

3G NETWORKING TRAINER

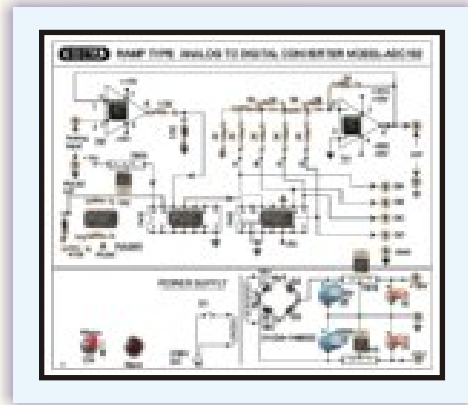


**Trainers for
ITI - Radio TV and Electronics**



ANALOG TO DIGITAL CONVERTER TRAINER MODEL-ADC100L

This trainer has been designed with a view to provide practical and experimental knowledge of Analog to Digital Converter.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. Sampling Pulse Signal generator - TTL Level
4. Converter type : Ramp type ADC - 4 Bits
5. LED display for output bit display.
6. Standard Accessories : 1. A Training Manual

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

Sigma Trainers
E-103, Jai Ambe Nagar,
Near Udgam School, Thaltej,
AHMEDABAD - 380054.

Phone : 079-26852427 / 26767512
Fax : 079-26840290 / 26759661
ISDN : 079-26859162 / 26853758
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

Dealer:-



REMOTE COLOUR TV TRAINER

MODEL CDM101S

This trainer has been designed with a view to provide theoretical and practical knowledge of a general REMOTE COLOUR T.V. on SINGLE P.C.B. of size 19"x15" with FAULT CREATING FACILITIES to create more than 75 faults.



FEATURES

- ❖ The complete circuit of Remote Colour T.V is printed on single PCB.
- ❖ All parts are soldered on single pin tag for easy replacement and fault creation.
- ❖ Fault creation facilities are provided by removing jumpers, by rotating presets, by tuning coils, by adjusting trimmers and by changing parts
- ❖ About more than 75 faults can be demonstrated on this trainer.
- ❖ Section wise different coloured screen printed circuit on the PCB for easy understanding of functions of different sections.
- ❖ 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.
- ❖ Explanation, Observation, Alignment and adjustment of internal and External controls is possible at a glance due to single PCB.
- ❖ Easy identification of different parts of Remote COLOUR T.V at a glance.
- ❖ Easy measurement of Voltages and observation of waveforms at any point. Also typical voltages and waveforms are provided.
- ❖ A manual having 30 practicals is provided with this trainer.
- ❖ The whole circuit of Remote Colour TV is explained sectionwise in detail in the manual.

SPECIFICATIONS

- | | |
|----------------------|----------------------------|
| 1. System | : CCIR-B-PAL-G, 625 lines. |
| 2. Power supply | : 230V + 15% AC, 50 Hz. |
| 3. Regulation range | : 195V AC to 265V AC. |
| 4. Power consumption | : 70 watts. |

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E-113, Jai Ambe Nagar,
Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
INDIA.

Phone(O): +91-79-26852427/ 26850829
Phone(F): +91-79-26767512/ 26767648
Fax : +91-79-26840290/ 26840290
Mobile : +91-9824001168
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

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- | | | |
|-----|---|--|
| 5. | Gain Limited sensitivity | : 60 Db for Video. 30 Db for Audio. |
| 6. | Sound output | : 5.0 watts maximum. |
| 7. | Picture Tube size | : 53cms (Diagonal) Full Flat square tube FFST |
| 8. | Tuner Channels | : VHF 2 to 12, UHF 21 to 68, S-band and Hyper-band. |
| 9. | Tuner Channel Positions | : 106 Channel positions. |
| 10. | Program Memory | : 90 programs. |
| 11. | On Screen display for setting of all controls e.g. Volume, Brightness, Contrast, Colour, Channel and band selection Tuning. | |
| 12. | Remote Controller is in trainer form. | |
| 13. | Audio - Video In and Out sockets. | |
| 14. | Sections | : Operating unit and Tuner, Remote Receiver, Video I.F., Sound I.F., Colour decoder, Video amplifier, Horizontal oscillator, Horizontal driver and output, S.M.P.S, Vertical Oscillator, Picture tube, Remote transmitter. |
| 15. | Controls | : Volume, Brightness, Contrast, Colour, Channel and band selection, Tuning. |
| 16. | Remote Control functions | : Volume, Brightness, Contrast, Colour, Channel selection, Audio mute |
| 17. | Distortion | : 10 to 15% in Live program due to expanded P.C.B. |
| 18. | Standard Accessories | : 1. Trainer P.C.B.
2. Picture tube fitted in molded cabinet.
3. A Manual having 30 practicals. |

