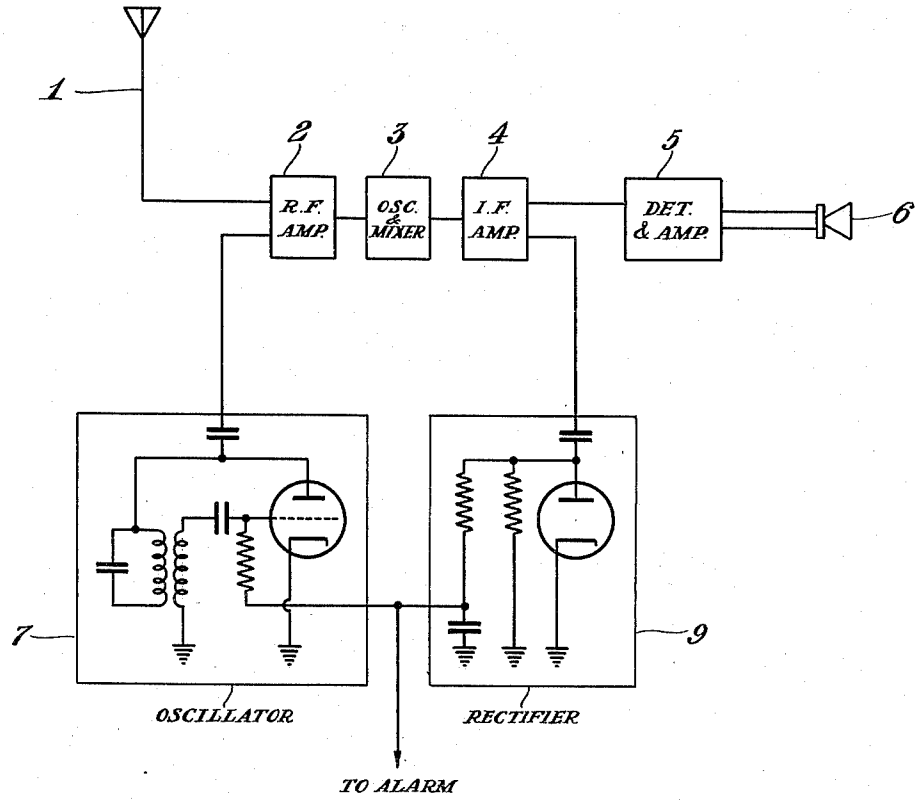
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SUPERHETERODYNE RADIO RECEIVING SET

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SUPERHETERODYNE RADIO-RECEIVING SET

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2 Claims. (Cl. 250—20)

1

This invention relates to a superheterodyne radio-receiving set comprising means by which a warning signal is given or change-over is effected upon the disappearance of the intermediate-frequency-voltage. It applies particularly to radio communication systems in which transmission is effected by means of a transmitter and a receiver. In such systems it is of importance that upon failure of the receiver an arrangement becomes operative by which the disturbance is indicated by means of an alarm system or change over is effected to a spare receiver, so that interruption of the communication is reduced as much as possible.

It is known to utilise in such apparatus the presence or absence of an intermediate-frequency output voltage as an indication of perfect operation of the receiver. The conventional circuit arrangements have, however, the disadvantage that even on the occurrence of a disturbance in the transmitter, i. e. when an alarm or change over at the receiver end is not at all necessary, the intermediate-frequency output voltage may drop out due to which the alarm system or the change over arrangement would become operative.

To avoid this disadvantage, according to the invention, an additional oscillator is provided which produces a voltage, of which the frequency corresponds to the incoming frequency and which is fed to the input circuit of the receiving set, the said oscillator being controlled by the intermediate-frequency voltage in such manner that it is operative only in the absence of the intermediate-frequency voltage or if this lies below a given small value.

The value of the voltage of the additional oscillator operative in the input circuit should be smaller than the normal intensity of the incoming signal, since otherwise instability may occur.

In order that the invention may be clearly understood and readily carried into effect it will now be described more fully with reference to the accompanying drawing, given by way of example. The sole figure represents diagrammatically in block form the circuit arrangement of the superheterodyne receiver, in which the invention is used.

The oscillations picked-up by an antenna 1 are supplied to a high-frequency amplification stage, whence they are fed to the mixer stage 3. To the output terminals of the mixer stage 3 is connected an intermediate-frequency amplifier 4, whence the intermediate-frequency oscillations are supplied to the low-frequency amplifier 5 to

2

which the loudspeaker 6 or another reproducing device is connected.

According to the invention, in order to trace whether, upon disappearance of the intermediate-frequency output voltage, the disturbance has occurred in the receiver or in the transmitter in question, an additional oscillator 7 is incorporated in the receiver, which oscillator produces a voltage, of which the frequency corresponds to the frequency of the incoming oscillations, a part of this voltage being supplied, through the lead 8, to the input terminals of the receiver. This voltage is smaller than that which is normally supplied by the transmitter, through the antenna 1, to the input of the receiver. Part of the intermediate-frequency output energy is rectified by the rectifier 9 and used for controlling the additional oscillator 7. This is effected in such manner that in the presence of the normal antenna signal the oscillator 7 does not oscillate.

If the antenna signal fails due to a disturbance in the transmitter, the oscillator 7 becomes operative so that notwithstanding that an intermediate-frequency output voltage subsists an alarm or change over to the spare receiver does not occur.

If, however, a disturbance occurs in the receiver, the intermediate-frequency output signal drops out at any rate, so that changing over to the spare receiver takes place or an alarm signal is produced.

What I claim is:

1. A superheterodyne receiver for actuating an element for indicating continuity of the transmission path of the receiver, comprising input means for an input signal wave, means to convert the signal wave into an intermediate frequency signal wave, an oscillator for producing a generated wave having a frequency substantially equal to said input signal wave, means to couple the oscillator to said input means thereby to apply said generated wave to said input means, means coupled to said transmission path and responsive to an intermediate frequency signal wave having an amplitude greater than a given value to de-energize said oscillator, and means coupled to said transmission path to actuate said indicating element in the absence of an intermediate frequency wave.

2. A superheterodyne receiver for actuating an element for indicating continuity of the transmission path of the receiver, comprising input means for an input signal wave, means to convert the signal wave into an intermediate frequency signal wave, an intermediate frequency

amplifier coupled to said conversion means, an oscillator for producing a generated wave having a frequency substantially equal to said input signal wave, means to couple the oscillator to the input means thereby to apply said generated wave to said input means at an amplitude level lower than the level of the input signal wave, detector means coupled to the intermediate frequency amplifier and to the oscillator and responsive to an intermediate frequency wave having an amplitude greater than a given value to de-energize said oscillator, and means coupled to said transmission path for actuating said indicating element in the absence of a wave in said intermediate frequency amplifier.

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No references cited.