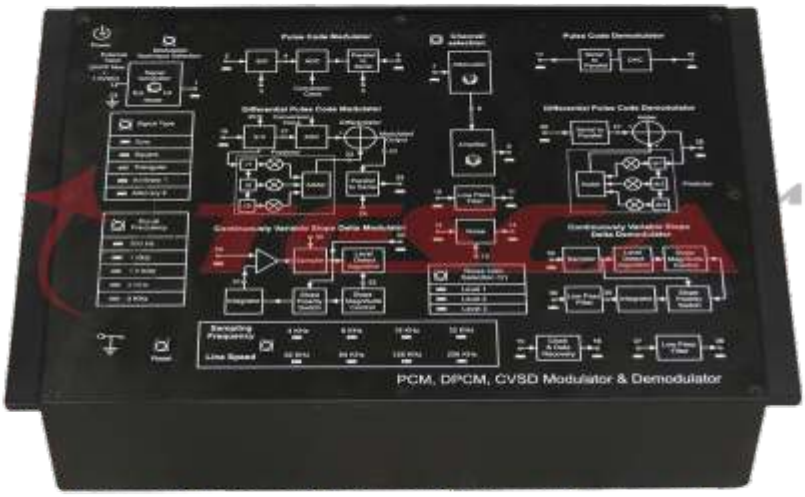
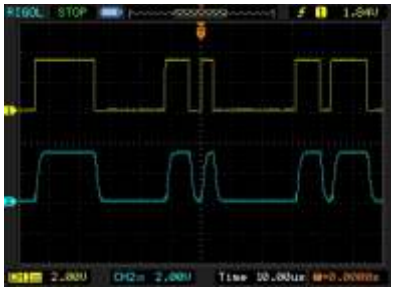


40699 provides an extensive hands on learning on PCM, DPCM, CVSD Modulator & Demodulator.

Features

1. Modulator and Demodulator on same board
2. On-board DDS Signal Generator for standard and Arbitrary signals
3. Selectable sampling frequencies with respective line speed
4. On board Transmission effect
5. On board 2nd order Butterworth Low Pass filter
6. SMD LED indicators
7. Can be issued just like a book for hands-on learnings

PCM output



Filter effect

Noise effect

Object

PCM Modulator & Demodulator

Study and analysis of:

1. Pulse Code Modulation.
2. Sample & Hold output by varying the Sampling as well as signal frequency.
3. Parallel to Serial conversion by varying the line speed clock.
4. Single bit PCM output at different line speed clock.
5. Pulse Code Demodulation.
6. Serial to Parallel conversion.
7. Analyze the final PCM demodulated output with Second Order Low Pass Butterworth filter .

DPCM Modulator & Demodulator

1. Differential Pulse Code Modulation.
2. Sample & Hold output by varying the Sampling as well as signal frequency.

Study and analysis of:

1. Predictor (Differentiator) output.
2. DPCM modulated output.

Note: Specifications are subject to change.

13.02.2024
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3. Parallel to Serial conversion by varying the line speed clock.
4. Single bit DPCM output at different line speed clock.
5. Serial to Parallel conversion.
6. Differential Pulse Code Demodulation.
7. Analyze the final DPCM demodulated output with Second order Low Pass Butterworth filter.

CVSD Modulator & Demodulator

1. Continuous Variable Slope Delta Modulation.
2. Different step size generation at the given test points.
3. Single bit PCM output.
4. Continuous variable Slope Delta Demodulation.
5. Analyze the final CVSD demodulated output with Second order Low Pass Butterworth filter.

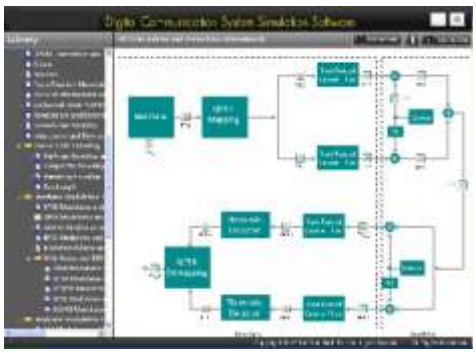
Transmission effects

1. Attenuator effect.
2. Filter effect.
3. Noise effect by varying the noise level.

Technical Specifications

Modulation & Demodulation

Techniques	:	PCM, DPCM & CVSD
Internal Signal Generator	:	Direct Digital Synthesizer
Types of Signal	:	Sine, Square, Triangle, Arbitrary signals
Frequency	:	500Hz, 1KHz, 2KHz, 3KHz
External Signal :		
Types of Signal	:	Sine, Square, Triangle, Arbitrary signals
Maximum Input Voltage	:	3Vpp (Max.) +1.5V DC offset
Frequency	:	500Hz to 3.5KHz
SMD LED Indicators	:	44 nos for DDS signal selection DDS signal frequency selection Sampling selection Technique selection Interconnect path
Transmission Effect	:	Attenuation (7dB & 10dB) Noise, Filter
Crystal Frequency	:	8MHz
Sampling Frequencies	:	4KHz, 8KHz, 16KHz, 32KHz
Line Speed	:	32KHz, 64KHz, 128KHz, 256KHz
Selection Mode	:	Push switches
Number of Test Points	:	38 nos.
Low Pass Filter	:	Cut-off frequency-5KHz
Dimensions (mm)	:	W 326 x D 252 x H 52
Power Supply	:	110V - 260V AC, 50/60Hz
Weight	:	1.5Kg (Approximately)
Operating Condition	:	0-40oC, 85% RH
Included Contents	:	2mm Patch cord - 2nos



Simtel 11 - Digital Communication Interactive Software (optional)

Topics

1. Source: Signal Source, Pulse Generator, Data Generator, Delay
2. Math Operations: Adder, Subtractor, Multiplier
3. Natural and Flattop Sampling
4. Line Encoding and Decoding
5. Delta Modulator and Demodulator
6. Adaptive Modulator and Demodulator

Note: Specifications are subject to change.

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