EXPERIMENTS

1. To Study Specifications of Colour T.V.
2. To Study Safety precautions
3. To Study the Block Diagram and working principle
4. To Study the terms, definition and nomenclature used
5. To Study Input/output signals of different sections
6. To Study Electronic tuner section
7. To Study Video I.F. Section with circuit diagram
8. To Study Sound I.F. Section with circuit diagram
9. To Study Horizontal Oscillator section with circuit diagram
10. To Study Vertical Oscillator Section with circuit diagram
11. To Study Colour Decoder Section with circuit diagram
12. To Study Video Amplifier Section with circuit diagram
13. To Study E.H.T. Section with circuit diagram
14. To Study S.M.P.S. Section with circuit diagram
15. To Study Colour Picture Tube Section with circuit diagram
16. To Study Remote Receiver Section
17. To Study Remote Transmitter Section
18. To understand features of latest TVs
19. To understand External and internal controls
20. To understand/observe the function of external and Internal controls
21. To measure Test Point Voltages for different sections
22. To observe Test Point Waveforms for different sections
23. To measure Test Point Resistance for different sections
24. To understand the Alignment and adjustment procedure
25. To carry out V.I.F. alignment with Sweep Generator
26. To carry out S.I.F. alignment with Sweep Generator
27. To measure Video and Audio gain (sensitivity) with Pattern Generator
28. To demonstrate and understand different types of faults
29. To study faults diagnosis method
30. To understand Quick Testing method
31. To study ICs used in different Colour TV circuits
32. To observe Part list
33. To understand Tuner's 106 channels including "H" and "S" Band
34. To observe data Sheets of Coils used
35. To study glossary of the Technical Words
36. To study Complete Schematic Circuit Diagram



AMPLITUDE MODULATION/ DEMODULATION TRAINER MODEL-COM101L

This trainer has been designed with a view to provide practical and experimental knowledge of Amplitude Modulation /Demodulation technique on a SINGLE P.C.B of size 12" x 9".



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 1KHz
Amplitude : 0 to 2 Vpp.
4. On Board RF carrier signal generator.
Frequency Range : 200 KHz to 1 MHz.
Amplitude : 0 to 10 Vpp.
5. Modulator Type : Balanced modulator.
6. Demodulator Type : Envelope Detector (Diode detector).
7. All parts are soldered on single PCB of size 12" x9"with complete circuit diagram screen-printed.
8. Standard Accessories : 1. A Training Manual.
2. Connecting Patch cords.

EXPERIMENTS

1. To generate AM signal using Double Balanced Modulator.
2. To measure modulation index of AM signal.
3. To demodulate AM signal using Diode detector (Envelope detector) and to see the effect of different RC time constant on demodulated output i.e. Diagonal clipping and negative clipping.
4. To see the effect on AM modulated output by varying the amplitude and frequency of modulating signal.

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Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
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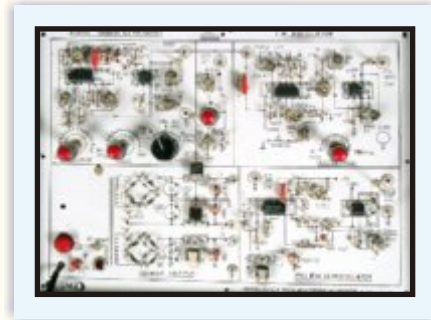
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Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

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FREQUENCY MODULATION/ DEMODULATION TRAINER MODEL- COM104L

This trainer has been designed with a view to provide practical and experimental Knowledge of Frequency Modulation / Demodulation technique on a SINGLE PCB of size 12"x9".



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 1KHz
Amplitude : 0 to 2 V-pp.
4. On Board RF carrier signal generator.
Frequency : 455KHz.
8. Modulator Type : Reactance and Varactor diode modulator
9. Demodulator Type : Phase lock loop (PLL) detector.
10. All parts are soldered on PCB of size 12" x 9" with complete circuit diagram screen-printed.
11. Standard Accessories : 1. A Training Manual.
2. Connecting Patch cords.

