SPEC/MODEL		OS-3020	OS-3040	OS-3060
CRT	configuration and Useful Screen	6-inch rectangular screen with internal graticule : 8 X 10 div (1div-cm), markings for measurement of rise time. 2mm subdivisions along the central axis.		
	Acceleration Potential	+1.9kC approx.	+11.5kV approx.	+11.5kV approx.
	Phosphor	P31 (standard)		
	Focussing	Possible with autofocus correction circuit		
	Trace Rotatioin	Provided		
	Scale illumination	Variable		
	Intensity Control	Provided		
Z-AXIS INPUT (INTENSITY MODULATIOIN)	Input Signal	Positive going signal decreases intensity, (+5Vp-p or more signal causes noticeable modulation at normal intensity settings)		
	Bandwidth	DC - 2MHz (-3dB)		DC -3.5MHz (-3dB)
	Coupling	DC		
	Input Impedance	20kΩ - 30kΩ		
	Maximum Input Voltage	30V (DC+peak AC)		
Vertical Deflection	Bandwidth (-3dB)	(DC coupled) DC to 20MHz normal DC to 7 MHz magnified	DC to 40MHz normal DC to 7MHz magnified	DC to 60MHz normal DC to 10MHz magnified
		(AC coupled) 10Hz to 20MHz normal 10Hz to 7MHz magnified	10Hz to 40MHz normal 10Hz to 7MHz magnified	10Hz to 60MHz normal 10Hz to 10MHz magnified
	Modes	CH1, CH2, ADD, DUAL (CHOP : Time/div. switch-0.2s to 5ms ALT : Time/div. sitch-2ms to 0.2 μs)		CH1, CH2, ADD, DUAL (CHOP : Time/div. switch-0.2s to 5ms ALT : Time/div. sitch-2ms to 0.1 μs)
	Deflection Factor	5mV/div to 5V/div in 10 calibrated steps of a 1-2-5 sequence. Continuously variable between steps at least 1 : 2.5 X 5 MAG : 1mV/div. to 1V/div. in 10 calibrated steps.		
	Accuracy	normal : ±3%, magnified : ±5%		
	Input Impendance	approx. 1MΩ in parallel with 25pF ±3pF		
	Maximum Input Voltage	Direct: 250V (DC+peak AC), (with probe ; refer to probe specification)		
	Input Coupling	DC-GND-AC		
	Rise Time	17.5ns or less (50ns or less ; X5)	8.8ns or less (50ns or less ; X5)	5.8ns or less (35ns or less ; X5)

<table>
<tr><td></td><td>CH1 Out</td><td colspan="2">approx. 20mV/div. into 50 Ω : DC to 10MHz (-3dB)</td></tr>
<tr><td></td><td>Polarity Inversion</td><td colspan="2">CH2 only</td></tr>
<tr><td></td><td>Signal Delay</td><td>None</td><td>delay cable supplied</td></tr>
<tr><td rowspan="8">HORIZONTAL DEFLECTION</td><td>Display Modes</td><td colspan="2">A, A int, B, B TRIG'D, X-Y</td></tr>
<tr><td>Time Base A</td><td>0.2μs/div. to 0.2s/div. in 19 calibrated steps, 1-2-5 sequence, uncalibrated continuous control between steps at least 1:2.5</td><td>0.1μs/div, to 0.2s/div. in 20 calibrated steps 1-2-5 sequence uncalibrated continuous controls between steps at least 1:2.5</td></tr>
<tr><td>Hold-off Time</td><td colspan="2">variable with the holdoff control</td></tr>
<tr><td>Time Base B</td><td>0.2μs/div. in 7 calibrated steps 1-2-5 sequence</td><td>01.μs/div. to 10μs/div. in 7 calibrated steps 1-2-5 sequence</td></tr>
<tr><td>Delayed Sweep</td><td colspan="2">1 div. or less to 10 div. or more</td></tr>
<tr><td>Delay Time Jitter</td><td colspan="2">better than 1 : 20,000</td></tr>
<tr><td>Sweep Magnification</td><td>10 times (Maximum sweep rate : 20ns/div)
Note: 50ns/div. 20ns/div of A TIME BASE are uncalibrated</td><td>10 times(Maximum sweep rate : 10ns/div)</td></tr>
<tr><td>Accuracy</td><td colspan="2">±3%, additional error for magnifier ±2%</td></tr>
<tr><td rowspan="7">TRIGGER SYSTEM</td><td>Modes</td><td colspan="2">auto, norm, TV-V, TV-H</td></tr>
<tr><td>Source</td><td colspan="2">CH1, CH2, LINE, EXT</td></tr>
<tr><td>Coupling</td><td colspan="2">AC</td></tr>
<tr><td>Slope</td><td colspan="2">+ or -</td></tr>
<tr><td>Sensitivity and Frequency (AUTO, NORM)</td><td colspan="2"><table><tr><td></td><td>20Hz-2MHz</td><td>2MHz-20MHz</td></tr><tr><td>INT</td><td>0.5div</td><td>1.5div</td></tr><tr><td>EXT</td><td>0.2Vp-p</td><td>0.8Vp-p</td></tr></table><table><tr><td></td><td>20Hz-2MHz</td><td>2MHz-40MHz</td></tr><tr><td>INT</td><td>0.5div</td><td>1.5div</td></tr><tr><td>EXT</td><td>0.2Vp-p</td><td>0.8Vp-p</td></tr></table></td><td><table><tr><td></td><td>20Hz-2MHz</td><td>2MHz-60MHz</td></tr><tr><td>INT</td><td>0.5div</td><td>1.5div</td></tr><tr><td>EXT</td><td>0.15Vp-p</td><td>0.3Vp-p</td></tr></table></td></tr>
<tr><td>TV-V, TV-H</td><td colspan="2">at least 1 div. or 1.0Vp-p Composite Sync.</td></tr>
<tr><td>External Trigger Input Impedance</td><td colspan="2">1MΩ in parallel with approx. 30pF</td></tr>
<tr><td>Max. Input Voltage</td><td colspan="2">250V (DC + peak AC)</td></tr>
</table>

