## 60 MHz Analog Oscilloscope Model 2160A

■ 5 mV/div sensitivity

time base

- Signal delay time
- Component tester
- Z axis input ■ Single sweep
- 23 calibrated ranges-delayed time base

■ 23 calibrated ranges-main

Specifications model		
	2160A	
VERTICAL AMPLIFIERS	(CH I and 2)	
Sensitivity	5 mV/ 5 V/div, 1 mV/div to 1 V/div (X5 MAG)	
Attenuator	1-2-5 sequence, plus x 5 gain step, Vernier control provide	
	fully adjustable sensitivity between steps range 1/1 to	
	at least 1/2.5	
Accuracy	±3%, 5 mV to 5 V/div; ±5%, 1 mV, 2 mV/div	
Input impedance	I MΩ ±2%	
Input Capacitance	25 pF±10%	
Frequency Response	DC to 60 MHz (5 mV/div to 5 V/div),	
	DC to 15 MHz (X5 MAG)	
Rise Time	5.8 ns (Overshoot ≤5%)	
Operating Modes	CH1, CH2, Dual, Alternate Chop	
Polarity Reversal	CH 2 invert	
Maximum Input Voltage	400V (DC + AC peak)	
SWEEP SYSTEM		
Sweep Display Modes	Main, Mix, Delay, XY	
Hold Off Time	5:1 continuously variable	
Main Sweep Sweep Speed	0.1µs/div. to 2.0s/div. in 1-2-5 sequence, 23 steps	
Accuracy	±3%	
Variable Time Control	5:1, uncalibrated, continuously variable between steps	
Sweep Magnification	$10 \text{ x}$ , $\pm 10\%$ , extended sweep speed up to 10 ns/div	
Delay Sweep		
Sweep Speed	0.1 µs/div. to 2.0 s/div. in 1-2-5 sequence, 23 steps	
Accuracy	±3%	
Sweep Magnification	$10 \text{ x}$ , $\pm 10\%$ , extended sweep speed up to 10 ns/div	
Delay Time Position	Variable control to locate desirable waveform for extending	
Triggering	· · · · · · · · · · · · · · · · · · ·	
Trigger Coupling	AUTO, NORM, TV-V, TV-H	
Trigger Source	CH1, CH2, ALT, EXT. LINE	
Slope	+/-	
HORIZONTAL AMPLIFIE	R	
(Input through channel 2 input)		
X-Y Mode	CH 1: X axis. CH 2: Y axis	
Sensitivity	Same as vertical channel 2	
Input Impedance	Same as vertical channel 2	
Frequency Response	DC: DC to 1MHz (-3 dB). AC: 5 Hz or 2 MHz (-3 dB)	
X-Y Phase Difference	3° or less at 50 kHz	
Maximum Input Voltage	Same as vertical channel 2	



## CH 2 Output (on rear panel)

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Output Voltage	50 mV/div (nominal into 50 $\Omega$ load)			
Output Impedance	Approximately 50 Ω			
Frequency Response	20 Hz to 60 MHz, -3 dB into 50 V			
CRT				
Туре	6-inch rectangular with internal graticule			
Display Area	$8 \times 10 \text{ div} (1 \text{ div} = 1 \text{ cm})$			
Accelerating Voltage	12 kV			
Phosphor	P31			
Scale Illumination	Continuously variable			
Trace Rotation	Electrical, front panel adjustable			

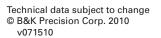
## COMPONENT TESTER

Components Tested	Resistors, capacitors, inductors, and semiconductors
Test Voltage	6 V rms maximum (open)
Test Current	I I mA maximum (shorted)
Test Frequency	Line frequency (60 Hz in USA)

## Other Specifications

Cal/Probe		
Compensation Voltage	2.0 V p-p $\pm$ 3% square wave, 1 kHz nominal	
Sweep Output	TTL level allows synchronization of external equipment	
	with scope sweep	
Intensity Modulation		
Input Signal	TTL level, intensity increasing with more positive levels	
Input Impedance	50 kΩ	
Usable Freq. Range	DC to 5 MHz	
Maximum Input Voltage	30 V (DC + AC peak)	
Environment		
Within Specified Accuracy	50° to 95°F (10° to 35°C), 10-80% RH	
Full Operation	32° to 122°F (0° to +50°C), 10 - 80% RH	
Storage	-22° to 158°F (-30° to +70°C), 10 - 90% RH	
Power Requirements	110/120/220/240 V ±10%, 50/60 Hz	
Dimensions (H x W x D)	12.76 x 15.68 x 5.2" (324 x 398 x 132mm)	
Weight	16.75 lbs. (7.6kg)	
	Three Year Warranty	
Accessories		
Supplied: Instruction Manual, Two PR 33A x1/x10 Probes or equivalent,		
AC Power Cord, Spare Fuse		
Optional: PR 32A Demodulato	r Probe, PR 37AG x1/x10/REF. Probe, PR 100A	

Dptional: PR 32A Demodulator Probe, PR 37AG x1/x10/REF. Probe, PR 100A x100 Probe, PR-55 High Voltage x1000 Probe, LC 210A Carrying Case



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