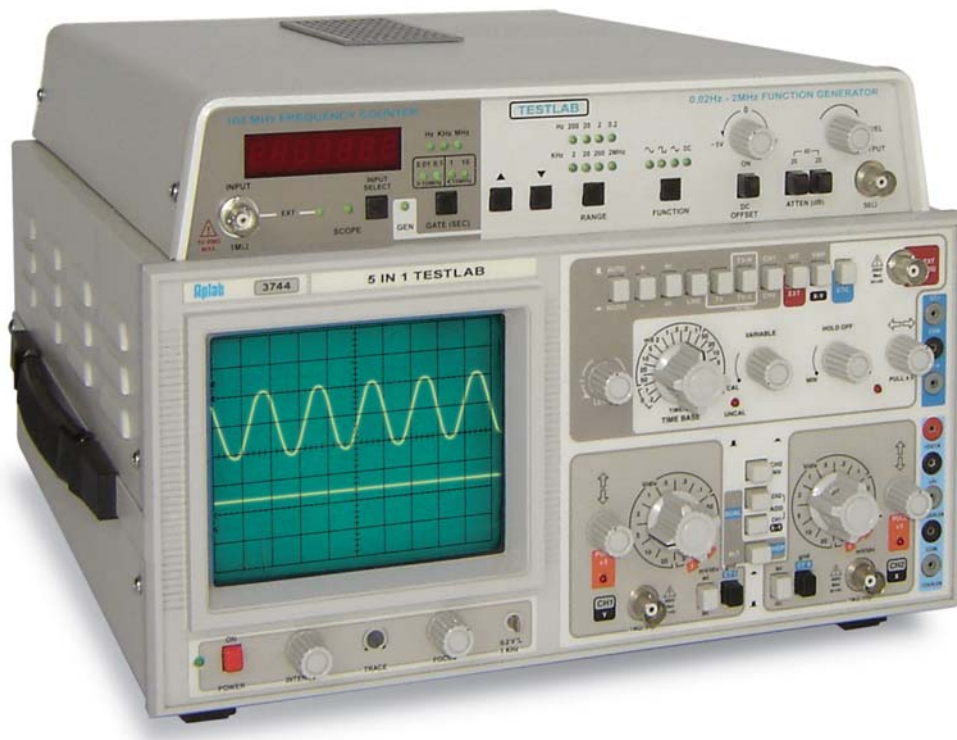


Aplab

5 IN 1 TESTLAB 3744



Features

- Low Cost Solutions to Diverse Test and Measuring Requirements in the Laboratory.
- Comprises of Several Instruments in One Package Dual Trace Oscilloscope, Component Tester/Comparator, Triple Output DC Power Source, Frequency Counter and Function Generator.
- Oscilloscope with dc to 30MHz Bandwidth and 1 mv/div Sensitivity on Both Channels.
- 140mm Rectangular CRT and 8 x 10 cm. Display with Internal Graticule.
- 40ns/div to 0.2s/div Time Base.
- Z Modulation (TTL Level).
- X-Y Operation.
- TV Triggering Frame (V) & Line (H).
- LINE Trigger.
- Component Tester / Comparator for Quick Evaluation of Component Characteristics.
- Triple Output DC Source for External Use.
- 100MHz Frequency Counter Measures Frequency of Function Generator or Waveform Displayed on Oscilloscope, Also from external Input or source.
- Function Generator Operates in the Range of 0.02Hz to 2MHz with 50 ohms Output Impedance and Attenuation upto 60dB.

Technical Specifications

VERTICAL DEFLECTION

Deflection Coefficient (CH1 & CH2)	: 1mV/div to 20V/div. 5mV/div to 20V/div in 12 calibrated steps in 1-2-5 sequence. x5 Magnification increases the sensitivity to 1mV/div & 2mV/div (LED indication).
Accuracy	: $\pm 3\%$.
Bandwidth	: DC - 30MHz (-3dB), dc coupled. 10Hz - 30MHz (-3dB), ac coupled. 20MHz (-3dB) in x5 MAG.
Rise Time	: 11.6ns or Less, 17.5ns in x5 MAG.
Display Modes	: CH1, CH2, CH1 & CH2 Alternate or Chop mode, Algebraic addition CH1+CH2, Algebraic subtraction CH1-CH2, CH2 Inverted and X-Y.
Input Impedance	: 1M Ω and 25pF (approx).
Maximum Input Voltage	: 400V (dc + peak ac).
Internal Trigger Signal	: CH1 or CH2 signal.

TIME BASE

Sweep Speed	: 18 calibrated steps. 0.5 μ s/div to 0.2s/div in 1, 2 & 5 sequence.
Sweep Magnifier	: x5 Magnification extends the sweep speed to 100ns/div. x5 Magnification indication with LED.
Accuracy Variable	: $\pm 3\%$. Uncalibrated continuously variable control between steps, extends fastest sweep speed to 40ns/div (approx). (Uncal LED indication).
Hold-off Time	: 4:1 (approx.) variable control.

TRIGGER SYSTEM

Triggering Mode	: Automatic or Normal with Level control.
Source	: CH1 / CH2 / LINE / EXT.
Slope	: Positive or Negative.
Coupling	: ac / dc / HF reject or TV-V / TV-H.
Trigger Sensitivity	: Int. : AUTO 1 div 30Hz - 30MHz NORM 1 div 3Hz - 30MHz. Ext. : AUTO 1V p-p 30Hz - 30MHz NORM 1V p-p 3Hz - 30MHz (Typical 40MHz at 2 div).