SPEC/MODEL		OS-3020	OS-3040	OS-3060
X-Y OPERATION	X-axis	(same as CH1 except for the following) Deflection factor ; same as that of CH1 Accuracy ; ±5% Frequency response ; DC to 500kHz (-3dB)		
	Y-axis	same as CH2		
	X-Y Phase Difference	3° or less (at DC to 50 KHz)		
READOUT FUNCTION	Cursor Readout Function	Voltage reference △V:△-REF, Time reference △T:△-REF, Frequency reference 1/△:△-REF		
	Panel Setting Displays	Vertical axis(CH1, CH2 : V/DIV, UNCAL, MAG(converted value) Note: displayed when the vertical mode is CH1, CH2, DUAL, ADD not displayed when the B mode Horizontal axis:S/DIV, UNCAL, MAG (converted value)		
	Effective Cursor Range from Center Graticule	Vertical:within ±3 div Horizontal:within ±4 div		
	Resolution	1/25 div		
DIGITAL STORAGE FUNCTION	Display Memory	1/25 div		
	Save Memory	1000 words/CH		
	Acquisition Memory	5μs/div~20s/div : 2000 words/CH 0.2μs/div~2μs/div : 1000 words/CH		0.5μs/div~20s/div : 2000 words/CH 0.1μs/div~2μs/div : 1000 words/CH
	Vertical Resolution	25 Point/div		
	Horizontal Resolution	100 Point/div		
	Maximum Sampling Rate	20MS/s		
	Digital Bandwidth Single Shot Event	5MHz		
	Repetitive Event	20MHz	40MHz	60MHz
	Data Acqusition Method	·NORM mode:storage the data each time trigger		
	Data Save	Up to two storage data can be saved. Saved data can be recalled to the display whenever required.		
	Pre-trigger	Variable(0.04 div step)		
	Plotter	Plotter output of the CRT displayed information to an HP-GL. Plotter via the RS-232C interface		

	Data Output	RS-232C	
	Magnified Display	X10 by Time/div swich or MAG switch	
	X-Y Operation	Single trace X-Y X axis=CH1 CH1*X axis=SA, Y axis=CH2 Y axis=SB Dual trace X-Y X axis=CH1, Y axis=2 Sensitivity X axis : CH1 1mV-5V/div ±5%, Y axis:CH2 1mV~5V/div ±5% Phase error 3° or less from DC~50kHz	
	Sweep Time	0.2μs/div~20s/div repetitive signal:0.2μs/div~2μs/div roll mode:0.5s/div~20s/div ALT:0.2μs/div~0.5ms/div CHOP:1ms/div~20s/div	0.2μs/div~20s/div repetitive signal:0.1μs/div~2μs/div roll mode:0.5s/div~20s/div ALT:0.1μs/div~0.5ms/div CHOP:1ms/div~20s/div
	Readout Function	(Panel setting display) V/div, uncal, MAG, S/div, uncal, MAG. X-Y Trigger point, number of averaging, roll mode, smoothing, interpolation method, save memory information, probe setting (Cursor readout) Voltage difference △V:△-Ref, Time difference △:△-Ref, Frequency 1/△T:△-Ref, Pre-trigger TRG:△	
CALIBRATOR (PROBE ADJ.)		appox. 1kHz frequency, 0.5V(±3%) square wave duty ratio:50%	
POWER SUPPLY	Voltage Range Frequency	100,120,220,240,VAC &Plusmn%,50/60Hz	
	Power Consumption	approx. 65W	
PHYSICAL CHARACTERISTICS	Weight	approx. 8.5kg	
	Size	320mm(W)X140mm(H)X430mm(D)	
ENVIRONMENTAL CHARACTERISTICS	Temperature Range for Rated Operation	+10&degC to +35&degC(+50&degF to +95&degF)	
	Max. Ambient Operation Temperature	0&degC to + 40&degC(+21&degF to +104&degF)	
	Max. Storage Temperature	-20&degC to 70&degC (-4&degF to +158&degF)	
	Humidity Range for Rated Operation	45% to 85% RH	
	Max Ambient Operationg Humidity	35% to 85% RH	