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Moore et al.

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(54) **LOW IF RECEIVER**

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(52) **U.S. Cl.** **455/324**; 455/303
(58) **Field of Search** 455/303, 324, 455/255, 257–259, 265, 192.1, 192.2, 302; 348/235

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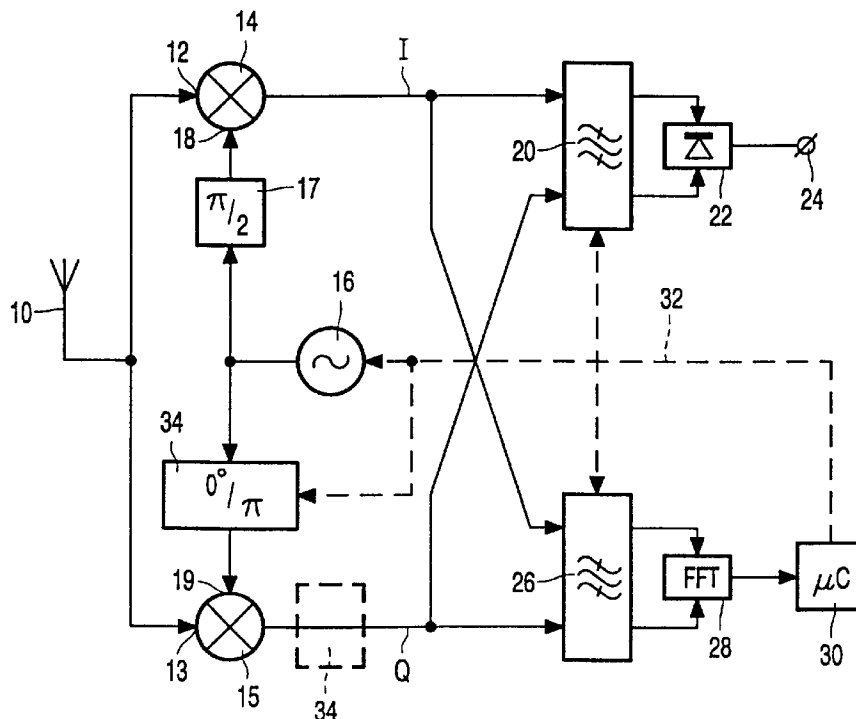
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(57) **ABSTRACT**

