

# BK Precision 100 MHz Three Trace Dual Time Base Oscilloscope

*Part No. 01BK2190*[Back to Oscilloscope Main Page](#)

<b>Specifications</b>		<b>model 2190B</b>
<b>VERTICAL AMPLIFIERS (CH 1 and CH 2)</b>		
Sensitivity	5mV/div to 5V/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 1/2.5	
Accuracy	+-3% (+-5% at X5 MAG)	
Input Impedance	1M $\Omega$ + 3%	
Input Capacitance	25 pF +- 10pF	
Frequency Response	DC: DC to 100 MHz (-3 dB)	
X5 MAG	DC to 20 MHz (-3 dB)	
AC	10Hz to 100 MHz (-3 dB)	
Rise Time	3.5 ns (Overshoot <=5%)	
Signal Delay Time	Variable	
Square Wave Characteristics	Overshoot less than 5%, 10mV/div range Other ranges within 5% additional	
Maximum Input Voltage	400V (DC + AC peak)	
<b>VERTICAL AMPLIFIERS</b>		
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	
<b>SWEEP SYSTEM</b>		
<b>Operating Modes</b>		
A	A sweep	
B	Delayed B sweep	
B TRIGGERED	B sweep triggered after delay	
<b>A Time Base</b>		
Sweep Mode	Auto, normal	
Sweep Time:	5s to 20ns/div., 23 steps in 1-2-5 sequence with variable control	
Accuracy	+-3%	
Hold Off Time	Continuously variable. Adjustment range from normal to 1,5 times the sweep time	
<b>B Time Base</b>		
Delay Method	Continuous delay. Triggered delay	
Sweep Time	20ns to 0.5s/div., 23 steps in 1-2-5 sequence	
Accuracy	+-3%	
Hold Off Time	Continuously variable. Adjustment range from normal to 1.5 times the sweep time	
<b>B Time Base</b>		
Delay Method	Continuous delay. Triggered delay	
Sweep Time	20 ns. to 0.5s/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	

<b>TRIGGERING</b>	
<b>A Trigger</b>	
Source	CH 1, CH 2, LINE, EXT
Sensitivity	30Hz to 110 MHz
TV-V	20Hz - 30kHz
TV-H	3 kHz - 100 kHz
Slope	+ or -
B Trigger	The A trigger is also the B trigger
<b>EXTERNAL TRIGGER</b>	
Input Impedance	1 m $\Omega$ , 30 pF
Maximum Input Voltage	300V (DC + AC peak)
<b>HORIZONTAL AMPLIFIER</b>	
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: DC to 100 MHz (-3 dB)
X5 MAG	DC to 20 MHz (-3 dB)
AC	10 Hz to 100 MHz (-3 dB)
Rise Time	3.5 ns (Overshoot $\leq$ 5%)
Signal Delay Time	Variable
Square Wave Characteristics	Overshoot less than 5%, 10 mV/div range Other ranges within 5% additional
Maximum Input Voltage	400V (DC + AC peak)
<b>VERTICAL AMPLIFIERS</b>	
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
<b>SWEEP SYSTEM</b>	
<b>Operating Modes</b>	
A	A sweep
B	Delayed B sweep
B TRIGGERED	B sweep triggered after delay
<b>A Time Base</b>	
Sweep Mode	Auto, normal
Sweep Time:	5s to 20ns/div., 23 steps in 1-2-5 sequence with variable control
Accuracy	+ -3%
Hold Off Time	Continuously variable. Adjustment range from normal to 1.5 times the sweep time
<b>B Time Base</b>	
Delay Method	Continuous delay. Triggered delay
Sweep Time	20ns. to 0.5s/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

Continued on pg. 3

<b>EXTERNAL TRIGGER</b>	
Input Impedance	1 m $\Omega$ , 30 pF
Maximum Input Voltage	300V (DC + AC peak)
<b>HORIZONTAL AMPLIFIER</b>	
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)
<b>CH 1 (Y) OUTPUT</b>	
Output Voltage	Approx. 100mV/div open circuit Approx. 50 mV/div into 50 $\Omega$
Freq. Response	50 Hz to 30 MHz
Output Impedance	approx. 50 $\Omega$
<b>CRT</b>	
Type	Rectangular with integral graticule
Display Area	8x10 div (1 div = 1 cm)
Accelerating Voltage	15 kV
Phosphor	P31
Scale Illumination	None
Trace Rotation	Electrical, front panel adjustable
<b>Other Specifications</b>	
Z Axis (Intensity Modulation)	Sensitivity: 3V or greater, TTL level. Negative polarity increases brightness
Input Impedance	15 k $\Omega$
Usable Freq. Range	DC to 3.5 MHz
Maximum Input Voltage	20 V (DC + AC peak)
<b>CAL/Probe Compensation</b>	
Waveform	Positive going squarewave
Output Voltage	0.5 V p-p +- 3%
Frequency	Approx. 1 kHz
Duty Cycle	50 +- 5%
Power Requirements	100/120/220/240/VAC +- 10%, 50/60 Hz, approximately 55 W
Dimensions (HxWxD)	12.76x15.68x5.2" (324x398x132 mm)
Weight	18.7 lbs. (8.5 kg)
<b>ENVIRONMENT</b>	
Within Specified Accuracy	50 $^{\circ}$ to 95 $^{\circ}$ F (10 $^{\circ}$ to 35 $^{\circ}$ C), 85% maximum RH
Full Operation	32 $^{\circ}$ to 104 $^{\circ}$ F (0 $^{\circ}$ to +40 $^{\circ}$ C), 85% maximum RH
Storage	-4 $^{\circ}$ to 158 $^{\circ}$ F (-20 $^{\circ}$ to +70 $^{\circ}$ C)
<b>Accessories</b>	
<b>Three Year Warranty</b>	
SUPPLIED: Instruction Manual, Two PR-37A x1/x10/Ref. Probes or equivalent, AC Power Cord, Spare Fuse	
OPTIONAL: PR-32A Demodulator Probe, PR-46A x10 Probe, PR-37A x1/x10/REE Probe, PR-100A x100 Probe, PR-55 High Voltage x1000 Probe, LC-210A Carrying Case	