

# 100MHz CURSOR READOUT ANALOG OSCILLOSCOPE



## GOS-6112/6103/6103C (100 MHz)



The GOS-6100 Series is a 100MHz, two-channel, dual-sweep, portable oscilloscope for general purpose use. A microprocessor-based operating system controls most of the functions of the instrument, including cursor readout and digitized panel setting.

On-screen alphanumeric readout and cursor function for voltage, time, frequency and phase measurement provide extraordinary operational convenience. The advance Time Base Auto-rang function conveniently acquires waveforms at the push of button (GOS-6103/ 6103C). Ten different user defined instrument settings (GOS-6103/ 6103C) can be saved and recalled without restriction.

The vertical deflection system has two input channels. Each channel has 11 basic deflection factors from 2mV to 5V per division. The horizontal deflection system provides single, dual or delayed sweeps from 0.5s to 50ns per division (delayed sweep, 50ms to 50ns per division). The trigger system provides stable triggering over the full bandwidth of the vertical deflection system.

### FEATURES

- \* 100MHz Bandwidth, Dual Channel, Delayed Sweep
- \* Built-In 6 digits Universal Counter (GOS-6103C)
- \* 10 Sets Memory for Front Panel Setting Save & Recall (GOS-6103/GOS-6103C)
- \* Time Base Auto-range (GOS-6103/GOS-6103C)
- \* Cursor Readout with 7 Measurements
- \* Panel Setup Lock of Digital-Control Functions
- \* Buzzer Alarm
- \* LED Indicators
- \* TV Synchronization
- \* Trigger Signal Output
- \* Z-Axis Modulation Input
- \* SMD Technology, High Stability and Reliability

### CURSOR MEASUREMENT FUNCTIONS



The unique, easy-to-use cursor and numerical readouts make waveform observation and measurement easier, faster and more accurate.

The on-screen cursors provide seven measurement functions ( $\Delta V, \Delta V\%, \Delta VdB, \Delta T, 1/\Delta T, T\%, \Delta \theta$ )

