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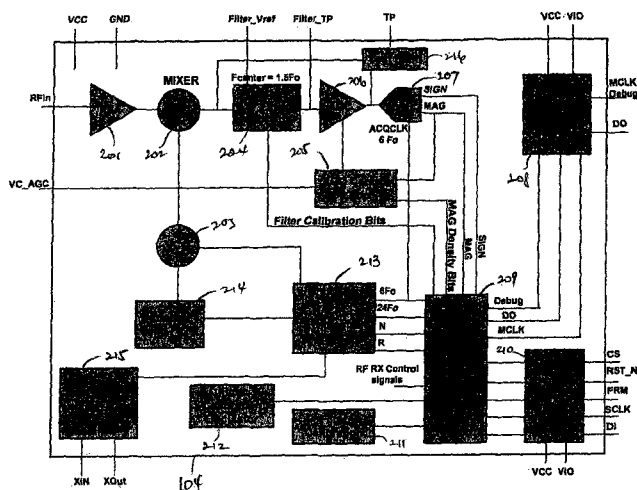
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(54) Title: GPS FRONT END WITH UNIVERSAL DIGITAL INTERFACE



(57) Abstract: A radio frequency integrated circuit for a global positioning system (GPS) application mixes radio frequency GPS signals to obtain a predetermined intermediate frequency that is less than $4f_0$. In one embodiment, the intermediate frequency is selected to be $1.5f_0$. An intermediate frequency filter (204) then band-limits the intermediate frequency GPS signals, rolling off at a frequency in the vicinity of 2.5 MHz to achieve substantial attenuation at 3.5-4.0 MHz. An automatic gain control circuit (206) amplifies the filtered intermediate frequency GPS signals to proper voltage levels. The amplified intermediate frequency GPS signals is then digitized by an analog-to-digital converter (207) at a predetermined sampling rate more than twice the intermediate frequency to provide samples of a predetermined number of bits, which are then provided for base band processing by a general purpose microprocessor over an industry- standard serial bus.

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