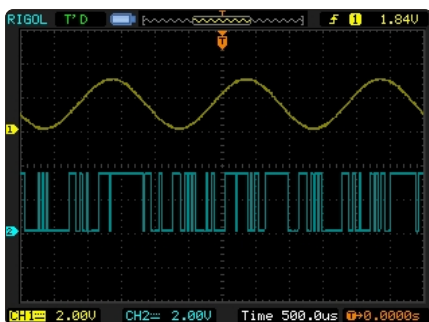


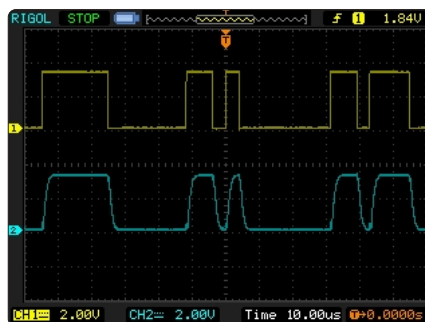
Scientech 2802 provides an extensive hands-on learning on PCM, DPCM, CVSD Modulator & Demodulator.

Features

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



PCM output



Filter effect



Noise effect

Scope of Learning (Experimentation)

PCM Modulator & Demodulator

Study and analysis of:

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

DPCM Modulator & Demodulator

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

Study and analysis of:

- Predictor (Differentiator) output.
- DPCM modulated output.
- Parallel to Serial conversion by varying the line speed clock.
- Single bit DPCM output at different line speed clock.
- Serial to Parallel conversion.
- Differential Pulse Code Demodulation.
- Analyze the final DPCM demodulated output with Second order Low Pass Butterworth filter.

CVSD Modulator & Demodulator

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

Transmission effects

- Attenuator effect.
- Filter effect.
- 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

: 0-40°C, 85% RH

Included Contents

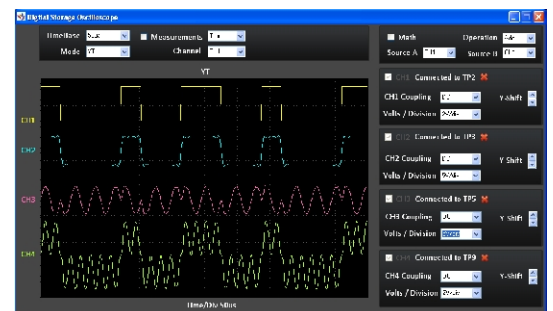
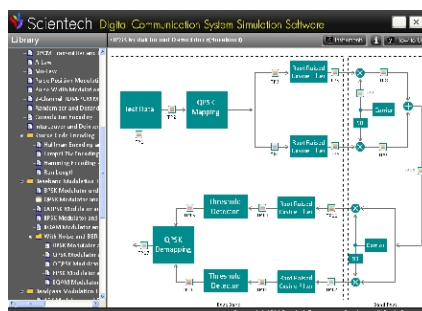
: 2mm Patch cord - 2nos

Simtel 11 - Digital Communication Interactive Software (optional)

Topics

- Source: Signal Source, Pulse Generator, Data Generator, Delay
- Math Operations: Adder, Subtractor, Multiplier
- Natural and Flattop Sampling
- Line Encoding and Decoding
- Delta Modulator and Demodulator
- Adaptive Modulator and Demodulator

For more details refer Simtel 11 Catalog



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