

Real Time/Digital Storage Oscilloscope



FEATURES

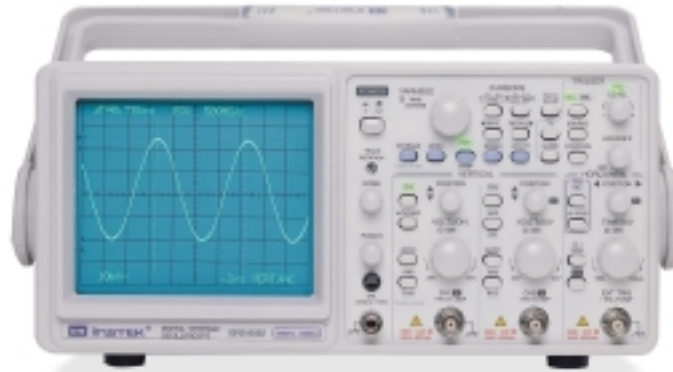
- * GRS-6052A : DC~50MHz Bandwidth, 100MSa/s, 2kW/CH x 2
- * GRS-6032A : DC~30MHz Bandwidth, 100MSa/s, 2kW/CH x 2
- * Equivalent Time Sampling of 500MSa/s max.
- * Acquire Mode : Peak Detect, Envelop, Persistence
- * Pre-Trigger Function 0 ~ 10 div
- * ROLL Mode to 100s/div
- * Waveform SAVE/RECALL 10 sets (REF0~REF9)
- * Averaging Function (2 ~ 256)
- * Smoothing Function ON/OFF
- * Max. Sweep Rate 10ns/div
- * ALT-MAG Function (x5, x10, x20)
- * Cursor Readout Function: $\Delta V, \Delta T, 1/\Delta T$
- * Panel Setting SAVE/RECALL 10 sets (M0~M9)
- * VERT Mode Triggering
- * RS-232C Interface

GRS-6052A(50MHz)/GRS-6032A(30MHz)

