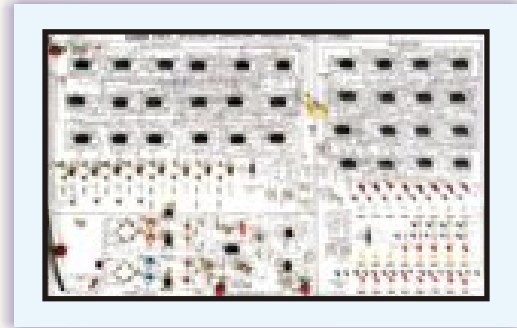




# ERROR DETECTION AND CORRECTION USING HAMMING CODE TRAINER

MODEL - COM121

This trainer has been designed with a view to provide practical & experimental knowledge of effect of noise in digital system and Error detection and Correction on single PCB.



## SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board Modulating Digital Data signal generator to generate any binary input word with Bit clock & Word clock.  
Word Length : 8 Bits.  
Word Clock Frequency : 8 KHz to 12 KHz.  
Data Format : NRZ
4. On Board Parity generator : One bit and Four bits.
5. On Board Noise inserting circuit with variable threshold.
6. Data receiver with different formats i.e. : 8 Bits Data with No parity bits.  
7 Bits Data with 1 parity bit.  
4 Bits Data with -4 parity check bits.
7. To generate digital data word with four data & four parity check bits.
8. All parts are soldered on single PCB with complete circuit diagram Screen-printed in multicolor.
9. Standard Accessories : 1. A Training Manual

## EXPERIMENTS

1. To study theory of digital transmission.
2. To insert noise in digital data and observe its effect on received data with different threshold levels.
3. To generate digital data word (8 Bits) with No parity bits.
4. To generate digital data word with one parity bit. (7 data + 1 Parity)
5. To generate digital data word with four data & four parity check bits.
6. To insert error in any one bit in received data word.
7. To generate & Detect Parity bits and use it to correct error.
8. To detect the error and correct it using Hamming Codes.
9. To insert error in more bits in received data word and try to correct it with one parity bit & more parity bits.

In keeping view of SIGMA policy of continuous development and improvement, the Specifications may be changed without prior notice or obligation.

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