## Data Sheet

# 60 MHz Analog Oscilloscope with Probes

## Model 2160A

B&K Precision's model 2160A is a high performance oscilloscope with many features at a low cost. The model 2160A includes a built in component tester, which is an excellent tool for in circuit troubleshooting. This oscilloscope is built by and backed by B&K Precision, a company that has been selling reliable, durable, value priced test instruments for over 50 years.

- 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
- cUL certified

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## Specifications

| model | 2160A |
|---|---|
| **VERTICAL AMPLIFIERS (CH 1 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 | 1 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 x , ±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 x , ±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 AMPLIFIER** | |
| (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 |

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|---|---|
| CH 2 Output (on rear panel) | |
| Output Voltage | 50 mV/div (nominal into 50 Ω load) |
| Output Impedance | Approximately 50 Ω |
| Frequency Response | 20 Hz to 60 MHz, -3 dB into 50 V |
| **CRT** | |
| Type | 6-inch rectangular with internal graticule |
| Display Area | 8 x 10 div (1 div = 1 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 | 11 mA maximum (shorted) |
| Test Frequency | Line frequency (60 Hz in USA) |

## Other Specifications

| | |
|---|---|
| Cal/Probe Compensation Voltage | 2.0 V p-p ±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 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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