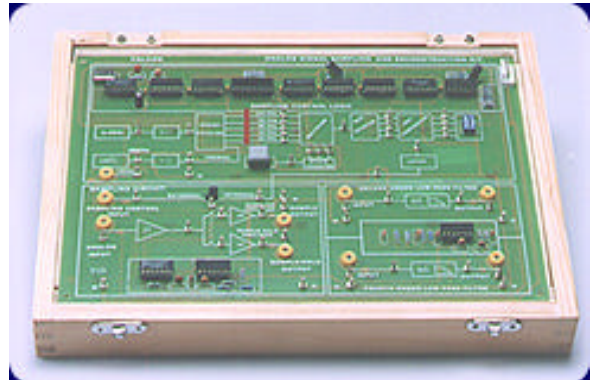


TLD-01: ANALOG SIGNAL SAMPLING AND RECONSTRUCTION

Sampling theorem - If the frequency spectral component of a magnitude time function - $m(t)$ - is ' f_m ' then the instantaneous samples taken at a rate $f_s > 2f_m$ contains all information of the original message. '

This module enables the students to study the theory of Signal Sampling and Signal Reconstruction as an introduction to Digital Communication studies. This kit provides practical training to the students involved in learning the 'Sampling Theorem'.



Features :

- Analog sampled outputs and sampled 'hold' outputs
- Active low pass filters, 'Butter worth' type of 2nd and 4th order
- On-board 5 different sampling frequencies
- Duty cycle variation in steps of 10% up to 90%
- 1KHz onboard sine wave generator
- Provision for external analog input & sampling signal
- Various test/monitoring points provided on board

Technical Specifications :

- Onboard Sampling frequencies : 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz
- Duty cycle : 10% to 90% in 10% steps
- Low pass filter type : Butter worth 2nd and 4th order
- Cut - off frequency : 3.4KHz
- Onboard Sine wave signal : 1 kHz at 5V p-p synchronized
- Interconnection : 2mm banana socket
- Power Supply : +5V, +/-12V

List of Experiments :

- Study of analog signal sampling & sample-hold and its re-construction
- low pass filter.
- Study of effect of different sampling frequency.
- Study of effect of variation of duty cycle.
- Study of 2nd and 4th Order 'Buterworth' low pass filter for reconstruction.