

PCM, DPCM, CVSD Modulation & Demodulation Training kit

KS/ECE/PCM-DPCM-CVSD

It shall have following features:

VLSI based; Transmitter and Receiver on same board.

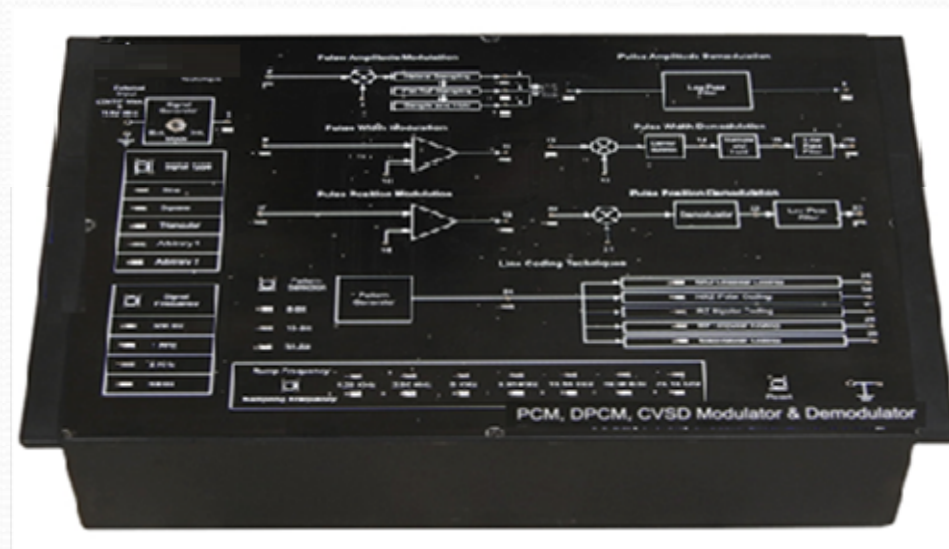
Variable sampling rates with respective line speed.

Clock generation from 8MHz crystal Oscillator.

On-board DDS signal generators for five different signals.

On board 2nd order Butterworth low pass filter with cut-off frequency of 5KHz.

On board Channel effect for Channel analysis.



Kalpana Scientific Pvt.Ltd.

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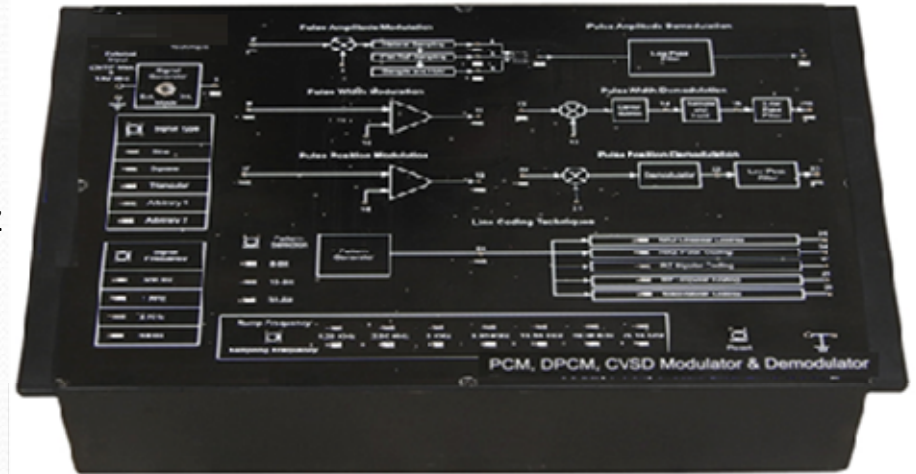
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PCM, DPCM, CVSD Modulation & Demodulation Training kit

KS/ECE/PCM-DPCM-CVSD

- Technology: VLSI
- Modulation Technique: Pulse Code Modulation and Demodulation.
- Differential Pulse Code Modulation and Demodulation
- Continuously Variable Slope Delta Modulation and Demodulation
- Crystal Frequency:8MHz
- Signal Generator. Sine, Square, Triangle, arbitrary signal etc.
- Input Signal Frequency: 500Hz, 1KHz,1.5KHz,2KHz,3KHz
- Sampling Frequency: 4KHz, 8KHz, 16KHz, 32KHz
- Line Speed: 32KHz, 64KHz, 128KHz, 256KHz
- Noise Gain: Variable; Low Pass Filter. Cut-off frequency: 5KHz;
- Test Points: 35 or more (Gold Plated)
- Channel Effect: Channel as a low-pass; Channel as a attenuator; Channel as a noise
- Power Supply: 110-220 V, $\pm 10\%$, 50 Hz
- Casing: Trainer shall be encased in a plastic moulded box with a cover to protect it from dust etc. components on the top of the Trainer only block diagram will be provided.



