

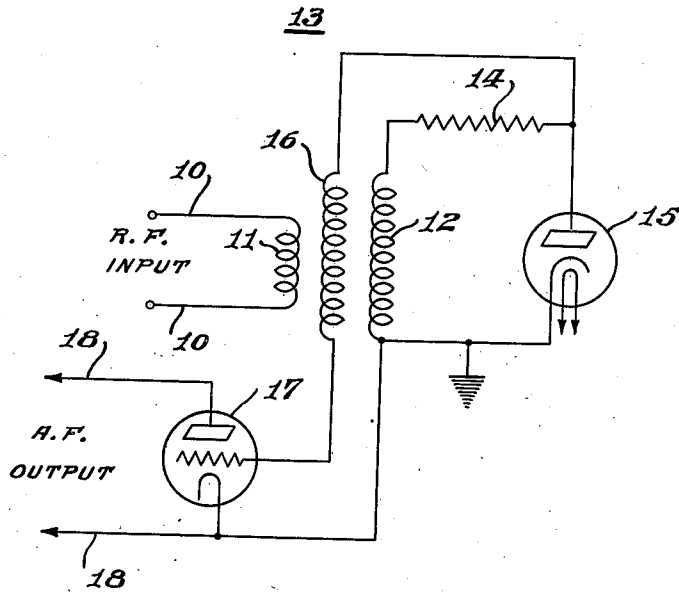
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DETECTION OF MODULATION IMPULSES

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DETECTION OF MODULATION IMPULSES

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3 Claims. (Cl. 250—27)

This invention relates to the detection and amplification of modulation impulses such as those of audio frequency, and has for its principal object the provision of an improved system and method of operation whereby the carrier components passed by the detector are isolated from the modulation impulse output channel.

In connection with the detection of electrical impulses combined with a radio frequency carrier, it is customary to provide a filter network including a capacitor for segregating the radio frequency carrier components which reach the detector output circuit and would otherwise distort the detected modulation impulses. Such radio frequency acceptor networks are not always satisfactory from the viewpoint of simplicity in the ground connections of the radio frequency and detected impulse sections of the signal channel. In accordance with the present invention, this and other difficulties are avoided by the provision of a detector wherein the undesired radio frequency components are cancelled out through coupling means interposed between the detector input and output circuits.

The invention will be better understood from the following description considered in connection with the accompanying drawing, and its scope is indicated by the appended claims.

The single figure of the drawing is a wiring diagram of a preferred embodiment of the invention.

In this modification of the invention, the modulated radio frequency signal received at the terminals 10 is supplied through the primary and secondary windings 11 and 12 of a transformer 13 and an output resistor or impedance 14 to the input circuit of a detector 15. The detector output is delivered through a tertiary winding 16 of the transformer 13 to the input circuit of an audio or modulation frequency amplifier 17. The detected modulation frequency impulses are delivered at the terminals 18.

The tertiary winding 16 is of a proper size and is so coupled and phased that it serves to cancel the radio or carrier frequency components otherwise present in the output circuit of the detector 15 and, at the same time, permits grounding of the radio frequency input and modulation frequency output at a common point.

I claim as my invention:

1. The combination of modulated impulse supply terminals, a detector provided with input and output circuits, means for subjecting said input circuit to said modulated impulses, and means coupled between said input and output circuits for cancelling out in said output circuit the modulated impulse components which pass said detector.

2. In a modulation detector system, combination of modulated impulse supply terminals, a modulator signal input transformer provided with a primary circuit including said terminals, a secondary winding for said transformer grounded at one of its terminals, a tertiary winding for said transformer, a diode detector provided with an input circuit including said secondary winding and with an output circuit including said tertiary winding, an output impedance for said detector having an output terminal connected with one end of said tertiary winding, and a modulation impulse amplifier provided with an input circuit connected between the other end of said tertiary winding and said grounded terminal, and said secondary and tertiary windings being coupled and phased to cancel the carrier frequency components in the output circuit.

3. In a modulated signal detector, the combination of a signal input transformer having a secondary winding, a diode detector and an impedance device providing an output impedance element for said detector connected serially across at least a portion of said secondary winding, thereby to rectify signals received on said secondary winding and to provide the modulation and signal carrier components thereof across said impedance device, an amplifier for the modulation component of the rectified signal having an input circuit connected with said output impedance element, and a tertiary winding for said transformer serially included in said last named connection and so coupled and phased with said secondary winding that the carrier component of the signal is cancelled at the input circuit of said amplifier, whereby the modulation component of the signal freed of the carrier component is applied to said amplifier.

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