EXPERIMENTS

1. To study theory of Frequency Modulation & Demodulation.
2. To generate FM signal using Reactance modulator.
3. To generate FM signal using Varactor modulator.
4. To demodulate using Phase lock loop (PLL) detector.
5. To see the effect on FM modulated output by varying the amplitude and frequency of modulating Signal.
6. To see the effect on FM modulated output by varying the frequency of carrier signal.

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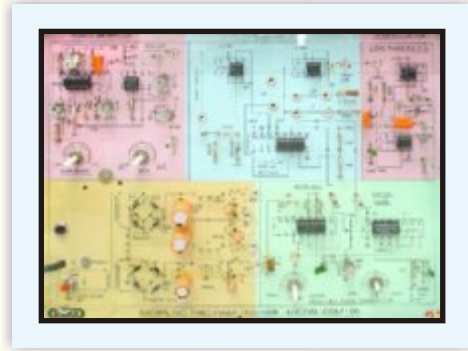
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SAMPLING & QUANTIFICATION TRAINER

MODEL- COM105Q

This trainer has been designed with a view to provide practical & experimental Knowledge of three different types of Sampling process on a SINGLE P.C.B of size 12 "x 9".



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 300Hz to 3.4KHz
Amplitude : 0 to 5 Vpp.
4. On Board Sampling Pulse signal generator.
Frequency Range : 2 KHz to 32 KHz.
Pulse width : Variable.
5. Types of sampling processes : Natural sampling, Flattop sampling, Sample and Hold.
6. Demodulator Sections : Low Pass Filter
7. Standard Accessories : 1. A Training Manual.
2. Connecting Patch cords.

EXPERIMENTS

1. To study theory of different types of Sampling process.
2. To generate PAM signal by flattop sampling.
3. To generate PAM signal by Natural sampling.
4. To generate PAM signal by S/H circuit.
5. To demodulate using Low Pass Filter.
6. To see the effect on PAM modulated output by varying the amplitude and frequency of modulating signal.
7. To vary Pulse width of Sampling frequency and see the effect on amplitude of S/H and reconstructed signal.
8. To vary frequency of Sampling pulse generator and see the aliasing effect.
9. To prove Nyquist's Sampling Theorem.

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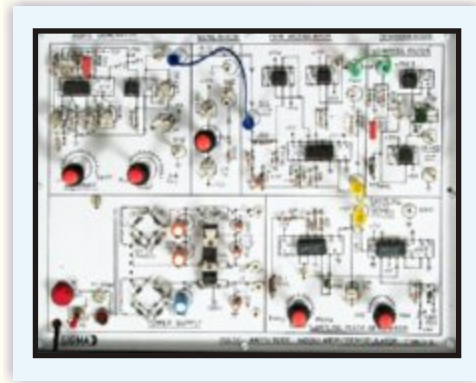
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: sigmatrainers@sify.com
Web : www.sigmatrainers.com

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PULSE AMPLITUDE MODULATION/ DEMODULATION TRAINER MODEL- COM106L

This trainer has been designed with a view to provide practical & experimental knowledge of Pulse Amplitude Modulation/Demodulation technique on a SINGLE PCB.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 1KHz
Amplitude : 0 to 5 Vpp.
4. On Board Sampling Pulse signal generator.
Frequency Range : 2 KHz to 32 KHz.
Pulse width : Variable.
5. Modulator Sections : Sample and Hold using multiplexer.
6. Demodulator Sections : Low Pass Filter
7. Standard Accessories : 1. A Training Manual.

EXPERIMENTS

1. To study theory of Pulse Amplitude Modulation & Demodulation.
2. To generate PAM signal
3. To demodulate PAM signal
4. To vary frequency of Sampling pulse generator and see aliasing effect.
5. To prove Nyquist's Sampling Theorem.

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Thaltej,
AHMEDABAD - 380054.
INDIA.

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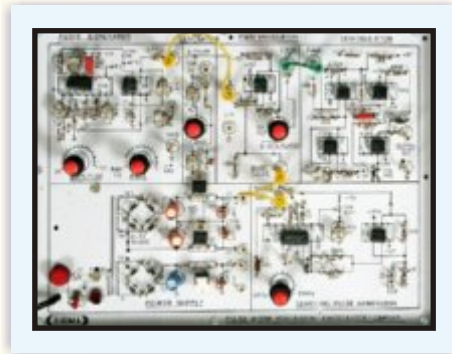
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PULSE WIDTH MODULATION/ DEMODULATION TRAINER

MODEL - COM107L

This trainer has been designed with a view to provide practical and experimental knowledge of Pulse width Modulation/Demodulation technique on a SINGLE P.C.B.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 1KHz
Amplitude : 0 to 5 Vpp.
4. On Board Sampling Pulse signal generator.
Frequency Range : 2 KHz to 32 KHz.
Pulse width : Variable.
5. Modulator Sections : Comparator.
6. Demodulator Sections : Comparator & Low Pass Filter
7. Standard Accessories : 1. A Training Manual.

