60 MHz Analog Oscilloscope

- ■ 5mV/div sensitivity
- ■ 23 calibrated ranges-main time base
- ■ 23 calibrated ranges-delayed time base
- ■ Signal delay time
- ■ Component tester
- ■ Z axis input
- ■ Single sweep

2160A

Specifications

2160A

VERTICAL AMPLIFIERS (CH 1 and 2)

Sensitivity	5mV/div to 1V/div x 5mag
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%, 5mV to 5V/div; ±5%, 1mV, 2mV/div
Input impedance	1MΩ ±2%
Input Capacitance	25pF±10%
Frequency Response	DC to 60 MHz
Rise Time	5.8ns (Overshoot ≤5%)
Operating Modes	CH1, CH2, Dual, Alternate Chop
Polarity Reversal	CH 2 invert
Maximum Input Voltage	400V (dc + AC Peak), 800 VAC p-p

SWEEP SYSTEM

Sweep Display Modes	Main, Mix, Delay
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 x , ±10%, extended sweep speed up to 10ns/div

Delay Sweep

Sweep Speed	0.1 μs/div. to 2.0s/div. in 1-2-5 sequence, 23 steps
Accuracy	±3%
Sweep Magnification	10 x, ±10%, extended sweep speed up to 10ns/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 AMPLIFIER

(Input through channel 2 input)

X-Y Mode	CH 1: Y axis. CH 2: X axis
Sensitivity	Same as vertical channel 2
Accuracy	±3%, Y axis; ±5% X axis
Input Impedance	Same as vertical channel 2
Frequency Response	DC: DC to 1MHz (-3 dB). AC: 5 Hz ro 2 MHz (-3 dB)
X-Y Phase Difference	3° at at 50 kHz
Maximum Input Voltage	Same as vertical channel 2

CH 2 Output (on rear panel)

Output Voltage	50 mV/div (nominal into 50 Ω load)
Output Impedance	Approximately 50 Ω
Frequency Response	20Hz to 60MHz, -3dB into 50V

CRT

Type	6-inch rectangular with internal graticule
Display Area	8 x 10 div (1 div = 1 cm)
Accelerating Voltage	12 k
Phospor	P31
Scale Illumination	Continuously variable
Trace Rotation	Electrical, front panel adjustable

COMPONENT TESTER

Components Tested	Resistors, capacitors, inductors, and semiconductors
Test Voltage	6V rms maximum (open)
Test Current	11mA maximum (shorted)
Test Frequency	Line frequency (60 Hz in USA)

Other Specifications

Cal/Probe Compensation Voltage	2.0 V p-p ±2% 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 negative levels
Input Impedance	Approx. 1 kΩ
Usable Freq. Range	DC to 5 MHz
Maximum Input Voltage	5V (DC + AC peak)

Environment

Within Specified Accuracy	50° to 95°F (10° to 35°C), 85% maximum 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)

Accessories   *Three Year Warranty*

SUPPLIED:	Instruction Manual, Two PR-33A x1/x10 Probes or equivalent, AC Power Cord, Spare Fuse
OPTIONAL:	PR-32A Demodulator Probe, PR-37A x1/x10/REF. Probe, PR-100A x100 Probe, PR-55 High Voltage x1000 Probe, LC-210A Carrying Case