

# ANALOG - DIGITAL TRAINER

## MODEL - XPO – ANADIGI



### SALIENT FEATURES

- Aesthetically designed injection moulded electronic desk. Master unit carrying useful experiment resources Variable Power supplies/ Status / Pulsar/ Function Generator, DPMs etc. while the central slot will hold various replaceable experiment panels.
- Connection through Sturdy 4mm Banana Sockets & Patch Cords.
- Hands on learning by constructing circuits using built in power bread board panel as well as optionally using Discrete component panel.
- Set of Users Guide provided with each Unit.



### SPECIFICATIONS OF MASTER UNIT

- Built in Power Supply  
DC. Power Supply : 5V / 1A  
 $\pm 12V$ , 500mA  
Variable : 0 - + / -12V 150mA,  
AC 12 – 0 – 12, 150mA AC
- Built in Function Generator  
Output Waveform - Sine, Triangle & Square / TTL  
Output Frequency - 1 Hz to 200KHz in 6 ranges, with amplitude & frequency control pots. O/P Voltage 20V p-p max.
- Clock Generator : 10 MHz TTL clock.
- Input Data Switches and output LED status indicators for High/Low indication (15+1) No.
- Pulsar switches (2 nos.) With four debounced outputs..2no.
- Fixed TTL (5V) clocks : 4 Nos. 1KHz, 100Hz, 5Hz, 1Hz
- Logic probe to detect High/Low level pulses upto 1MHz, With bi-colour LEDs to indicate status.
- 2 digit 7 segment display with BCD to 7 segment decoder.
- LED BAR graph with 10 LED indicator to display 0-2.5V or 0-4V input.
- Onboard DPM is provided with mode selection.  
DC volt / current - 200mA/20V .....1no.
- Onboard speaker - 8 Ohms, 0.5 Watt (1no.)
- Onboard POTS.....1K(1no.) & 1M(1no.)
- Built in bread board panel with 1280 tie points and 400 distribution points totalling to 1680 points along with 4mm banana sockets fortapping from the trainer +5V, +12V GND for the circuits to be assembled on bread board using single stand (#22/24)wire.
- Computer Interface Adapter  
Facilitates connecting your trainer to either IEEE 488 or RS232 com port of PC using 25 pin (male) D connector through 25 nos. of banana sockets. Optionally a 16 pin ZIF may be provided in place off 'D' connector.
- Mechanical Dimensions  
(A) Master Unit : 400mm(W), 125mm(H), 270mm(D)  
Net weight: 8Kg. Gross wight: 10Kg.  
(B) Panel : 215mm(W), 165mm(H), 40mm(D)  
Net weight: 700 gm approx.
- Operating Voltage - 230V +/- 10%, 50Hz/72VA.

