Order Code - 40528
TDM Pulse Amplitude Modulation/ Demodulation Trainer

The trainer provides all necessary inputs and connections for students to study Pulse Amplitude Modulation/ Demodulation techniques. Time Division Multiplexing & Demultiplexing of Signals and Signal Reconstruction.

Technical Specifications

Crystal Frequency	:	8 MHz
Analog Input Channels	:	4
Multiplexing	:	Time Division Multiplexing
Modulation	:	Pulse Amplitude Modulation
On Board Analog Signal	:	500 Hz, 1 KHz, 2 KHz and 4 KHz (Sine wave synchronized to sampling pulse) Adjustable amplitude and separate variable DC level)
Sampling Rate	:	Four sampling signals 4 KHz / 8 KHz / 10 KHz / 20 KHz per channel (switch selectable)
Sampling Pulse	:	With duty cycle variable from 0-90% in decade steps.
Clock Regeneration at Receiver	:	Using PLL
Test points	:	50
Interconnections	:	2 mm Sockets
Power Supply	:	220 V ±10%, 50 Hz / 60 Hz on request
Power Consumption	:	4 VA (approx.)
Dimensions (mm)	:	W 340 × D 240 × H 105
Weight	:	1.3 Kg (approx.)

- Crystal controlled clock
- On-board sine wave generator (synchronized)
- On-board pulse generator
- 4 Analog input channels sampled and time division multiplexed
- Four switch selectable sampling frequencies
- Pulse duty cycle selectable
- Internal/External sampling selectable 4 Channel De-multiplexer
- Generation of clock at receiver by PLL System
- 4th Order Butterworth L.P. Filter

Experiments that can be performed

- Pulse Amplitude Modulation technique
- Time Division Multiplexing and Demultiplexing
- PLL as Frequency Multiplier to generate clock from sync signal
- 3 modes of operation to regenerate original signal
  a) 3 connections between transmitter & receiver (Clock, sync & information)
  b) 2 connections (information, sync) Clock regenerated at receiver
  c) 1 connection (information only) Clock and sync derived at receiver
- Effect of varying duty cycle of Sampling Pulse on signal reconstruction
- Effect of different sampling frequencies on TDM-PAM & Demod technique

Note: Specifications are subject to change.

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