

GRS-6052A/6032A

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: ΔV , ΔT , $1/\Delta T$
- * Panel Setting SAVE/RECALL 10 sets (M0~M9)
- * VERT Mode Triggering
- * RS-232C Interface

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

Rear Panel



SPECIFICATIONS

Storage Bandwidth	Single shot: DC ~ 25MHz Repetitive: DC ~ 50MHz ± 5div	Single shot: DC ~ 25MHz Repetitive: DC ~ 30MHz ± 5div
Dynamic Range		
Memory Length		
Acquisition Memory	2k words/CH x 2, 1k words/CH (equivalent)	2k words/CH x 2, 1k words/CH (equivalent)
Save REF Memory	1k words/CH x 10 with back-up memory (REF0~REF9)	1k words/CH x 10 with back-up memory (REF0~REF9)
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 x 5, x 10, x 20	Equivalent: 0.2 μs/div ~ 0.5 μs/div Normal Sample: 1 μs/div ~ 0.1s/div Roll: 0.2s/div ~ 100s/div x 5, x 10, x 20
Sweep Magnification	10ns/div	10ns/div
Max.Sweep Time	DOTS, LINEAR	DOTS, LINEAR
MAG Interpolation	Yes	Yes
ALT-MAG Function	Sample, Peak detect (>25ns), Envelop. Persist, Average (2~256)	Sample, Peak detect (>25ns), Envelop. Persist, Average (2~256)
Acquire Mode	Auto, Norm, Single, Single-roll, Roll, X-Y, Run/Stop	Auto, Norm, Single, Single-roll, Roll, X-Y, Run/Stop
Operation Mode	Dot joint ON/OFF selectable	Dot joint ON/OFF selectable
Smoothing Function	Pre-trigger 0 ~ 10div in 0.02div steps	Pre-trigger 0 ~ 10DIV in 0.02div steps
Pre-Trigger	X-axis: CH1 Y-axis: CH2	X-axis: CH1 Y-axis: CH2
X-Y Operation	DC~50MHz(-3dB)	DC~30MHz(-3dB)
Storage Bandwidth	H: 100points/div; V: 25points/div;	H: 100points/DIV; V: 25points/div;
Display Resolution	X-Y: 25 x 25 points/div	X-Y: 25 x 25 points/div
Waveform SAVE/RECALL	10 sets (REF0~REF9)	10 sets (REF0~REF9)
Panel Setting SAVE/RECALL	10 sets (M0 ~M9)	10 sets (M0 ~M9)

READOUT & CURSOR

Cursor Measurement	ΔV, ΔT, 1/ ΔT	ΔV, ΔT, 1/ ΔT
Readout Intensity	Adjustable	Adjustable

OUTPUT SIGNAL

CH1 Signal Output	Voltage : approx. 20mV/div (with 50Ω terminated) ; Bandwidth : 50Hz ~ 5MHz
Calibrator Output	Voltage : 0.5V±3% ; Frequency : approx. 1kHz, square wave

INTERFACE

RS-232C

POWER SOURCE

AC 100V/120V/230V±10%, 50/60Hz

DIMENSIONS & WEIGHT

275(W) x 130(H) x 370(D) mm; Approx. 8.5kg

ORDERING INFORMATION

GRS-6052A 50MHz Digital Storage + Analog Oscilloscope
GRS-6032A 30MHz Digital Storage + Analog Oscilloscope

ACCESSORIES :

User manual x 1, Power cord x 1,
 GTP-060A-4 : 60MHz (10 : 1/1 : 1) Switchable Passive Probe (one per channel)

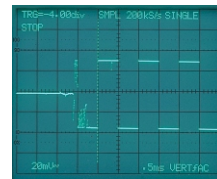
OPTIONAL ACCESSORIES

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
GTL-232 RS232C Cable, 9-pin Female to 9-pin, Null Modem for Computer

FREE DOWNLOAD

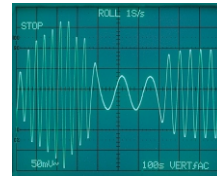
PC Software Remote Control Software

DIGITAL MODE FUNCTIONS



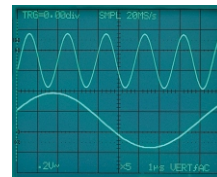
Pre-Trigger

GRS-6000A 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.