EXPERIMENTS

1. To study theory of Pulse Width Modulation & Demodulation.
2. To generate PWM signal
3. To demodulate PWM signal
4. To prove Nyquist's Sampling Theorem.

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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Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
INDIA.

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Phone(F): +91-79-26767512/ 26767648
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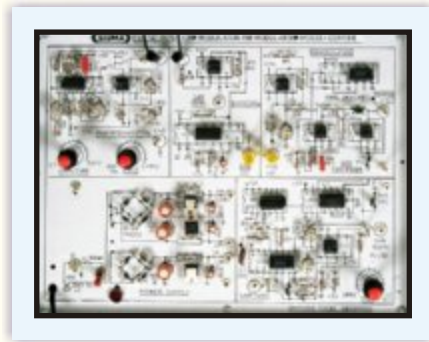
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PULSE POSITION MODULATION/ DEMODULATION TRAINER

MODEL - COM108L

This trainer has been designed with a view to provide practical and experimental knowledge of Pulse Position Modulation/Demodulation technique on a SINGLE P.C.B.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On Board AF Modulating signal generator - Sine wave
Frequency Range : 1KHz
Amplitude : 0 to 2 Vpp.
4. On Board Sampling Pulse signal generator.
Frequency Range : 2 KHz to 32 KHz.
Pulse width : Variable.
5. Modulator Sections : Comparator.
6. Demodulator Sections : Comparator, Frequency Divider & Low Pass Filter
7. Standard Accessories : 1. A Training Manual.

EXPERIMENTS

1. To study theory of Pulse Position Modulation & Demodulation.
2. To generate PPM signal
3. To demodulate PPM signal

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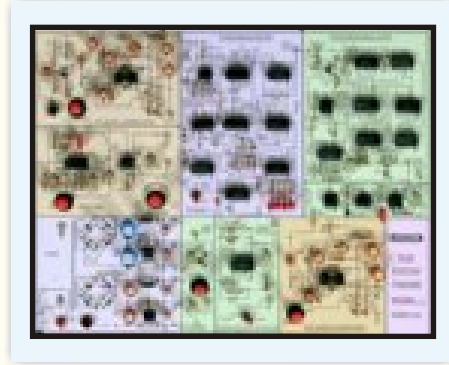
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: sigmatrainers@sify.com
Web : www.sigmatrainers.com

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PULSE CODE MODULATION/ DEMODULATION TRAINER MODEL - COM110L

This trainer has been designed with a view to provide practical and experimental knowledge of Pulse Code Modulation/Demodulation.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. On board Sine wave generator 1KHz
4. On Board Sampling Pulse signal generator.
Frequency Range - Fast Mode : 1.2 to 1.4 MHz
Frequency Range - Slow Mode : 0.8 Hz to 1.2 HZ
5. LED indicators for PCM output bits.
6. Modulator Sections : Ramp Generator, Comparator, Parallel to serial converter.
7. Demodulator Sections : Serial to parallel converter, Latch, D/A converter and Low Pass Filter
8. Standard Accessories : 1. A Training Manual
2. Connecting Patch cords.

EXPERIMENTS

1. To study theory of Pulse Code Modulation & Demodulation.
2. To generate and demodulate PCM signal
3. To see the effect on PCM demodulated output by changing bit pulse either 3 bits or 4 bits.
4. To see the effect of DC signal on PCM modulation.

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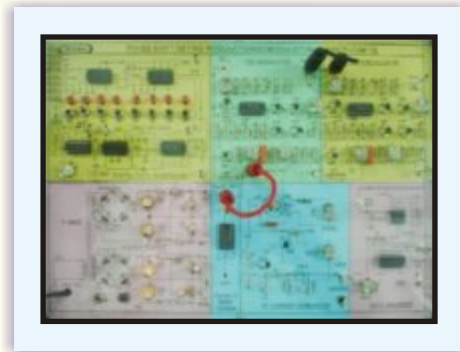
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Mobile : +91-9824001168
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

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PHASE MODULATION/DEMODULATION TRAINER MODEL - COM129L

This trainer has been designed with a view to provide practical/experimental knowledge of Phase Modulation/ Demodulation technique on a 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.
4. Modulator Type : Balanced Modulator as Phase Modulator.
5. Demodulator Type : Balanced Modulators, Squarer.
6. All parts are soldered on single PCB of with complete circuit diagram Screen-printed.
7. Standard Accessories : 1. A Training Manual.
2. Connecting Patch cords.

