

Development of a synchronous data transmission system.

Agomo, Uchenna Udochukwu

M.Sc. Electronic Electrical Engineering

Department of Electronic Electrical Engineering
Obafemi Awolowo University, Ile Ife, Nigeria

1986.

Abstract:

The development of a 2 - channel synchronous data transmission system is presented. The system is capable of accepting at the input two separate analog voltage signals that have zero to 1kHz frequency range and amplitude not greater than 2.5 volts. The two analog voltage signals are multiplexed at the input of the system and converted to corresponding digital representations. These digital representations are then transmitted by means of digital gates from the transmitting section serially and with transmission clock frequency of 6.6 MHz, through cable wire to a remote receiving section, where the received digital representations are re-converted to analog voltage signals and demultiplexed to produce at the output, two separate analog voltage signals plus noise.

The noise level does not exceed 5% of the signal level when filtered and leaves analog voltage signals with the same characteristics as those at the input of the system. The designed system is simple and can be used for laboratory demonstration on synchronous data transmission system. It may be useful as a communication medium for data exchange between two data processing terminals. The system may be used to transmit voltage signals from a central storage facility to a remote destination. In such circumstance the signals may be those derived from research results, medical findings and student/staff records. A computer base may then be set up and made accessible to users.

Keywords: Synchronous data transmission system/ noise level/ frequency range/ digital representation

Supervisor: L.O. Kehinde

113p

For more information, please contact **ir-help@oauife.edu.ng**