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Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator

It shall have following Features:

KS/ECE/DEL-ADEL-SIGDEL

VLSI based

Detailed study & analysis of respective topic.

Transmitter and Receiver on same board.

Variable sampling rates.

Clock generation from 8MHz crystal Oscillator.

On-board DDS signal generators for five different signal.

Selectable integrator gain setting (by switch or control circuit)

On board 2nd order Butterworth low pass filter with cut-off frequency of 5KHz.

On board Channel effect.



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Delta, Adaptive Delta, Sigma Delta Modulator & Demodulator

KS/ECE/DEL-ADEL-SIGDEL

- Technology: VLSI
- Modulation Technique: Delta Modulation and Demodulation, Adaptive Delta Modulation and Demodulation, Sigma Delta First Order Modulation and Demodulation, Sigma Delta Second Order Modulation and Demodulation
- Crystal Frequency: 8MHz
- Signal Generator: Sine, Square, Triangle & arbitrary signal
- Input Signal Frequency: 500Hz, 1KHz, 1.5KHz, 2KHz, 3KHz
- Sampling Frequency: 16KHz, 32KHz, 64KHz, 128KHz, 256KHz
- Noise Gain: Variable
- Integrator (step size): 1&3
- Low Pass Filter: Cut-off 5KHz frequency
- Test Points: 45 or more (Gold Plated)
- Channel Effects: Channel as a low-pass-filter, Channel as a attenuator; Channel as a noise



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Digital Companding A-Law and μ -Law Trainer Kit

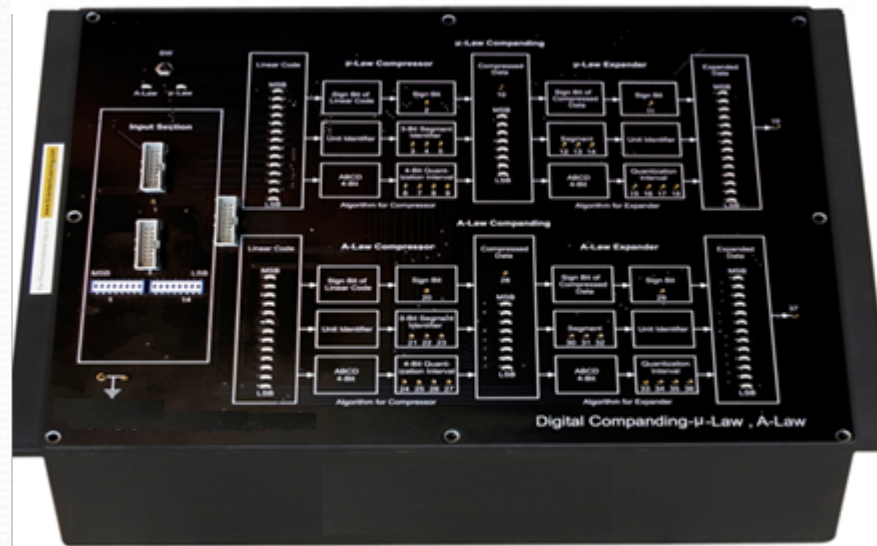
KS/ECE/A& μ LAW

VLSI based; Transmitter and Receiver on same board.

Variable sampling rates.; Clock generation from 8MHz crystal Oscillator.

On-board DDS signal generators for five different signals.

- Technology: VLSI
- Modulation Technique: A-Law Compression and Decompression.; μ -Law Compression and Decompression.
- Crystal Frequency: 8MHz
- Signal Generator: Manual selection through dip switch.
- Power Supply: 110-220 V, $\pm 10\%$, 50 Hz
- Casing: Trainer shall be encased in a plastic molded box with a cover to protect it from dust etc. No components on the top of the Trainer only block diagram will be provided.



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