## OPTIONAL ACCESSORIES :

<b>Discrete Component Panel (DCP)</b>		Panel with following discrete components 7 – Resistors, 5 – diodes, 1 – LDR, 1 – Zener, 3 – NPN transistors, 1 – PNP transistors, 1 – UJT, 4 – Capacitors, 1 – HV Capacitors, 2 – SCR, 2 – FET & MOSFET, 1 – 12v RELAY, 3 – Inductors, 1 – Linear pot, 1 – Triac, 1 – Audio transformer, 1 – PUT, 1 – HW Resistor, 1 – DIAC, 92 – Banana sockets for patch cording to construct various circuits.			
<b>DIP / ZIF panel</b>  (order separate DIP/ZIF panel for each of application)	<b>Model</b> →	<b>Digital IC Trainer (DIT I)</b>	<b>TTL CMOS Trainer (DIT II)</b>	<b>Linear IC Trainer</b>	<b>ZIF Panel</b>
	<b>IC used</b>	7400, 04, 08, 32, 86, 76, 90, 76, 95 or 02	74280, 7407, 74HCT14, 4011, 7485, 74191, 4051, 74123	LM339, TL084, 741, 555	40 pin universal ZIF socket, 16 pin socket
	<b>No. of sockets</b>	142	142	142	76
	<b>Discrete component used</b>	10Kx1, 0.1μ F x 1, 100K pot	10K x 2, 100K pot, 4K7 x 1, 220K x 1, 0.1μF x 1, 0.047μF x 1	Resistors (15nos), Cap. 15nos), Transistor (2Nos), Diodes(4Nos), Zener (1no.) Regulator (3nos), Pot (1no.)	10Kx2
	<b>No. of Expt.</b>	>50 / TTL characteristics combinational logic, asynchronous, synchr. counters, Flip Flop	>22 / CMOS characteristics, CMOS TTL I/F, Flip Flop, parity, mux-demux, mono-stable, synchronous counter	>40	Various
<b>Overlay Learning System (OLS)</b> Set of Components useful for above OLS		<b>Digital</b> 16 Nos. of tracings supporting 56 Experiments.		<b>Analog</b> 14 Nos. of tracings supporting 39 Experiments.	
		As per your order and specification consisting of Resistor (92 nos.) , Capacitor (43nos.), Inductor (4 nos.), Transistor (11 nos.), Diode (9 nos.) , LEDs (13 nos.), ICs (53 nos.)etc. Supplied with 22 or 24 SWG SS Hook up wires for BB panel 1mtr length & 4mm to 22 SWG SS (300mm) x 10nos.			
<b>Bread Board Trainer (Power Project Board)</b>		Bread board : With 1280 tie points & 400 distribution points totaling to 1680 points with built in power supply : +5V, +/-12V, Variable 0 to +/-12V			

## LABWISE EXPERIMENT PANEL SELECTION CHART

Networks & Fields (3)	Discrete Electronics(13)	Digital Electronics(10)	Opamps / Linear Electronics(8)	Power Electronics(7)	Communication Electronics(5)
Magnetism, Electro-magnetism & Transformer Characteristics (P1)  DC/AC & Wave Shaping Circuit (P2)  3 Phase Laws (P36)	Semiconductor & Power Semiconductor Devices (P3)  Silicon Bilateral Switch (SBS) Sensors & Transducers (P4)  Rectifier, Filter, Zener Regulator (P5)  Voltage Regulator (P6)  Transistor h-parameters & CB/CC/CE amplifiers (P7)  Transistor Amplifier (P8)  Transistor class A, Class B, Class C Amplifier (P9)  Transistor / Diode Applications (P10)  Oscillator & Multivibrator (P11)  DC/AC Bridge circuits (P24)  JFET, MOSFET & IGBT (P31)  Oscillator & Amplifier (P35)  Discrete component Trainer (DCP)	Digital IC Trainer (DIT I)  TTL CMOS Trainer (DIT II)  Digital Logic Gates (P12)  Flip Flop, Counters & Shift Register (P13)  Multiplexer, Decoder & Encoder (P14)  Half/Full Adder, Subtractor, ALU (P15)  Analog Multiplexer / Demultiplexer & ADC, DAC (P26)  Study of Logic Gates & Applications (P28)  ADC & DAC Circuits (P33)  Memory (P34)	Linear IC Trainer  Operational Amplifier Circuit (P16)  Advance Operational Amplifier (P17)  Application of Operation Amplifier (P18)  Analog Multiplexer / Demultiplexer & ADC, DAC (P26)  Passive / Active / M Derived Filter (P32)  ADC & DAC Circuits (P33)  Oscillator & Amplifier (P35)	Power Semiconductor Application (P20)  DC-DC, converters (P21)  Power Semiconductor Application (P22)  Stepper Motor Demonstrator (P25)  Switch Mode Power Supply (P29)  3 Phase sequence indicator and Fault Study (P30)  3 Phase Laws (P36)	Application of Operation Amplifier (P18)  AM / FM Transistor Radio kit (P19)  FM Transmitter (P23)  Microphones & hand speaker (P27)  Passive / Active / M Derived Filter (P32)

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Specifications subject to change without notice.