HORIZONTAL DEFLECTION

Horizontal Input via CH2 (CH1 operates as Y).	
Deflection Coefficient	: Same as CH2.
Bandwidth	: DC-1MHz (-3dB).
Input Impedance	: 1M Ω and 25pF (approx.).

GENERAL

Cathode Ray Tube	: 140mm Rectangular Screen, Internal Graticule, 8 x 10 cm, P31 phosphor. Accelerating potential : 2 kV.
Trace Rotation	: Front Panel Control, allows $\pm 5^\circ$ of trace adjustment.
Z-Modulation	: TTL Level.
Calibrator	: Provides 0.2V $\pm 2\%$, 1KHz square-wave output for probe compensation.

DUAL COMPONENT TESTER / COMPARATOR

Dual Component Tester allows comparison of a Device Under Test (D.U.T.) and a sample device.

Test Voltage	: 8.6V r.m.s.
Test Current	: 28mA max.
Test Frequency	: 50Hz or 60Hz (MAINS).

TRIPLE OUTPUT DC SOURCE

Three independent regulated DC outputs +5V, ± 12 V, +5V at 1A max. and ± 12 V at 200mA max. continuous. (common floating w.r.t. ground).

Line / Load Regulation	: $\pm 2\%$.
Ripple	: Less than 8mV r.m.s.
Termination	: 2mm Jacks on the Front Panel.

0.02Hz - 2MHz FUNCTION GENERATOR

Frequency Range	: 0.02Hz to 2MHz in 8 Decade ranges.
Output Waveform	: DC, sine, triangle, square.
DC Offset	: ± 5 V (across 50 Ω), ± 10 V (open circuit).
Maximum Output Voltage	: 10V p-p for all functions (with 50 Ω loads). 20Vp-p open circuit. (DC + AC PK not exceed 10V across 50 ohms).

Output Impedance	: 50 Ω (nominal).
Attenuator	: 0dB to 40dB in steps of 20dB, 20dB fine attenuation by amplitude control. Accuracy : ± 0.5 dB per 20dB step at 1KHz.

Sine Distortion	: Less than 3% upto 200 KHz.
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100MHz DIGITAL FREQUENCY COUNTER

Frequency Range	: 20Hz to 100MHz (Usable).
Gate Time	: 0.01, 0.1, 1 or 10 sec (switch selectable). Accuracy : ± 1 count \pm Time Base Accuracy.
Time Base	: 10MHz Crystal Oscillator. Accuracy : ± 20 ppm at 25 $^\circ$ C. Stability : ± 30 ppm over 0 $^\circ$ C to 50 $^\circ$ C range.

Inputs (Switch Selectable)	: Gen : Frequency of Function Generator. Scope : Signal through triggered channel of scope. Ext : External signal through BNC connector.
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Sensitivity	: Scope Input : Min. 4 div p-p swing on oscilloscope. Ext Input : 20mV r.m.s. over 10Hz to 50MHz. 50mV r.m.s. over 50MHz to 100MHz max. 5V p-p.
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Input Impedance	: Ext Input : 1M Ω // 30pF.
Display	: 7 seg. LED display indicates frequency in Hz, KHz & MHz.

GENERAL INFORMATION

Power Requirement	: 230V AC $\pm 10\%$, 47-65Hz, 90VA. or 115V AC $\pm 10\%$ (On Request).
Dimensions	: 235 (H) x 315 (W) x 420 (D) mm (approx.).
Weight	: 10 Kg. approx.
Standard Accessories	: Instruction Manual - 1 No. Input Lead BNC to Crocodile - 2 Nos. Component Test Lead (Set) - 1No. 50 ohms Termination - 1 No. BNC to BNC Lead - 1 No.
Optional Accessories	: High Impedance switch probe with x1 or x10 attenuation (Model 306), Trolley.
Environmental Specifications	: Normal : 10 $^\circ$ C to 40 $^\circ$ C RH 85%. Operational : 0 $^\circ$ C to 50 $^\circ$ C RH 85%.

WE PURSUE A POLICY OF CONTINUOUS DEVELOPMENT AND PRODUCT IMPROVEMENT. THUS THE SPECIFICATIONS IN THIS DOCUMENT AND THE LOCATION OF CONTROLS ON THE FRONT PANEL MAY BE CHANGED WITHOUT NOTICE.

Aplab Test & Measurement Instruments

APLAB LIMITED

APLAB HOUSE, A-5, WAGLE ESTATE, THANE 400 604. INDIA. TEL : 25821861 FAX : 91-022-2582 3137
EMAIL : tmisales@aplab.com WEBSITE : www.aplab.com

- BANGALORE Tel. : 080-23576001 to 07 Fax : 23576008 E-mail : aplabblr@aplab.com
- CHENNAI Tel. : 044-26680472, 26680477 Fax : 26680473 Email : aplabchn@aplab.com
- KOLKATA Tel. : 033-22455435, 22848834 Fax : 22454294 Email : aplabcal@aplab.com
- MUMBAI Tel. : 022-29201787, 29204642, 29203468 Fax : 29209066 Email : aplabwr@aplab.com
- NEW DELHI Tel. : 011-23515183/86, 23627467 Fax : 23634709 Email : aplabnd@aplab.com
- SECUNDERABAD Tel. : 040-27811012, 27843351, 27720339 Fax : 27897788 Email : aplabsec@aplab.com