A low IF receiver suitable for use in cellular and cordless telephones and TV tuners, comprises input signal receiving means**(10)**, quadrature related frequency down conversion means including first and second mixing means**(14, 15)** having first inputs**(12, 13)** coupled to the input signal receiving means and a local oscillator means**(16)** for generating a local oscillator signal having a frequency offset from a nominal centre frequency of the input signal coupled to second inputs**(18, 19)** of the first and second mixing means, a channel selectivity polyphase filtering means**(20)** for selecting a wanted channel signal from outputs of the first and second mixing means, means**(26, 28, 30)** for detecting when the quality of the frequency down converted signal becomes unacceptable due a large adjacent channel interfering component and means responsive to said detection for changing the local oscillator frequency by at least twice the low IF or one channel bandwidth to displace the large interfering component outside the bandwidth of the channel selectivity polyphase filtering means**(20)** and simultaneously changing the centre frequency of the polyphase filter.
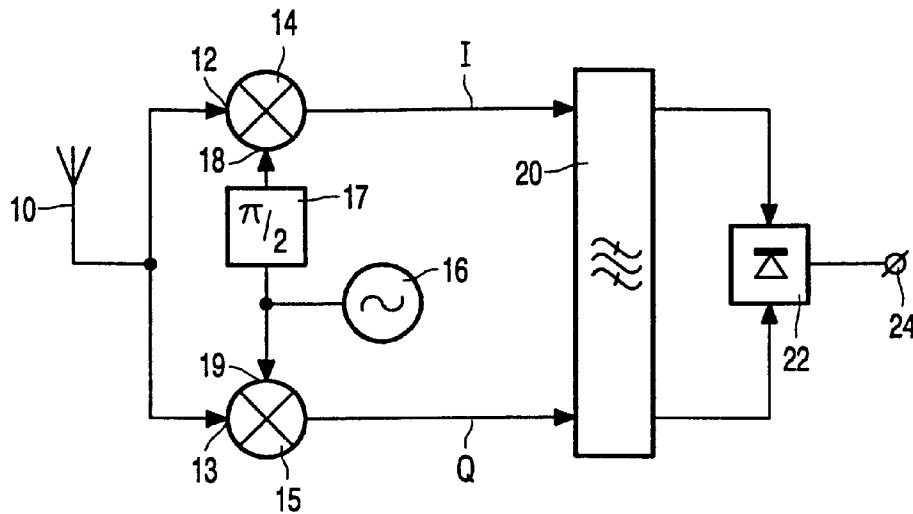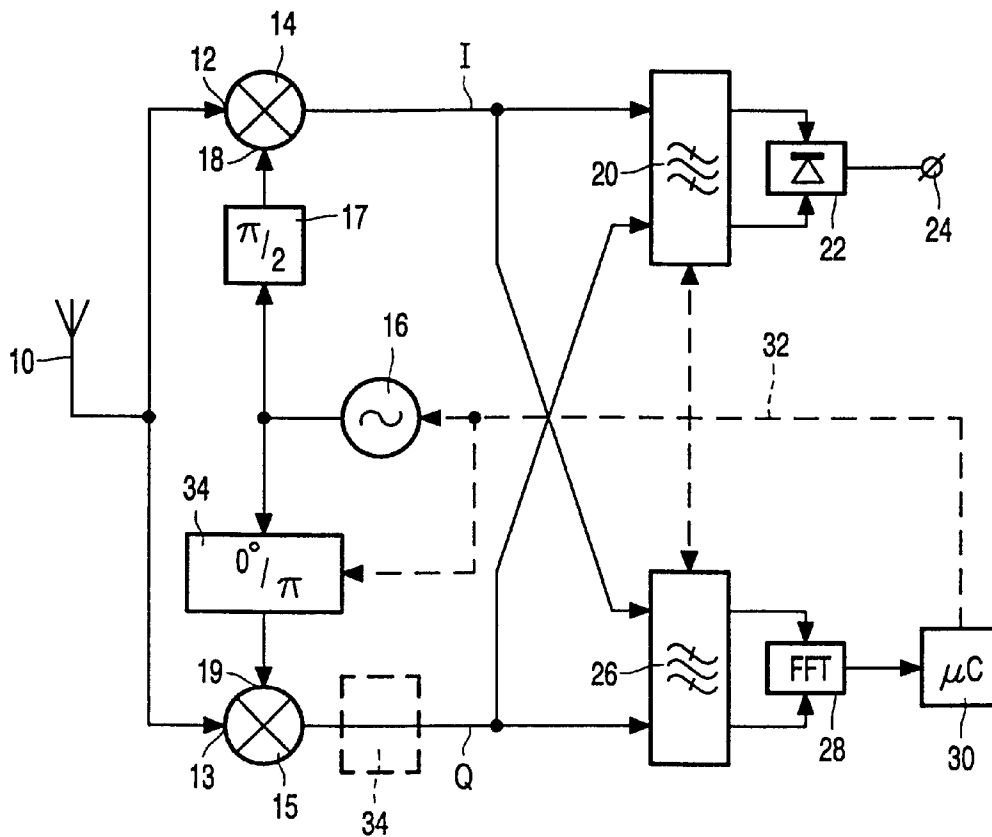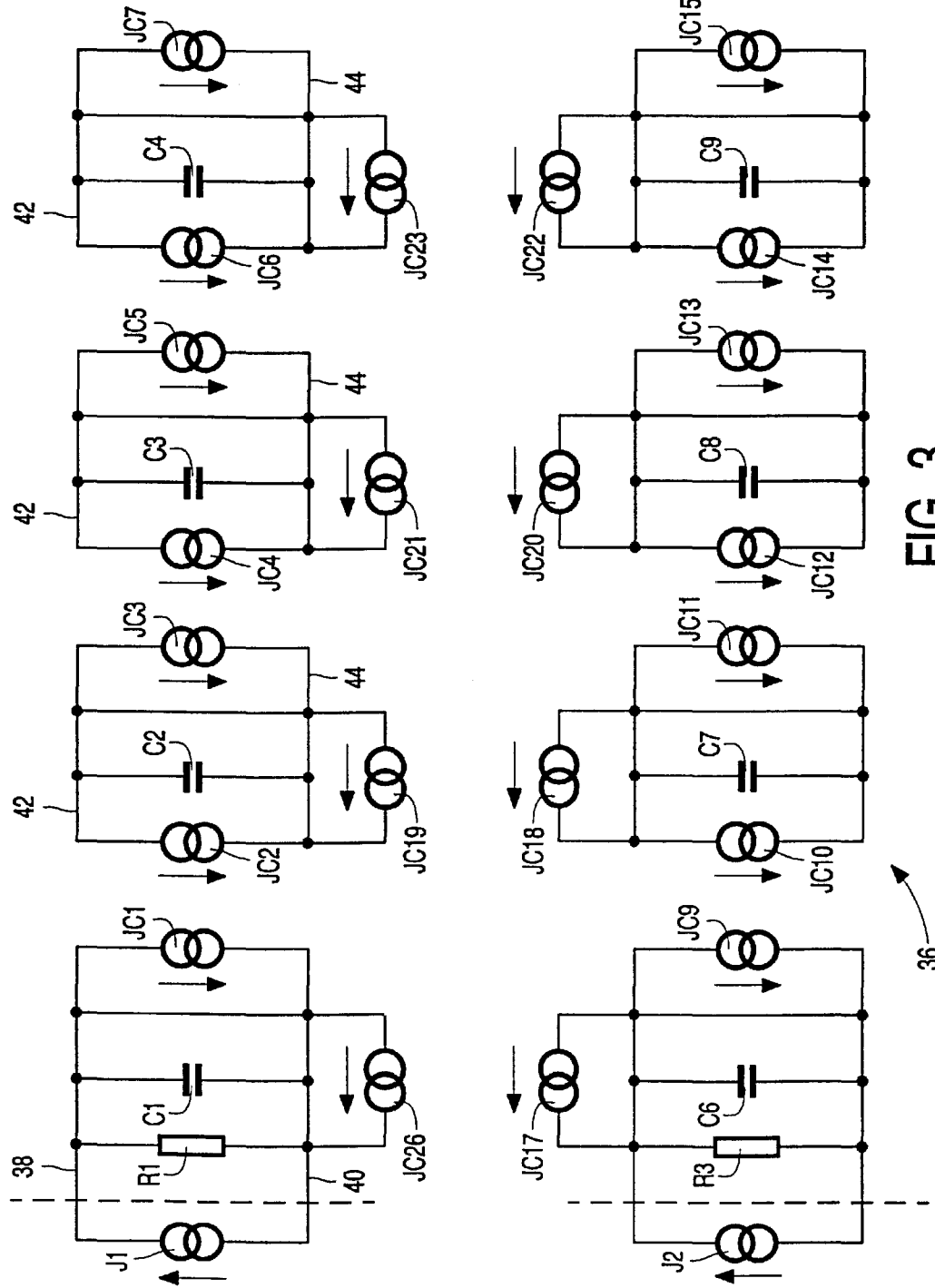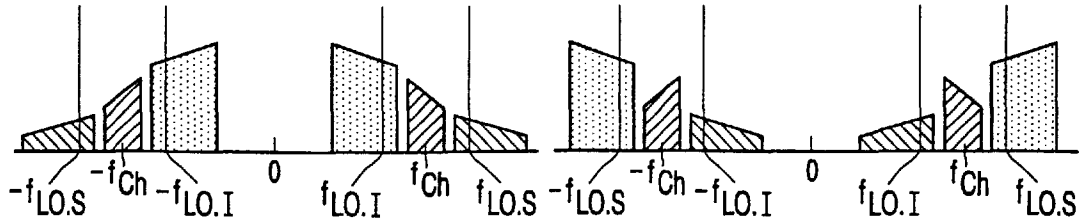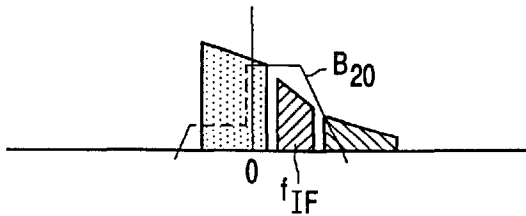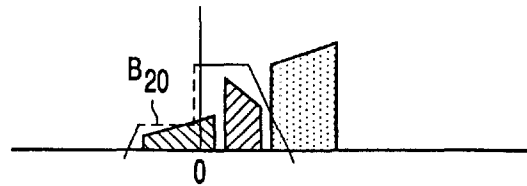
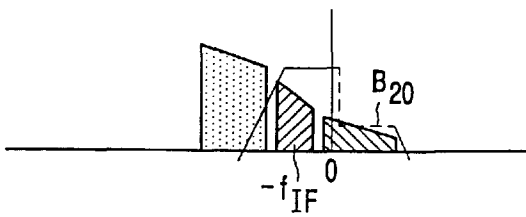**11 Claims, 4 Drawing Sheets**