EXPERIMENTS

1. To generate Phase signal using two balanced modulators.
2. To demodulate Phase signal using balanced modulators and squarer circuit

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E-103, Jai Ambe Nagar,
Near Udgam School, Thaltej,
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Phone : 079-26852427 / 26767512
Fax : 079-26840290 / 26759661
ISDN : 079-26859162 / 26853758
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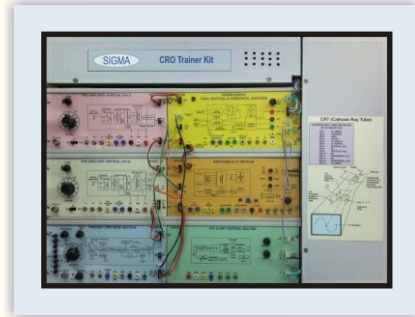
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C.R.O. TRAINER

MODEL - CRODM100

The trainer provides complete setup for the practical and experimental knowledge Of a general circuit of CRO with fault creating facility.



SPECIFICATIONS

- Operating Modes : CH I and II Alternate or Chopped (at 100 KHz),X-Y operation : 1 : 1
- Vertical Deflection : (Both Channels)
Band Width : DC-20MHz (-3dB)
Rise Time : 17.5 nSec.
Deflection Co-efficient : 12 steps, 5mV/cm to 20V/cm in 1-2-5 sequence
Accuracy : $\pm 3\%$
Input Impedance : 1M ohm || 30 pf.
Input coupling : DC AC GND
Maximum Input : 350V (DC+ Peak AC)
- Time Base :
Time coefficient : 18 steps, 0.5 μ s/cm to 0.2s/cm in 1-2-5 sequence with Magnified x5 to 100n/Sec/cm with variable to 40nSec/cm.
Accuracy : $\pm 3\%$
Sweep output : 5V pp
- Trigger System
Modes : Auto or variable.
Source : CH I or CH II, External
Slope : + ve or ve
Coupling : AC, TV frame
Sensitivity : Internal 0.5cm and external 1 V
Trigger Bandwidth : 30MHz.

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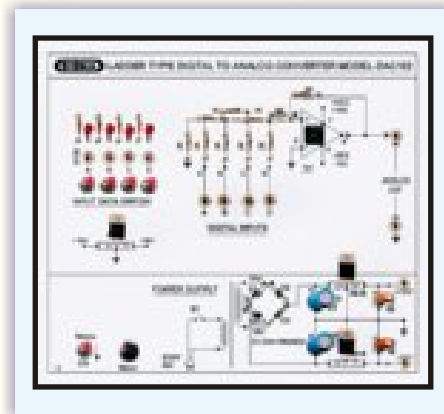
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5. Horizontal Deflection
 - Bandwidth : DC -2MHz (-3dB)
 - XY Mode : Phase shift < 5° at 50KHz
 - Deflection Coefficient : 12 calibrated steps, 5mV/cm to 20V/cm
 - Input impedance : 1M ohm || 30pf.
6. Component Tester
 - Test Voltage : Max. 8.6V rms.
 - Test Current : Max. 8mA rms.
 - Test Frequency : 50Hz.
7. Display
 - Cathode Ray Tube : 140mm rectangular tube with internal graticule, P31 Phosphor.
 - Accelerating Voltage : 2KV
 - Display : 8x10cms.
 - Trace Rotation : Adjustable
8. Calibrator
 - Waveform : Square wave of 1KHz (Approx) 0.2V ± 1%
 - Z Modulation : TTL level.
 - Mains Voltage : 230V ± 10%, 50Hz AC
9. Standard Accessories : Mains cord, BNC to BNC probes (02 Nos.)
Probe Tip Cable, Test probe, Switchable probe x1-x10 (02 Nos),
10. Instructional and experimental manual.



