Order Code - 40550
Baseband Transmitter Training System

Today's Advanced Communication Technologies are growing in a rapid way. Technologies like Wireless Communication, Mobile Communication, Satellite Communication, Data Communication, RFID etc have entered in our daily lives. In most fundamental sense, Baseband Communication plays a very important role in above Communication Technologies and is the basis for any Transmission. Training System is an ideal solution to bridge the gap between theoretical studies and practical working. Using this training system student will be able to understand step by step journey of Communication Transmitter System. All major blocks required in a Baseband Transmitter blocks are covered and test points are provided for each step. In Real-time Software mode students can perform all experiments without having Analog or Digital Oscilloscope or Logic Analyzer.

Features

- Baseband Transmitter Training System is based on VLSI and DSP design
- Encoding Techniques (1 bit, 2 bit, 3bit, 4 bit, Convolutional 1/2, 2/3 , 3/4 Encoding)
- Modulation Techniques (ASK, PSK, DPSK, FSK, QPSK, OQPSK, Pi by 4 QPSK, 8-PSK, 16-PSK, 16-QAM)
- Constellation (Vector) Pattern for respective Modulation
- Eye Pattern view
- Training System can be controlled in Hardware mode or in Software mode without need of external Data Acquisition Card
- Training System has more than 60 test points which will help students to observe the signal on Oscilloscope and Logic Analyzer
- With the help of Realtime Software, student can control as well as analyze Digital signal, Analog signal, Mixed Signal and XY mode
- Simulations for different Encoding Techniques and Modulation Techniques are also provided within
- Software CD
- More than 30 experiments in manual

Technical Specifications

- On board Digitally Synthesized Sine and Cosine wave Generator with Variable Step Frequencies (75 Hz, 150 Hz, 300 Hz, 600 Hz, 1.2 KHz, 2.4 KHz, 4.8 KHz and 9.6 KHz)
- On board Clock Generator with Step Variable Frequencies (75 Hz, 150 Hz, 300 Hz, 600 Hz, 1.2 KHz, 2.4 KHz, 4.8 KHz and 9.6 KHz)
- On board Data generator with Step Variable data length (8, 16, 32, 64 bits) and variable data type select (four type per length i.e.16 combinations are possible)
- Encoding Techniques (1 bit, 2 bit, 3 bit, 4 bit, Convolutional 1/2, 2/3 , 3/4 Encoding)
- Modulation Techniques (ASK, PSK, DPSK, FSK, QPSK, OQPSK, Pi by 4 QPSK, 8-PSK, 16-PSK, 16-QAM)
- Power supply : 220 V + 10%, 50 Hz (60 Hz on request)
- Power Consumption : 2.5VA (approx.)
- Weight : 1.5 Kg (approx.)
- Dimension(mm) : W 365 ´ D 260 ´ H 175

Note: Specifications are subject to change.

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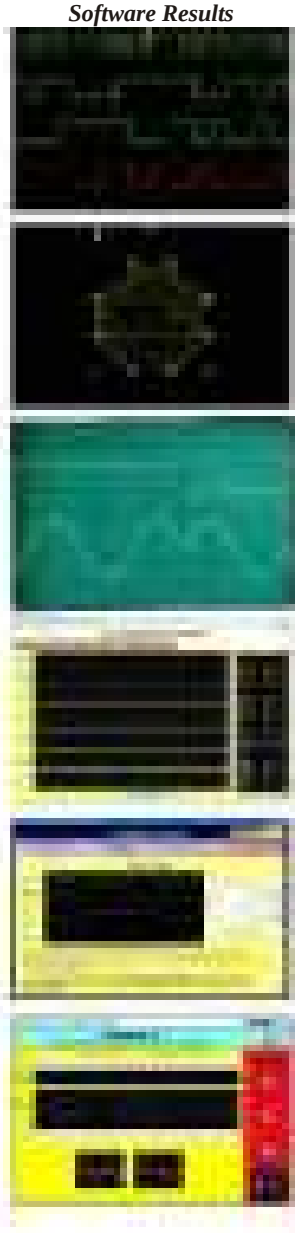
Experiments

- Study, Analysis & Measurement of Variable Clock with Variable Pattern
- Study, Analysis & Measurement of one bit Encoding with Pattern Generator
- Study, Analysis & Measurement of ASK Modulation with one bit Encoding
- Study, Analysis & Measurement of BPSK & DBPSK Modulation with one bit Encoding
- Study of BPSK Constellation and Eye Pattern
- Study, Analysis & Measurement of FSK Modulation with two bit Encoding
- Study, Analysis & Measurement of two bit Encoding with Pattern generator & Clock
- Study, Analysis & Measurement of QPSK Modulation with two bit Encoding
- Study of QPSK Constellation and Eye Pattern
- Study, Analysis & Measurement of rate ½ Convolutional Encoding
- Study, Analysis & Measurement of QPSK Modulation with rate ½ Convolutional Encoding
- Study, Analysis & Measurement of OQPSK Modulation with two bit Encoding
- Study of OQPSK Constellation and Eye Pattern
- Study, Analysis & Measurement of OQPSK Modulation with rate ½ Convolutional Encoding
- Study, Analysis & Measurement of pi/4 QPSK Modulation with two bit Encoding
- Study of pi/4 QPSK Constellation and Eye Pattern
- Study, Analysis & Measurement of pi/4 QPSK Modulation with rate ½ Convolutional Encoding
- Study, Analysis & Measurement of 3 bit Encoding with Pattern Generator & Clock
- Study, Analysis & Measurement of 8-PSK Modulation with 3 bit Encoding
- Study of 8-PSK Constellation and Eye Pattern
- Study, Analysis & Measurement of rate 2/3 Convolutional Encoding
- Study, Analysis & Measurement of 8-PSK Modulation with Variable Data
- Study, Analysis & Measurement of 4 bit Encoding with Variable Data & clock
- Study, Analysis & Measurement of rate ¾ Convolutional Encoding with Variable data and 3 Bit Encoding
- a) Study, Analysis & Measurement of 16-PSK I channel Modulation with Variable Data
- b) Study, Analysis & Measurement of 16-PSK Q channel Modulation with Variable Data
- Study, Analysis & Measurement of 16-PSK Modulation with Variable Data
- Study of 8-PSK Constellation and Eye Pattern
- a) Study, Analysis & Measurement of 16-QAM Modulation with I channel Encoding
- b) Study, Analysis & Measurement of 16-QAM Modulation with Q channel Encoding
- Study, Analysis & Measurement of 16-QAM Modulation with Variable Data
- Study of 16 QAM Constellations and Eye Pattern

Hardware & Software Results



List of Accessories

- Baseband Transmitter Training System Software CD
- Parallel Port Cable with two 25 pin Dtype Connectors
- Theory & Operating Manual
- Carrying briefcase (Optional)

System Requirement

- Software runs on Windows 98 / XP /2000 / NT / ME
- Parallel Port Mode : Standard Port Type

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