### Rear Panel

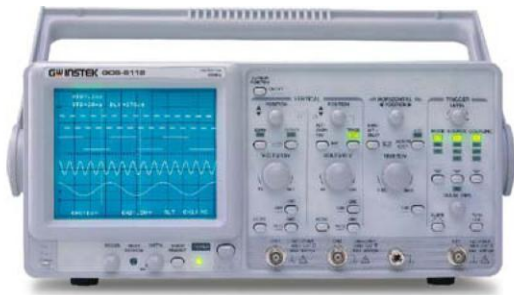


GOS-6112

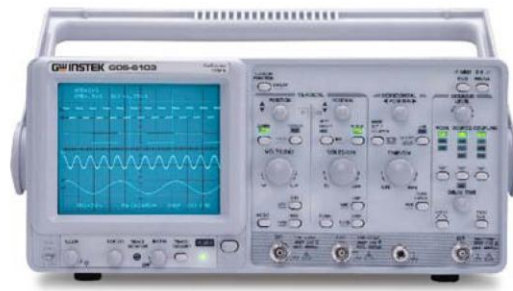
### SPECIFICATIONS

CRT																							
Type	6-inch rectangular type with internal graticule; 0%, 10%, 90% and 100% markers 8 x 10 div (1 div = 1 cm)																						
Accelerating Potential	16 kV approx. (GOS-6103/GOS-6103C), 12kV approx. (GOS-6112)																						
Illumination	Continuously adjustable (GOS-6103/GOS-6103C)																						
Z-axis input	Coupling : DC Sensitivity: 5V or more Maximum input voltage : 30V (DC + AC peak) at 1kHz or less Bandwidth : DC ~ 5 MHz																						
VERTICAL SYSTEM																							
Sensitivity	2mV-5V/div, 11 step in 1-2-5 sequence																						
Sensitivity Accuracy	≤3% (5div at the center of display)																						
Vernier Vertical Sensitivity	Continuously variable to 1/2.5 or less of panel-indicate value																						
Bandwidth(-3dB)	DC-100MHz(2mV/div:DC-20MHz)																						
Rise Time	3.5ns (2mV/div:17.5ns)																						
Signal Delay	Leading edge can be monitored																						
Max. Input Voltage	400V(DC+AC peak) at 1kHz or less																						
Input Coupling	AC, DC, GND																						
Input Impedance	1MΩ ±2% // approx. 25pF																						
Vertical Mode	CH1, CH2, DUAL (CHOP/ALT), ADD, CH2 INV.																						
Bandwidth Limited	20MHz																						
Common-Mode Rejection Ratio	50:1 or better at 50kHz																						
Dynamic Range	8 div at 60MHz; 5div at 100MHz (GOS-6112) 8 div at 100MHz (GOS-6103/GOS-6103C)																						
HORIZONTAL SYSTEM																							
Horizontal Modes	MAIN(A), ALT, DELAY(B)																						
A(main) Sweep Time	50ns-0.5s/div, continuously variable (UNCAL)																						
B(delay) Sweep Time	50ns-50ms/div																						
Accuracy	±3% (±5% at x 10 MAG)																						
Sweep Magnification	x 10 (maximum sweep time 5ns/div)																						
Hold Off Time	Variable																						
Delay Time	1 μs-5s																						
Delay Jitter	Better than 1:20000																						
Alternate Separation	Variable																						
TRIGGER																							
Trigger Modes	AUTO, NORM, TV																						
Trigger Source	CH1, CH2, LINE, EXT																						
Trigger Coupling	AC, DC, HFR, LFR																						
Trigger Slope	"+" or "-" polarity or TVsync polarity																						
Trigger Sensitivity	<table border="1"> <thead> <tr> <th>Mode</th> <th>Frequency</th> <th>INT</th> <th>EXT</th> </tr> </thead> <tbody> <tr> <td rowspan="2">AUTO</td> <td>10 Hz ~ 20 MHz</td> <td>0.35 div</td> <td>50 mV</td> </tr> <tr> <td>20 MHz ~ 100 MHz</td> <td>1.5 div</td> <td>150 mV</td> </tr> <tr> <td rowspan="2">NORM</td> <td>DC ~ 20 MHz</td> <td>0.35 div</td> <td>50 mV</td> </tr> <tr> <td>20 MHz ~ 100 MHz</td> <td>1.5 div</td> <td>150 mV</td> </tr> <tr> <td>TV</td> <td>sync signal</td> <td>1 div</td> <td>200 mVpp</td> </tr> </tbody> </table>	Mode	Frequency	INT	EXT	AUTO	10 Hz ~ 20 MHz	0.35 div	50 mV	20 MHz ~ 100 MHz	1.5 div	150 mV	NORM	DC ~ 20 MHz	0.35 div	50 mV	20 MHz ~ 100 MHz	1.5 div	150 mV	TV	sync signal	1 div	200 mVpp
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TV sync	TV-V, TV-H																						
Max. External Input Voltage	400V(DC+AC peak ) at 1kHz																						
External Input Impedance	1M Ω ±5% // approx.25pF																						
X-Y OPERATION																							
Mode	X-axis: selectable CH1, CH2, EXT ; Y-axis: selectable CH1, CH2, CH1 and CH2																						
Sensitivity Accuracy	2mV-5V/div±3%; EXT : 0.1V/div ±5%																						
X-axis Bandwidth	DC-500kHz(-3dB)																						
Phase Error	3° or less from DC-50kHz																						
OUTPUT SIGNAL																							
Trigger Signal Output	Voltage: approx. 25mV/div into 50Ω ; Frequency response : DC ~ 10MHz																						
Calibrator Output	1kHz Square wave, 2Vpp ±2%																						