SPECIFICATIONS

		GRS-6052A 50MHz, 100MSa/s, 500MSa/s (ETS)	GRS-6032A 30MHz, 100MSa/s, 500MSa/s (ETS)																																								
CRT	Type and Acceleration ILLUM Z-axis Input	6-inch CRT , 10kV Front panel control Sensitivity : at least 5V Polarity : positive going input decrease intensity Max. input voltage:30V(DC+ACpk) Input Impedance :approx. 33k Ω	6-inch CRT , 2kV Front panel control Sensitivity : at least 5V Polarity:positive going input decrease intensity Max. input voltage:30V(DC+ACpk) Input Impedance :approx. 47k Ω																																								
VERTICAL SYSTEM	Deflection Coefficient and Accuracy Variable Continuously Bandwidth (-3dB) Vertical Mode Chopper Frequency Sum or Difference Invert Input Impedance Input Coupling Input Voltage	1mV ~ 2mV/div \pm 5%, 5mV ~ 20V/div \pm 3%, 14 steps in 1-2-5 sequence 2.5 : 1 ~ min. 50V/div 1mV ~ 2mV/div: DC~7MHz 5mV ~ 20V/div: DC~50MHz CH1, CH2, DUAL (ALT or CHOP) Approx. 250kHz CH1+CH2, CH1-CH2 CH2 1M Ω \pm 2%/approx. 25pF AC, DC, GND Max. 400V(DC+ACpk)	1mV ~ 2mV/div \pm 5%, 5mV ~ 20V/div \pm 3%, 14 steps in 1-2-5 sequence 2.5 : 1 ~ min. 50V/div 1mV ~ 20mV/div: DC~7MHz 5mV ~ 20V/div: DC~30MHz CH1, CH2, DUAL (ALT or CHOP) Approx. 250kHz CH1+CH2, CH1-CH2 CH2 1M Ω \pm 2%/approx. 25pF AC, DC, GND Max. 400V(DC+ACpk)																																								
HORIZONTAL SYSTEM	Sweep Time Variable Continuously Accuracy Sweep Magnification Max. Sweep Time ALT-MAG Function HOLD-OFF Time	0.2 μ s/div ~ 0.5s/div, 20 steps 2.5 : 1 up to 1.25s/div (uncal.) \pm 3%, \pm 5% at x5/ x10MAG. \pm 8% at x 20MAG x5, x10, x20 20ns/div (10ns/div uncal) Yes Variable	0.2 μ s/div ~ 0.5s/div, 20 steps 2.5 : 1 up to 1.25s/DIV (uncal.) \pm 3%, \pm 5% at x5/ x10MAG, \pm 8% at x 20MAG x5, x10, x20 50ns/div (10ns~40ns/div uncal) Yes Variable																																								
TRIGGER	Trigger Mode Trigger Source Trigger Coupling Trigger Slope ALT Trigger Indicator Trigger LED TV Sync. Separator Trigger Sensitivity	AUTO, NORM, TV VERT, CH1, CH2, LINE, EXT AC, HFR, LFR " + " or " - " polarity Yes Yes TV-V " - " , TV-H " - "	AUTO, NORM, TV VERT, CH1, CH2, LINE, EXT AC, HFR, LFR " + " or " - " polarity Yes Yes TV-V " - " , TV-H " - "																																								
	External Trigger Input	<table border="1"> <tr> <td>GRS-6052A</td> <td>20Hz ~ 5MHz</td> <td>5MHz ~ 40MHz</td> <td>40MHz ~ 50MHz</td> </tr> <tr> <td>GRS-6032A</td> <td>20Hz ~ 2MHz</td> <td>2MHz ~ 20MHz</td> <td>20MHz ~ 30MHz</td> </tr> <tr> <td>CH1, CH2</td> <td>0.5 div</td> <td>1.5 div</td> <td>2.0 div</td> </tr> <tr> <td>VERT-MODE</td> <td>2.0 div</td> <td>3.0 div</td> <td>3.5 div</td> </tr> <tr> <td>EXT</td> <td>200mV</td> <td>800mV</td> <td>1V</td> </tr> </table>	GRS-6052A	20Hz ~ 5MHz	5MHz ~ 40MHz	40MHz ~ 50MHz	GRS-6032A	20Hz ~ 2MHz	2MHz ~ 20MHz	20MHz ~ 30MHz	CH1, CH2	0.5 div	1.5 div	2.0 div	VERT-MODE	2.0 div	3.0 div	3.5 div	EXT	200mV	800mV	1V	<table border="1"> <tr> <td>GRS-6052A</td> <td>20Hz ~ 5MHz</td> <td>5MHz ~ 40MHz</td> <td>40MHz ~ 50MHz</td> </tr> <tr> <td>GRS-6032A</td> <td>20Hz ~ 2MHz</td> <td>2MHz ~ 20MHz</td> <td>20MHz ~ 30MHz</td> </tr> <tr> <td>CH1, CH2</td> <td>0.5 div</td> <td>1.5 div</td> <td>2.0 div</td> </tr> <tr> <td>VERT-MODE</td> <td>2.0 div</td> <td>3.0 div</td> <td>3.5 div</td> </tr> <tr> <td>EXT</td> <td>200mV</td> <td>800mV</td> <td>1V</td> </tr> </table>	GRS-6052A	20Hz ~ 5MHz	5MHz ~ 40MHz	40MHz ~ 50MHz	GRS-6032A	20Hz ~ 2MHz	2MHz ~ 20MHz	20MHz ~ 30MHz	CH1, CH2	0.5 div	1.5 div	2.0 div	VERT-MODE	2.0 div	3.0 div	3.5 div	EXT	200mV	800mV	1V
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X-Y OPERATION	Input Sensitivity Bandwidth X-Y Phase Shift	X-axis : CH1 ; Y-axis : CH2 1mV/div ~ 20V/div X-axis : DC ~ 500kHz (-3dB) <3 $^\circ$ from DC ~ 50kHz	X-axis : CH1 ; Y-axis : CH2 1mV/div ~ 20V/div X-axis : DC ~ 500kHz (-3dB) <3 $^\circ$ from DC ~ 50kHz																																								
DIGITAL STORAGE	Acquisition Digitizer Max. Sampling Rate Storage Bandwidth Dynamic Range	8 bit ADC x 2 500MSa/s for equivalent time sampling 100MSa/s for normal sampling Single shot: DC ~ 25MHz Repetitive: DC ~50MHz \pm 5div	8 bit ADC x 2 500MSa/s for equivalent time sampling 100MSa/s for normal sampling Single shot: DC ~ 25MHz Repetitive: DC ~30MHz \pm 5div																																								

