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FAST ACTING CONTROL SYSTEM

ABSTRACT

A more rapid charging of an integrating capacitor (18) of a PLL is provided when large frequency changes are desired. In one embodiment, the phase locked loop (PLL) circuit (10) sinks or sources current to charge or discharge the integrating capacitor (18). A threshold voltage proportional to a current through the capacitor turns on a circuit which sinks or sources more current of the proper polarity to the integrating capacitor (18) from an external source (+Vcc, -Vcc) until a PLL lock is achieved. Once the lock is achieved, if a small correction current is required by the PLL, the small correction current is below a threshold required to actuate the augmenting circuit (Q1, Q2, 20, 36), and the PLL loop behaves in the usual manner as if the augmenting circuit (Q1, Q2, 20, 36) were not present. In another embodiment, the integrating capacitor (18) is reduced in value by switchably connecting a second capacitor (40) in series with the integrating capacitor (18) so that the total reduced capacitance of reduced value can be charged more quickly.

Fig 4

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