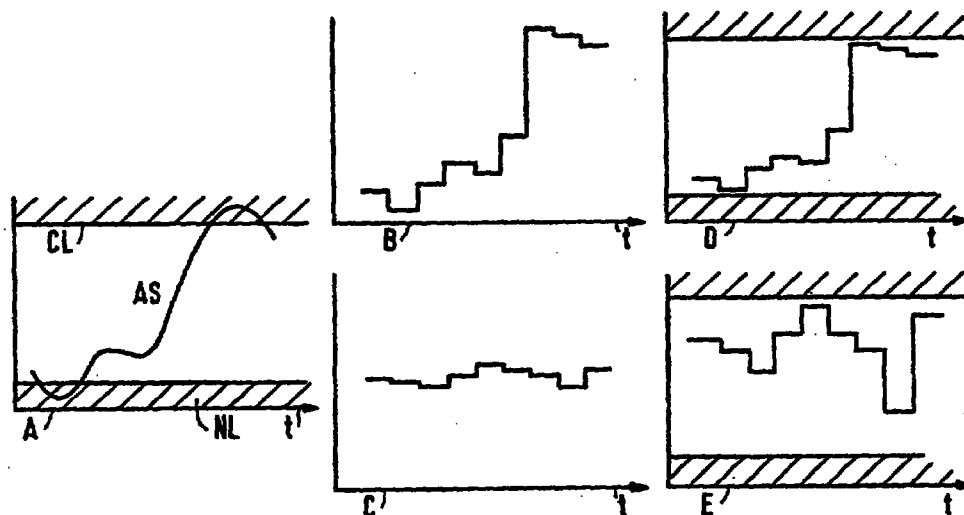




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(54) Title: DIGITAL TRANSMISSION SYSTEM, TRANSMITTER, RECEIVER, EQUIVALENT ANALOG SIGNAL, AND TRANSMISSION METHOD



(57) Abstract

Known is a digital transmission system in which bit groups of a digitized analog signal are converted into corresponding analog signals before serial transmission in the form of a series of PAM-signals. At receiver side, an analog signal is reconstructed from the received PAM-signals. Such a transmission still requires a considerable bandwidth, and, furthermore, both frame synchronisation and symbol synchronisation is required at reception side. A digital transmission system is proposed requiring less bandwidth and only requiring symbol synchronisation. To this end, the bit groups are parallel transmitted via separate transmission channels, and at reception side, from the parallel received equivalent analog signal components the so transmitted signal is reconstructed. In order to cope with transmission channel noise, the least significant bit group is scaled up. In order to cope with a limited dynamic range of the transmission channel, the most significant bit group is scaled down.