

# DUAL TRACE ANALOG OSCILLOSCOPE (Model : AN 10XB)



## SALIENT FEATURES

- ◆ Bandwidth: New & Updated 3 models:- 20/25/30MHz.
- ◆ 10 times sweep magnification.
- ◆ TV Synchronization, X-Y mode.
- ◆ Japanese electronic encoder, light, handy and reliable.
- ◆ Fully sealed durable vertical mode switch.
- ◆ ALT Triggering Function, simultaneous observation of two independent signals.

## Technical Specifications

VERTICAL AXIS		
Model	AN102B	AN103B
Band Width (-3dB)	20MHz	30MHz
Sensitivity	5mv~5V/DIV, 10 steps in 1-2-5 sequence	
Sequence Sensitivity accuracy	=3%	
Vernier vertical sensitivity	≤ 1/2.5 of panel-indicated value	
Frequency bandwidth	DC ~ 20MHz / DC ~ 25MHz (-3dB)	DC ~ 30MHz (-3dB)
Vertical modes	CH1 single channel Ch2 single channel	
DUAL	CH1 and Ch2 are displayed ALT or CHOP selectable at any sweep rate.	
ADD	CH1+CH2 algebraic addition.	
Chopping repetition freq.	Approx.250KHz	
Input coupling	AC, GND, DC.	
Maximum input voltage	300V peak(AC: frequency 1KHz or lower) When set probe switch at 1:1,the maximum effective readout is 40Vpp (14Vrms at sine wave),or set probe switch at 10:1,the maximum effective readout is 400Vpp (140Vrms at sine wave).	
Common mode rejection ratio	50:1 or better at 50KHz sinusoidal wave.(when sensitivities of CH1 and CH2 are set equally)	
Isolation between channels	>1000:1 at 50 MHz (at 5mV/DIV range): > 30:1 at 20MHz	

TRIGGERING	
Triggering source	CH1,CH2,LINE,EXT(CH1and CH2 can be selected only when the vertical mode is DUAL or ADD. in ALT mode, if the TRIG.ALT switch is pushed in, it can be use for alternate triggering of two different source.
Coupling: AC	20Hz to full bandwidth+10MHz
Slope	+/-
Sensitivity	20Hz-2MHz: 1.0DIV, TRIG-ALT: 2DIV, EXT : 200mV 2MHz-20MHz: 1.5DIV 20MHz or higher: 2.0DIV TRIG-ALT: 3DIV, EXT:800mv TV: Sync pulse more than 1 DIV (EXT:1V) 20Hz-2MHz: 1.0DIV, TRIG-ALT: 2DIV,EXT : 200mV 2MHz-30MHz: 1.5DIV 30MHz or higher: 2.0DIV TRIG-ALT: 3DIV, EXT: 800mv TV: Sync pulse more than 1 DIV (EXT:1V)
Triggering modes	AUTO: NORM.: TV-V.: TV-H: (Both TV-V and TV-H synchronize only when the synchronizing signal is negative)
EXT trigger Input	Impedance: 1M ohm//approx.25pF,
Max input voltage	Approx:300V(DC+AC peak), AC: frequency not higher than 1KHz.
HORIZONTAL AXIS	
Sweep time	0.2 $\mu$ Sec-0.5Sec/DIV, 20Steps in 1-2-5 sequence.
Sweep time accuracy	$\pm$ 3%
Vernier sweep time control	1/2.5 of panel-indicated value.
Sweep magnification	10 times
$\times$ 10MAG sweep time accuracy	$\pm$ 5% (20nsec-50nsec are uncalibrated)
Linearity	$\pm$ 3%, $\times$ 10MAG: $\pm$ 5%(20ns and 50ns are uncalibrated)
Position shift caused by $\times$ 10 MAG	Within 2 DIV, at CRT screen center.
X-Y MODE	
Sensitivity	Same as vertical axis .(X-axis:CH1 input signal, Y-axis: CH2 input signal)
Frequency bandwidth	DC to at least 500KHz
X-Y phase difference	=3°at DC-50KHz
CALIBEATION VOLTAGE	
Waveform	Positive-going square wave
Frequency	Approx. 1KHz
Output voltage	2Vp-p $\pm$ 2%
CRT	
Type	6-inch rectangular type, internal graticule, P31 Phosphor
Acceleration voltage	Approx 2KV (20MHz) 12KV (40MHz)
Effective screen size	DIV (1 DIV= 10mm (0.39in)
Trace rotation	Provided
MECHANICAL SPECIFICATION	
Dimension	51.5*39*25cm
Net / Gross weight	8kg / 10kg
<b>Accessories (Optional) :</b> Dimension: (WxHxD) 192 X 95 X110mm, Net weight: 1.1kg. Can be used with Lab CRO of any make. operates from 220/230vol 50Hz supply	
1 Component Tester (CT)	Test voltage :Max. 8.5V rms (open ckt.), Test current :Max. 8mA rms (short ckt), Test Freq.: mains Line frequency,
2 Power scope + CT	Dual channel power scope (differential) module, off the ground measurement. 1M impedance on any I/P. Range: $\times$ 100 : 1000V ( DC + Peak AC )
3 TCT MCT + CT	PNP/NPN Transistor Curve Tracer Multi curve tracer (8 channel) for study of Electronics.
4 Function Generator (FG) + CT	O/P waveform: Sine, Triangle & Square, O/P Freq.: 1 Hz to 100KHz in 4 steps with amplitude & frequency control pots. O/P voltage : 10V p-p max., -10V to +10V DC offset control with enable, FM I/P = 0 to 3V (180% to 50%)
5 Frequency Counter (FC) + CT	Freq.Range:2Hz to 30MHz,Input Voltage:300Vpp max.,Sensitivity:0.5Vpp min, Attn.: 1:1,1:10, Input impedance: 1M , Display:4 digit red LED with Hz, KHz, MHz mode, Accuracy: +1count + time base accuracy, Source select switch for >1MHz & < 1MHz.

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