FIG. 1

FIG. 2

FIG. 3

FIG. 4A

FIG. 4B

FIG. 5A

FIG. 5B

FIG. 6A

FIG. 6B

FIG. 7

DOCKET ALARM
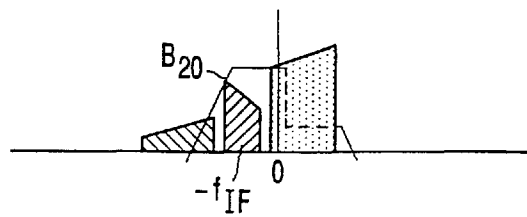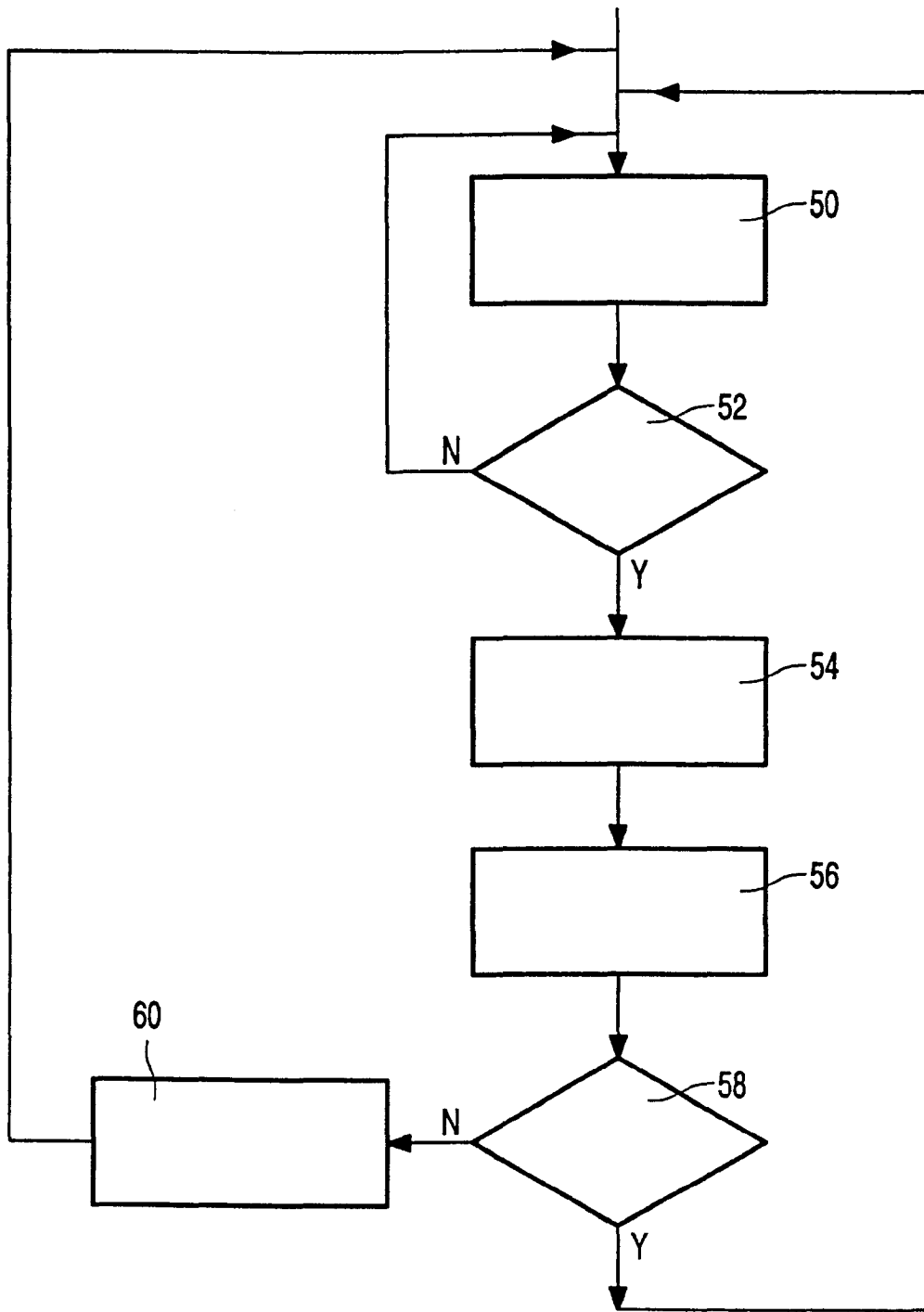
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