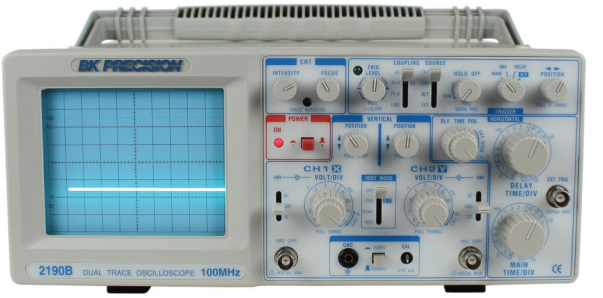
Data Sheet

100 MHz Dual Trace Analog Oscilloscope

Model 2190B

B&K Precision Model 2190B is one of the most economical 100 MHz analog oscilloscopes on the market, yet it has all of the high performance features needed for most applications, including delayed time base, bandwidth limiter, and Y axis output.

- Dual time base oscilloscope (2 channel)
- 5mV/division sensitivity
- Sweeps to 5ns/division
- 23 calibrated ranges, main time base
- Signal delay line
- 15 kV accelerating voltage
- Channel 2 output
- cUL certified



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Specifications	2190B
VERTICAL AMPLIFIERS (CH 1 and CH 2)	
Sensitivity	5 mV/div to 5 V/div. 1 mV/div to 1V/div (at X5 MAG)
Attenuator	10 calibrated steps in 1-2-5 sequence. Vernier control provides fully adjustable sensitivity between steps, adjustment range 1/1 to 1/3
Accuracy	±3% (±5% at X5 MAG)
Input Impedance	1 MΩ ±2%
Input Capacitance	25 pF ±10 pF
Frequency Response	DC: DC to 100 MHz (-3 dB)
X5 MAG	DC to 25 MHz (-3 dB)
AC	10 Hz to 100 MHz (-3 dB)
Rise Time	3.5 ns (Overshoot ≤5%)
Signal Delay Time	Variable
Square Wave Characteristics	Overshoot less than 5%, 10 mV/div range
	Other ranges within 5% additional
Maximum Input Voltage	400 V (DC + AC peak)
VERTICAL AMPLIFIERS	
Operating Modes	CH 1, CH 2, Dual, Add
Delay Time Between Channels	Within 1 ns between CH 1 and CH 2
Crosstalk	30:1 at 100 kHz
SWEEP SYSTEM	
Operating Modes	
A	A sweep
B	Delayed B sweep
B TRIGGERED	B sweep triggered after delay
A Time Base	
Sweep Mode	Main, Mix, Delay, XY
Sweep Time:	5 s to 20 ns/div., 23 steps in 1-2-5 sequence with variable control
Accuracy	± 3%
Hold Off Time	Continuously variable. Adjustment range from normal to 5 times normal
B Time Base	
Delay Method	Continuous delay. Triggered delay
Sweep Time	20 ns. to 0.5 s/div., 23 steps in 1-2-5 sequence
Accuracy	± 3%
Delay Time	Start point: 0.5 div to + 0.3 div. End point: 10 div + 1 div
Delay Jitter	Within 1/10,000 of full scale sweep time
TRIGGERING	
A Trigger	
Source	CH 1, CH 2, LINE, EXT, ALT
Sensitivity	30 Hz to 110 MHz 1.5 div (internal), ≥0.5 p-p (external)
TV-V	20 Hz - 30 kHz
	1.0 div (internal), ≥0.5 p-p (external)
TV-H	3 kHz - 100 kHz 1.0 div (internal), ≥0.5 p-p (external)
Slope	+ or -
B Trigger	The A trigger is also the B trigger
EXTERNAL TRIGGER	
Maximum Input Voltage	300 V (DC + AC peak)
HORIZONTAL AMPLIFIER	
X-Y Mode	X Axis = CH 1. Y Axis = CH 2
Sensitivity	5 mV/div to 5 V/div, CH 1 and CH 2
Accuracy	±3% calibrated position, ±6% using x10 MAG
Frequency Response	DC to 2 MHz (-3 dB)
CH2 (Y) OUTPUT	
Output Voltage	Approx. 100 mV/div open circuit Approx. 50 mV/div into 50 Ω
Freq. Response	20 Hz to 100 MHz, -3 db
Output Impedance	approx. 50 Ω
CRT	
Type	Rectangular with integral graticule
Display Area	8 x 10 div (1 div = 1 cm)
Accelerating Voltage	12 kV
Phosphor	P31
Scale Illumination	None
Trace Rotation	Electrical, front panel adjustable

Other Specifications

Z Axis (Intensity Modulation)	Sensitivity: 3 V or greater, 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)
CAL/Probe Compensation	
Waveform	Positive going squareware
Output Voltage	2 V p-p ±3%
Frequency	Approx. 1 kHz
Power Requirements	100/120/220/240/ VAC ±10%, 50/60 Hz, approximately 55 W
Dimensions (HxWxD)	12.76 x 15.68 x 5.2" (324 x 398 x 132 mm)
Weight	18.7 lbs (8.5 kg)
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

Three Year Warranty

Supplied Accessories: Instruction Manual, Two PR 37A x1/x10/Ref. Probes or equivalent, AC Power Cord, Spare Fuse

Optional Accessories: 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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