DIGITAL TO ANALOG CONVERTER TRAINER MODEL-DAC100L

This trainer has been designed with a view to provide practical and experimental knowledge of Digital to Analog Converter.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based power supply.
3. Converter type : R-2R Resistive ladder DAC - 4 Bit
4. LED display for output bit display.
5. Standard Accessories : 1. A Training Manual

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Dealer:-



DIGITAL IC TRAINER

MODEL -DICDM101

This trainer has been designed with a view to provide practical and experimental knowledge of different digital logic Gates.



SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based regulated Power supply : +5 V DC/200 mA.
3. Following parts provided on Single PCB with connecting terminals.
 - TTL NOT Gates - IC 7404 - 1 No.
 - TTL AND Gates - IC 7408 - 1 No.
 - TTL OR Gates - IC 7432 - 1 No.
 - TTL NAND Gates - IC 7400 - 1 No.
 - TTL NOR Gates - IC 7402 - 1 No.
 - TTL EXOR Gates - IC 7486 - 1 No.
4. High /Low switches : 4 Nos provided to apply 0 and 1 level
5. Logic output Indicators : 4 LEDs provided for output level indication.
6. Pulsar Switches : 1 No provided.
7. Clock generator : Variable from 1 Hz to 10Hz
8. Standard Accessories :
 1. User Manual with practical and circuit diagrams.
 2. Connecting patch cords

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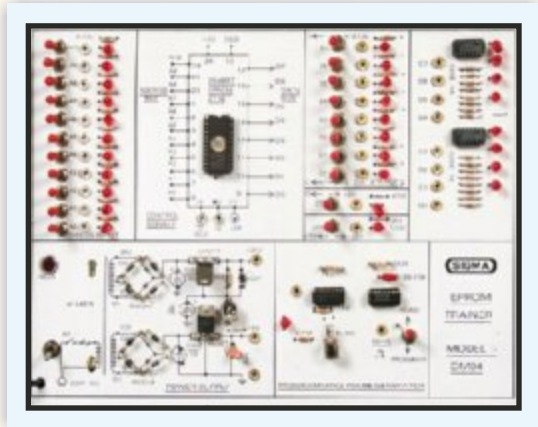


EPROM TRAINER

MODEL DM04

This trainer should be designed with a view to provide practical and experimental knowledge of EPROM memory.

FEATURES



1. The schematic circuit diagram printed on P.C.B. for all terminals, switches, components and power supplies.
2. All ICs provided on sockets and possible to replace without opening the trainer board.
3. All ICs are visible from top and the pin extensions are available around ICs with diagrams.
4. All terminals (2 mm sockets) soldered properly to avoid loose connections.

SPECIFICATIONS

1. Power supply requirement : 230V AC, 50 Hz.
2. Built in IC based regulated Power supply - 0-5 V DC/200 mA.
3. Following parts provided on Single PCB with connecting terminals.
EPROM IC 2716 - 1 No.
4. Logic output Indicators : 8 LEDs provided for output level indication.
5. Input Data Switches : 8 Nos provided.
6. Standard Accessories :
 1. User Manual with practical and circuit diagrams.
 2. Connecting patch cords - 10 nos.

EXPERIMENTS

1. To enter data in EPROM.
2. To read data from EPROM.

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

Sigma Trainers
E-103, Jai Ambe Nagar,
Near Udgam School, Thaltej,
AHMEDABAD - 380054.

Phone : 079-26852427 / 26767512
Fax : 079-26840290 / 26759661
ISDN : 079-26859162 / 26853758
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

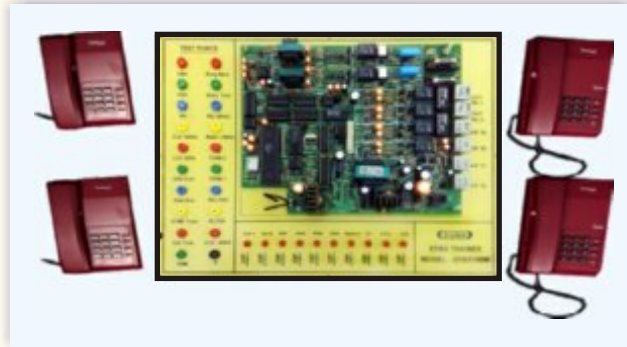
Dealer:-



EPABX TRAINER

MODEL - EPBX100L

This trainer has been designed with a view to provide Practical and experimental Knowledge of a general circuit of Electronic Private Automatic Telephone Exchange (EPABX) on Single PCB of size 12" X 9".



