



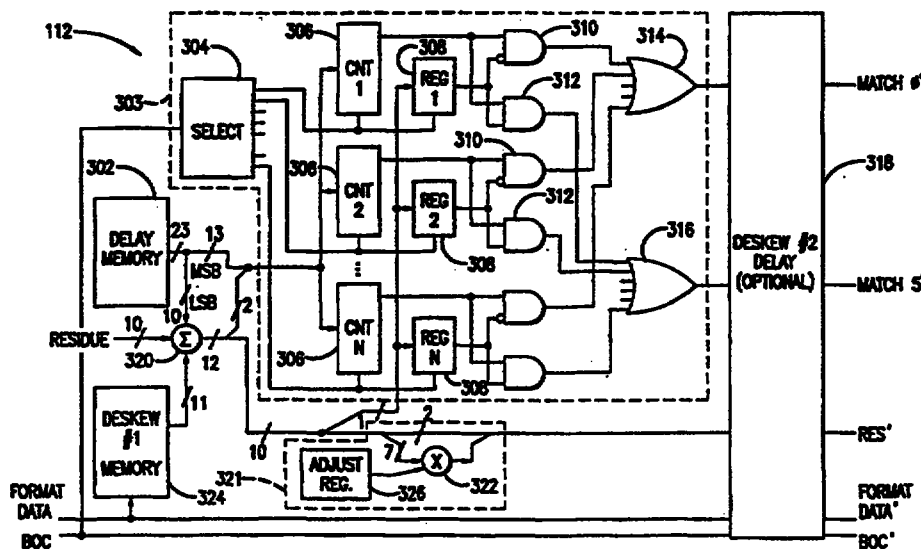
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(54) Title: TIMING GENERATOR FOR AUTOMATIC TEST EQUIPMENT OPERATING AT HIGH DATA RATES



(57) Abstract

Automatic test equipment with a programmable timing generator. In the timing generator, the required delay is split into a course delay, a frequency adjustment delay, and a fine delay. The fine delays for successive cycles are temporarily stored. As the course delays pass, the fine delays are retrieved and used to generate edge signals. The frequency adjustment delay is used to offset the time at which the fine delay is retrieved by a fraction of the resolution of the course delay. This arrangement allows the fine delay values to be retrieved at a higher rate than the rate at which the signals representing the required delays were generated. With this arrangement, the edges can be generated in a high frequency burst mode even though much of the timing generator is implemented with circuitry that has a lower operating frequency. A significant cost savings results by providing high-frequency operation with less expensive components of lower operating frequency.