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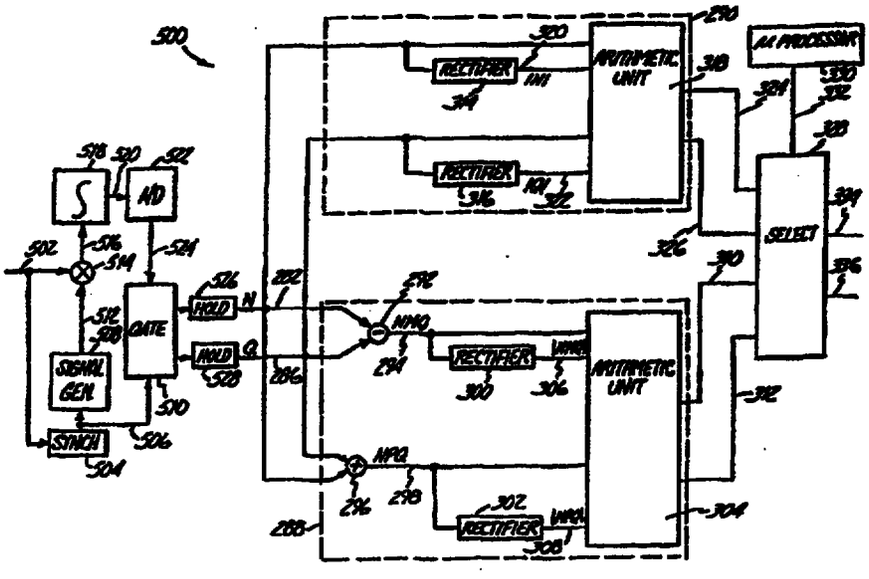
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(54) Title: EXTENDED POSITION ERROR SIGNAL LINEARIZATION AND NORMALIZATION




(57) Abstract

A method of producing a position error signal (334, 336) includes storing a normal position error value (282) generated from a normal servo field (402) and a quadrature position error value (286) generated from a quadrature servo field (404), where the normal servo field is ninety degrees out of phase from the quadrature servo field. A position error numerator (294, 298) is created by arithmetically combining the normal position error value (282) and the quadrature position error value (286). A position error denominator (306, 308) is created based on the normal position error value (282) and the quadrature position error value (286). The position error signal (334, 336) is produced by dividing the position error numerator (294, 298) by the position error denominator (306, 308).