**100MHz CURSOR READOUT ANALOG OSCILLOSCOPE**



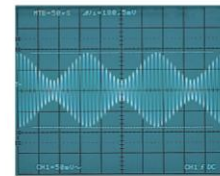
**GOS-6112**



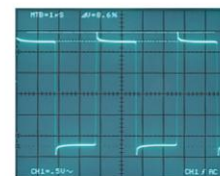
**GOS-6103/6103C**

SPECIFICATIONS	
<b>CURSOR READOUT FUNCTION</b>	
Cursor Measurement Function	$\Delta V, \Delta V\%, \Delta VdB, \Delta T, 1/\Delta T, \Delta T\%, \Delta \theta$
Cursor Resolution	1/100 div
Effective Cursor Range	Vertical: $\pm 3\text{div}$ ; Horizontal: $\pm 4\text{div}$
Panel Setting Display	Vertical: V/div(CH1, CH2), UNCAL, ALT/CHOP/ADD, INV, probe factor, AC/DC/GND Horizontal: s/div(MTB, DTB), UNCAL, x 10MAG, delay time, Hold-off Trigger: source, coupling, slope, level, TV-V, TV-H Others: X-Y, lock, save/recall MEM 0-9 (GOS-6103/GOS-6103C)
<b>AUTO MEASUREMENT FUNCTION (GOS-6103C)</b>	
Parameter Function	FREQ, PERIOD, $\pm$ WIDTH, $\pm$ DUTY (+ or - polarity selected by trigger slope)
Display Digits	Max. 6-digits, decimal
Frequency Range	50Hz ~ 100MHz
Accuracy	1kHz ~ 100MHz : $\pm 0.01\%$ ; 50Hz ~ 1kHz : $\pm 0.05\%$
Measuring Sensitivity	> 2 div (Measuring source selected from CH1 and CH2 as synchronous signal sources)
<b>SPECIAL FUNCTION</b>	
TIME/DIV Auto Range	Provided (GOS-6103/GOS-6103C)
Panel Setting Save & Recall	10 sets (GOS-6103/GOS-6103C)
Panel Setups Lock	Provided
<b>POWER SOURCE</b>	
AC 100V/120V/230V $\pm 10\%$ , 50/60Hz	
<b>DIMENSIONS &amp; WEIGHT</b>	
310(W) x 150(H) x 455(D) mm ; Approx. 9kg	

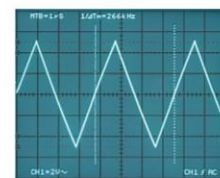
ORDERING INFORMATION	
GOS-6112	100MHz, 2-channel, Analog Oscilloscope
GOS-6103	100MHz, 2-channel, Analog Oscilloscope
GOS-6103C	100MHz, 2-channel, Analog Oscilloscope with 100MHz Frequency Counter
ACCESSORIES :	
User manual x 1, Power cord x 1	
GTP-100A-2 : 100MHz ( 10 : 1/1 : 1 ) Switchable Passive Probe ( one per channel)	
<b>OPTIONAL ACCESSORIES</b>	
GTC-001	Instrument Cart, 450(W) x 430(D) mm (120V Input Socket)
GTC-002	Instrument Cart, 330(W) x 430(D) mm (120V Input Socket)
GTL-110	Test Lead, BNC-BNC Heads



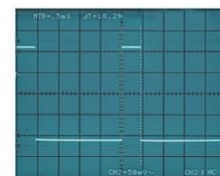
**Voltage Measurement**



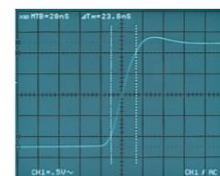
**Voltage Percentage Measurement**



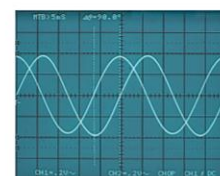
**Frequency Measurement**



**Time Percentage Measurement**



**Time Measurement**



**Phase Measurement**