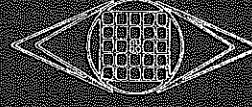




P35.5

TELEQUIPMENT



OSCILLOSCOPE

TYPE D61A

38304

INSTRUCTION MANUAL

INTRODUCTION

The D61A is a 10 MHz solid state dual trace oscilloscope using FET input circuitry for minimum drift and fast stabilization time. A CRT with 8 cm x 10 cm face provides a bright and clear display. The dual trace vertical amplifiers provide the facility for each channel to be displayed separately, alternately or chopped between channels. Channel 2 can be switched to become the horizontal amplifier to provide an X - Y display.

The design of this instrument is subject to continuous development and improvement, consequently this instrument may incorporate minor changes in detail from the information contained herein. This would, in the main, affect the Component List and Circuit Diagrams.

NOTICE TO OWNER

To obviate the risk of damage during transit and to facilitate packaging the owner is requested NOT to send the following items unless they are suspect, should this instrument be returned to TEKTRONIX for servicing.

Manual

Probes

Plug Assemblies

SECTION 1

SPECIFICATION

1.1 CATHODE RAY TUBE (CRT)

Display area	8 x 10 cm
Phosphor	
Standard	P31
Special order	P7
Overall accelerating potential	3.5 kV

1.2 VERTICAL AMPLIFIERS

Operating Modes	Channel 1
	Channel 2
	Channels 1 & 2
	Alternate (at time/div speeds between 1 ms and 0.5 μ s)
	Chop (100 kHz approx. at time/div between 500 ms and 2 ms and on EXT X)
	X - Y
Bandwidth (-3 db)	
DC coupled	DC - 10 MHz
AC coupled	2 Hz - 10 MHz
Risetime	≤ 35 ns
Max. amplitude	8 div at low frequency decreasing to 5 div at 10 MHz.
X - Y	Vertical CH1 with CH2 input selected via TIME/DIV switch. as horizontal amplifier
Bandwidth (-3 db)	DC - 1 MHz
Deflection factors	
Calibrated (9 ranges 1, 2 & 5 sequence)	10 mV/div - 5 V/div $\pm 5\%$
Input impedance	1 M Ω and 35 pF in parallel
Maximum input	400 V peak

1.3 HORIZONTAL DEFLECTION

Sweep rates (19 ranges 1, 2 & 5 sequence)	
X1	500 ms - 0.5 μ s/div $\pm 5\%$
X5	100 ms - 200 ns $\pm 7\%$
	100 ns/div $\pm 10\%$
External horizontal amplifier	
Bandwidth -3 db	2 Hz - 1 MHz
Deflection factor	100 mV/div approximately
Input impedance	1 M Ω and 10 pF in parallel

1.4 TRIGGER

Level	Variable or Variable limited with auto free running in absence of trigger signal
Coupling	AC or TV field for sweep ranges up to 100 μ s/div and TV line from 50 μ s/div to 0.5 μ s/div
Source	CH1, CH2 or external. All positive or negative
Sensitivity	
Internal	
40 Hz - 1 MHz	0.5 div minimum amplitude required becoming 1 div at 10 MHz
External	
40 Hz - 1 MHz	100 mV minimum amplitude required
1 MHz - 10 MHz	1 V minimum amplitude required

1.5 OUTPUTS FRONT PANEL

Calibrator peak to peak	500 mV squarewave $\pm 2\%$ at supply frequency.
Probe test	2.5 V approximately rectangular pulse at sweep repetition rate and sweep width.

1.6 POWER SUPPLY

Supply Voltages	The instrument will operate at any selected one of the following voltages 107 V $\pm 10\%$ 117 V $\pm 10\%$ 214 V $\pm 10\%$ 234 V $\pm 10\%$
Supply frequency	48 - 440 Hz
Consumption	25 VA

1.7 SIZE

Height	280 mm
Width	160 mm
Depth	420 mm

1.8 WEIGHT

8 kgs

1.9 COOLING

Convection

1.10 TEMPERATURE LIMITS, ambient

Operating	- 15 to +40° C
Non-operating	- 25 to +70° C