ST2106 Delta Formatting and Carrier Modulation Transmitter Trainer

In digital communication Data Formatting is very important. The available data stream from PCM transmitter or data from Variable Data Generator ST2111 is converted into different formats best suited to individual transmission system. Various formats are covered in this trainer. This trainer also covers various carrier modulation techniques required for transmission of digital information. This trainer requires either TDM Pulse Code Modulation Transmitter Trainer (ST2103) or 8 Bit Variable Data Generator (ST2111) for the input of digital data.

Technical Specifications

Input : Two channel time division multiplexed data.

Data formats : NRZ (L), NRZ (M), RZ, AMI, RB, Biphase (Manchester), Biphase (Mark)

Carrier modulation : ASK, FSK, PSK, DPSK, QPSK

On-board carrier : Sine waves synchronized to transmitted data at 1.6 MHz, 960 KHz, (0 deg. phase) 960 KHz, (90 deg. phase)

Interconnections : 2 mm sockets

Power Supply : 220 V ±10%, 50 Hz / 60 Hz on request

Power Consumption : 4 VA (approx.)

- **On-board Carrier generation circuit (Sine waves synchronized to transmitter data)**
- **On-board in phase and quadrate phase carrier for QPSK modulation and DQPSK**
- **Different data conditioning formats NRZ (L), NRZ (M), RZ, Biphase**
- **(Manchester), Biphase (Mark), AMI, RB, differentially encoded dibit pair**
- **FSK, PSK, ASK ,QPSK & DQPSK carrier modulation**
- **Variable carrier and modulation Off-Set**
- **Variable carrier gain**
- **On-board Unipolar to Bipolar conversion**
- **On-board data inverter**

Experiments that can be performed

- Conversion of NRZ data to other data formats NRZ (L), NRZ (M) RZ, AMI, RB, Biphase (Manchester), Biphase (Mark),Differentially encoded dibit pair
- ASK, FSK, BPSK, DPSK, QPSK & DQPSK Carrier Modulation Techniques & their comparison