SPECIFICATIONS

1. Telephone Lines : One DOT Lines Four Extension Lines.
2. Telephones Instru. : 4 nos.
3. CPU Section : Micro Controller 89C51 based stored program Control technique CMOS cross point switching.
4. Memory : 64K Program memory, 32K Data RAM for buffer
5. Line Section : Opto Isolation for Trunk Line and 4 Extension Line.
6. Tone Generation : Dial Tone, Busy Tone, Ring Back Tone, Hold-on Music
7. Speech Path : Fully Non-Blocking
8. Dial Speed : 10 + 1 PPS
9. Input Power : 230 VAC + 10% 50Hz
10. Test Points : 20 Nos.
11. Standard Accessories : 1. Experimental and Circuit Description Manual.
2. Connecting Patch cords.

EXPERIMENTS

1. To study Speech circuit
2. To study DTMF & Pulse dialing
3. To study Dual Tone Ring generator
4. To study switching mechanism between Trunk and Subscriber for Incoming and Outgoing Calls.
5. To study interfacing circuit between subscriber lines and switching digital circuit.
6. To study Tone generation

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Sigma Trainers and Kits
E-113, Jai Ambe Nagar,
Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
INDIA.

Phone(O): +91-79-26852427/ 26850829
Phone(F): +91-79-26767512/ 26767648
Fax : +91-79-26840290/ 26840290
Mobile : +91-9824001168
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

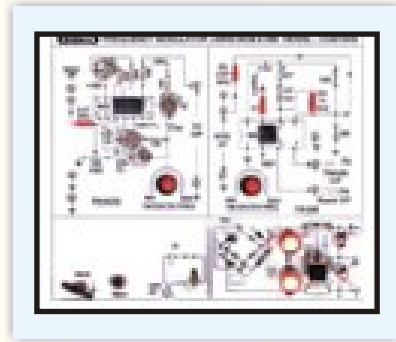
Dealer:-



FUNCTION GENERATOR TRAINER

MODEL - FGDM100

This trainer has been designed with a view to provide practical and experimental knowledge of a function generator on single P.C.B.



FEATURES

1. The complete circuit is printed on a single P.C.B. with parts on tags.
2. Explanation, Observation, Alignment and adjustment of Internal and external controls should be possible due to Single P.C.B.
3. Easy identification of different parts due to single PCB.
4. Easy measurement of voltages and observation of waveforms at any point. Test Points should be provided on P.C.B.
5. A manual should have practical details

SPECIFICATIONS

- | | | |
|--------------------|---|------------------------------------|
| 1. Waveforms | : | Sine, Square, Triangle |
| 2. Frequency Range | : | 20 Hz to 200 KHz in 4 decade steps |
| 3. Accuracy | : | 3 % |
| 4. Amplitude | : | 0-15 Vpp |
| 5. Signal Output | : | Short-circuit proof |
| 6. Supply | : | 230V AC, + 10% 50Hz |

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Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
INDIA.

Phone(O): +91-79-26852427/ 26850829
Phone(F): +91-79-26767512/ 26767648
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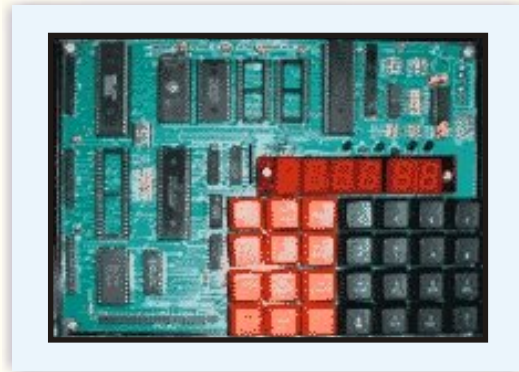
Dealer:-



8085 MICROPROCESSOR TRAINER

MODEL - Mp8085

This kit has been designed with a view to provide practical and experimental Knowledge of general circuit of 8085 Microprocessor circuits on single PCB.



SPECIFICATIONS

1. Microprocessor : 8085A, High performance 8 Bit Microprocessor.
2. CPU Clock frequency : 6.144 MHz approx.
3. Monitor facilities : 2K Powerful monitor in 2732 EPROM which
4. Memory : 8 KB RAM
5. Interrupts : Powerful interrupts capabilities.
6. Keyboard : 28 Keys Keyboard using 8279.
7. Display circuit : 6 digits 7 segment display.
8. I/O Lines : 24 I/O lines through 1 no. 8255 (24lines)
9. Serial communication : Through RS232C channel.
10. Timers : 3 programmable interval timers with 8253.
11. Bus : All address, data and control lines are brought out on a 50 pin FRC connector for system interfacing and expansion.
12. Standard Accessories :
 1. Operating cum teaching manual
 2. Patch Cords.

