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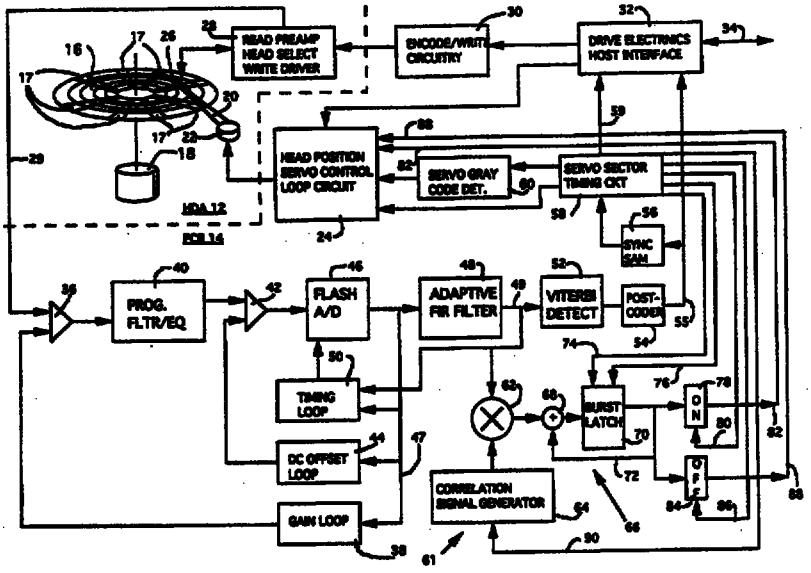
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(54) Title: SYNCHRONOUS DETECTION OF CONCURRENT SERVO BURSTS FOR FINE HEAD POSITION IN DISK DRIVE



(57) Abstract

Synchronous detection of fine position servo information within a partial response maximum likelihood (PRML) data channel. Servo information (17) is recorded as a pair or series of fractional-track-width sinewave concurrent burst patterns producing an on-track phase generating a position error signal varying linearly about track centerline and at least one off-track phase generating a position error signal related to track boundary. Head (26) generates on-track phase and off-track phase analog signals that are gain normalized (40) and synchronously quantized (46). Mulfiplying by a normalization factor from a correlation signal generator (64) during servo sampling intervals provides normalized samples, integrating (66) on-track phase normalized samples provides on-track position error signal (82), and integrating (66) off-track phase normalized samples provides an off-track position error signal (88). A discrete matched filter is also used.