SIGMA

BLACK AND WHITE TV TRAINER

MODEL - BDM102

This trainer has been designed with a view to provide theoretical and practical knowledge of a general BLACK AND WHITE T.V technology on <u>SINGLE P.C.B.</u> with <u>FAULT CREATING FACILITIES</u> to create more than <u>20 faults.</u>



FEATURES

- 1. The complete circuit of Black and White T.V is printed on single PCB.
- 2. All parts are soldered on single pin tag for easy replacement and fault creation.
- 3. Fault creation facilities are provided by removing jumpers, by rotating presets, by tuning coils, by Adjusting trimmers and by changing parts.
- 4. About more than 25 faults can be demonstrated on this trainer.
- 5. Section wise different coloured screen printed circuit on the PCB for easy understanding of function of different sections.
- 6. Typical ICs are provided on sockets to provide facility to check similar other ICs and also to create The faults by inserting faulty ICs in the Sockets.
- 7. Explanation, Observation, Alignment and adjustment of internal and External controls is possible at a glance due to single PCB.
- 8. Easy identification of different parts of Black & White T.V at a glance.
- 9. Easy measurement of voltages and observation of waveforms at any point. Also typical voltages and waveforms are provided.
- 10. A manual having 20 Practical are provided with this trainer.
- 11. The whole circuit of Black & white T.V is explained Section wise in detail in the manual.

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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SPECIFICATIONS

1. Channels : 230

2. I.F. Frequency : Video 38.9MHz. Audio 33.4MHz.

3. Tuner Channel : 2 4 VHF I (VL)

5 12 VHF III (VH) 12 100 BAND IV & V

Else: SBAND & HYPER BAND.

4. Picture Tube size : 36cm. Diagonal

5. R.F. Input impedance : 75W.

6. Circuit Blocks : Tuner section, VIF, SIF, Horz./Vert. Osc. & Sync. section, Horz. output section

Vert. output section, Sound section, Video section, System control Section,

power supply section.

7. ON Screen Display to Set: Volume, Brightness, Contrast, Channel & Band Selection, Tuning

8. Panel Control : ON-OFF Switch, stand by Menu Vol + / - Prog + / -.

9. Remote Control Function: Volume, Brightness, Stand by contrast, channel section Audio Mute, AV Mode,

Zoom, Swap, Scan, Child lock.

10. No. of Faults : More than 20.

11. No. of Test points : 30

12. Accelerating potential : 9KV Max.

13. Power supply : $220V \pm 10\%$, 50/60Hz.

EXPERIMENTS

- 1. Study of the block Diagram and working principle.
- 2. Study of ICs used in different Black and white T.V. circuits
- 3. Study of Input and Output Signals.
- 4. Study of Internal and External Controls.
- 5. Study of operating unit and Tuner section.
- 6. Study of Video I.F. section
- 7. Study of Sound I.F. section
- 8. Study of Horizontal Oscillator and Sync Separator Section
- 9. Study of Vertical Oscillator and output section.
- 10. Study of Video Amplifier section.
- 11. Study of E.H.T. section
- 12. Study of SMPS section.
- 13. Study of Picture Tube section.
- 14. Alignment and Adjustment procedure.
- 15. Faults Creation and Demonstration.
- 16. Study of Fault finding methods.
- 17. Measurement of Test Point Voltages.
- 18. Observation Test Point Waveforms.