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Near Udgam School,
Thaltej,
AHMEDABAD - 380054.
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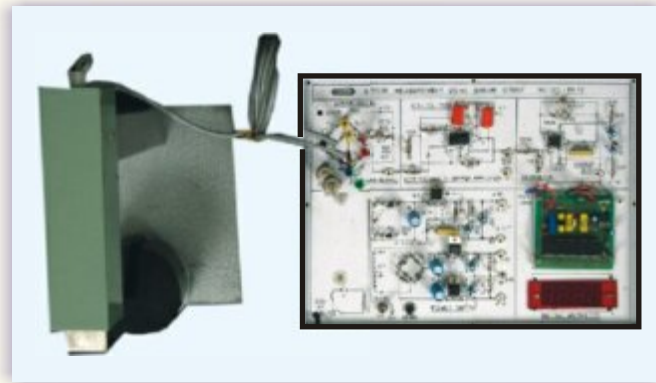
Phone(O): +91-79-26852427/ 26850829
Phone(F): +91-79-26767512/ 26767648
Fax : +91-79-26840290/ 26840290
Mobile : +91-9824001168
Email : sales@sigmatrainers.com
: sigmatrainers@sify.com
Web : www.sigmatrainers.com

Dealer:-



MEASUREMENT OF STRAIN USING STRAIN GAUGE TRAINER MODEL-TR11

This trainer has been designed with a view to provide practical and experimental knowledge of measurement of load using strain gauge with load cell on a single PCB.



SPECIFICATIONS

- | | | |
|--|---|--|
| 1. Power supply | : | 230V Ac, 50 Hz. |
| 2. Built in Power supply. | | |
| 3. Transducer | : | Strain gauge with load cell. |
| 4. Transducer type | : | Cu-Ni alloy . |
| 5. Transducer compensation | : | Temperature compensated. |
| 6. Strain gauge Resistance | : | 360 + 10 ohms. |
| 7. Range | : | 20 Kgs. |
| 9. Circuit configuration | : | Fully active full bridge. |
| 10. Excitation | : | D.C. supply provided. |
| 11. Strain Input | : | Different loads. |
| 12. Maximum capacity | : | 110% of rated capacity. |
| 13. Display | : | 3 and ½ digits Digital Panel meter calibrated in Kg. |
| 14. All parts are soldered on SINGLE PCB of size 12"x 9" with complete circuit diagram screen-printed. | | |
| 15. Standard Accessories | : | 1. A Manual having practical
2. Patch Cords. |

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Thaltej,
AHMEDABAD - 380054.
INDIA.

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Phone(F): +91-79-26767512/ 26767648
Fax : +91-79-26840290/ 26840290
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: sigmatrainers@sify.com
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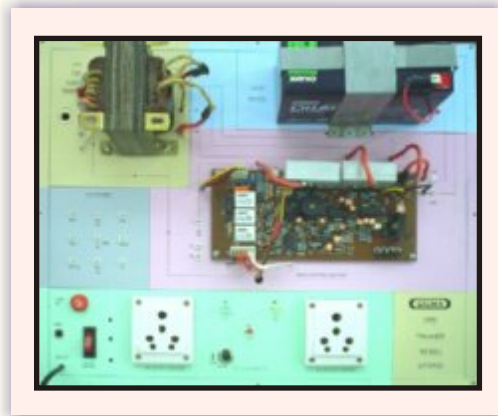
Dealer:-



UPS TRAINER

MODEL-UPS100

This trainer has been designed with a view to provide practical and experimental Knowledge of UPS on a Single P.C.B.



SPECIFICATIONS

- | | | |
|-------------------------|---|-----------------------------|
| 1. Capacity | : | 500VA |
| 2. Output Voltage | : | 230 V AC Nominal |
| 3. Input Voltage | : | +12V DC Battery. |
| 4. Output Frequency | : | 50 Hz. |
| 5. Accuracy | : | + 5%. |
| 6. Switching | : | Automatic. |
| 7. Backup time | : | 10 Minutes. |
| 8. Standard Accessories | : | 1. Manual having practical. |

EXPERIMENTS

1. To verify Characteristics of UPS.

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Thaltej,
AHMEDABAD - 380054.
INDIA.

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: sigmatrainers@sify.com
Web : www.sigmatrainers.com

Dealer:-