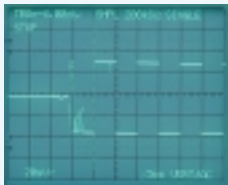
Real Time/Digital Storage Oscilloscope



GRS-6052A(50MHz)/GRS-6032A(30MHz)

SPECIFICATIONS		
Memory Length	2k words/CH x 2, 1k words/CH(equivalent)	2k words/CH x 2, 1k words/CH(equivalent)
Acquisition Memory	1k words/CH x 10 with back-up memory (REF0~REF9)	1k words/CH x 10 with back-up memory (REF0~REF9)
Save REF Memory		
Display Memory	1k words/CH x 4 waveform(max.)	1k words/CH x 4 waveform(max.)
Sweep Time	Equivalent: 0.2 μs/div ~ 0.5 μs/div Normal Sample: 1 μs/div ~ 0.1s/div Roll: 0.2s/div ~ 100s/div	Equivalent: 0.2 μs/div ~ 0.5 μs/div Normal Sample: 1 μs/div ~ 0.1s/div Roll: 0.2s/div ~ 100s/div
Sweep Magnification	x 5, x 10, x 20	x 5, x 10, x 20
Max.Sweep Time	10ns/div	10ns/div
MAG Interpolation	DOTS, LINEAR	DOTS, LINEAR
ALT-MAG Function	Yes	Yes
Acquire Mode	Sample, peak detect(>25ns), Envelop. Persist, Average(2~256)	Sample, peak detect(>25ns), Envelop. Persist, Average(2~256)
Operation Mode	Auto, Norm, Single, Single-roll, Roll, X-Y, Run/Stop	Auto, Norm, Single, Single-roll, Roll, X-Y, Run/Stop
Smoothing Function	Dot joint ON/OFF selectable	Dot joint ON/OFF selectable
Pre-Trigger	Pre-trigger 0 ~10div in 0.02div steps	Pre-trigger 0 ~10DIV in 0.02div steps
X-Y Operation	X-axis: CH1 Y-axis: CH2	X-axis: CH1 Y-axis: CH2
Storage Bandwidth	DC~50MHz(-3dB)	DC~30MHz(-3dB)
Display Resolution	H: 100points/div; V: 25points/div; X-Y: 25 x 25 points/div	H: 100points/DIV; V: 25points/div; X-Y: 25 x 25 points/div
Waveform SAVE/RECALL	10 sets(REF0~REF9)	10 sets(REF0~REF9)
OPERATION CONTROL INTERFACE	Panel Setting SAVE/RECALL RS-232C Yes	10 sets(M0 ~M9) Yes
READOUT & CURSOR	Cursor Measurement Readout Intensity $\Delta V, \Delta T, 1/ \Delta T$ Adjustable	$\Delta V, \Delta T, 1/ \Delta T$ Adjustable
OUTPUT SIGNAL	CH1 Signal Output Calibrator Output Voltage : approx. 20mV/div (with 50Ω terminated) ; Bandwidth : 50Hz ~ 5MHz Voltage : 0.5V± 3% ; Frequency : approx. 1kHz, square wave	
INTERFACE	RS-232C	
POWER SOURCE	AC 100V/120V/230V± 10%, 50/60Hz	
ACCESSORIES	Instruction manual x 1, Power cord x 1, GLF-190C Probes (10:1/1:1) x 2	
DIMENSIONS & WEIGHT	275(W) x 130(H) x 370(D) mm; Approx. 8.5kg	

DIGITAL MODE FUNCTIONS



Pre-Trigger

GRS-6000 Series provide Pre-Trigger function, which allows user to observe Pre-Trigger waveform up to 10 divisions ahead of the trigger point.



ROLL Mode

The low-speed transient event of the input signal could be viewed easily under ROLL Mode. The waveform will roll on from right to the left to show the updated input signal all the time.



ALT-MAG

With ALT-MAG function, the user could expand the waveforms by 5, 10, or 20 times for a more detailed waveform observation. Both original waveforms and expanded waveforms could be shown on the screen at the same time.

ORDERING INFORMATION

GRS-6052A 50MHz Real Time/Digital Storage Oscilloscope
GRS-6032A 30MHz Real Time/Digital Storage Oscilloscope

Option

Opt. 01 : GTC-001 Instrument Cart, 450(W) x 430(D) mm
Opt. 02 : GTC-002 Instrument Cart, 330(W) x 430(D) mm