250/150/100/60MHz DIGITAL STORAGE OSCILLOSCOPE

GDS-840C/820C/810C/806C
(250/150/100/60MHz)

GDS-840S/820S/810S/806S
(250/150/100/60MHz)

CE | RS-232 | GPIB | USB | Printer Port | PC Software | LabVIEW Driver

GDS-800 Series DSO is designed for and built to meet the demands of a modern Digital Storage Oscilloscope in today's mainstream market. Featuring color or monochrome LCD displays, with 125k points of memory and 25GSa/s equivalent-time (ET) sampling rate per channel, the GDS-800 Series provides a good balance of memory depth and sampling speed. With RS-232C, USB, No/NoGo and a printer port as standard (excluding GDS-806/810) with options for a GPIB interface, the GDS-800 Series is remarkably adaptable. The easy-to-remember menu tree, the analog-scope like front panel design, the advanced trigger functions including Pulse Width, TV Line, Event and Time-Delay make the GDS-800 Series general purpose DSO able to meet the rigors of most signal measurement requirements in the market.

FEATURES

* **250/150/100/60MHz Bandwidth With Either Color or Monochrome LCD Display**
* **125k Points Long Memory and 12 Division Horizontal Display**
* **25GSa/s Sampling Rate for Repetitive Waveforms**
* **Advanced Trigger : Pulse Width, TV Line, Event Delay And Time Delay**
* **Go/NoGo Testing and Auto Setup Sequence**
* **FFT Function**
* **Built-In Help Manual, Multi-Language and PC Software**
* **Standard Interface : RS-232C (for GDS-806/810 Series) USB, Printer Port, Go/NoGo Output (for GDS-820/840 Series)**
* **Option 01: GPIB interface**
* **Option 11: USB interface, Printer Port and Go/NoGo Output (for GDS-806/810 Series)**

SPECIFICATIONS

		GDS-806S	GDS-806C	GDS-810S	GDS-810C	GDS-820S	GDS-820C	GDS-840S	GDS-840C
DISPLAY SYSTEM	Display Device	Mono (320 x 240) 5.7 LCD	Color (320 x 240) 5.7 LCD	Mono (320 x 240) 5.7 LCD	Color (320 x 240) 5.7 LCD	Mono (320 x 240) 5.7 LCD	Color (320 x 240) 5.7 LCD	Mono (320 x 240) 5.7 LCD	Color (320 x 240) 5.7 LCD
	Display Contrast Waveform Display Graticule Display Mode	Adjustable 8 x10 divisions (8 x 12 div, when menu off) Dot, Vector, Accumulate							
VERTICAL SYSTEM	Bandwidth	60MHz (-3dB)		100MHz (-3dB)		150MHz (-3dB)		250MHz (-3dB)	
	Channels Vertical Resolution Vertical Sensitivity Vertical Accuracy	2 8-Bit 2mV/div ~ 5V/div ± 3%							
	Rise Time	<5.8ns		<3.5ns		<2.3ns		<1.4ns	
	Input Impedance	1MΩ ±2% , ~18pF				1MΩ ±2% , ~22pF		1MΩ ±2% , ~18pF	
	Input Coupling Polarity Maximum Voltage Between Signal & Common at Input BNC Waveform Signal Process Offset Range BW Limit	AC, DC, & Ground Normal & Invert 300V (DC+AC peak), CATII CH1+CH2 , CH1-CH2 , FFT 2mV/div ~ 50mV/div : ±0.5V ; 100mV/div ~ 500mV/div : ±5V ; 1V/div ~ 5V/div : ±50V 20MHz (-3dB)								
HORIZONTAL SYSTEM	Time Base Range Time Base Mode Time Base Accuracy Delay Range	1ns/div ~ 10s/div (1-2-5 increments) ; Roll : 250ms/div ~ 10s/div Main , Window , Window Zoom , Roll , X-Y ±0.01% Pre-trigger : 20 div maximum ; Post-trigger : 1000 div							
SIGNAL ACQUISITION SYSTEM	Real-Time Sample Rate Equivalent-Time Sample Rate Record Length Peak Detection Acquisition Mode Average	100MSa/s maximum on each channel 25GSa/s E.T. maximum on each channel 125k Points/CH 10ns (500ns/div ~ 10s/div) Sample , Peak Detect , Average 2 , 4 , 8 , 16 , 32 , 64 , 128 , 256							
TRIGGER	Trigger Source Mode Coupling	CH1 , CH2 , Line , Ext Auto Level , Auto , Normal , Single , TV , Edge , Pulse Width , Time Delay , Event Delay AC , DC , HF , LF , Noise Reject							
	Sensitivity	DC ~ 25MHz : 0.5div or 5mV 25MHz~60MHz : Approx. 1.5div or 15mV		DC ~ 25MHz : 0.5div or 5mV 25MHz~100MHz : Approx. 1.5div or 15mV		DC ~ 30MHz : Approx. 0.5div or 5mV; 30MHz~150MHz : Approx. 1.5div or 15mV		DC ~ 30MHz : Approx. 0.5div or 5mV; 30MHz~150MHz : Approx. 1.5div or 15mV 150MHz ~ 250MHz : Approx. 2.0div or 20mV	
X-Y MODE	X-Axis Input / Y-Axis Input Phase Shift	Channel 1 / Channel 2 ± 3° at 100kHz							
CURSOR & MEASUREMENT	Auto Voltage Measurement Auto Time Measurement Cursor Measurement	V_{pp} , V_{amp} , V_{avg} , V_{rms} , V_{hi} , V_{lo} , V_{max} , V_{min} Freq , Period , Rise Time , Fall Time , Positive Width , Negative Width , Duty Cycle Voltage difference between cursors (ΔV) Time difference between cursors (ΔT) Frequency difference between cursors (1/ΔT)							

SPECIFICATIONS

		GDS-806S	GDS-806C	GDS-810S	GDS-810C	GDS-820S	GDS-820C	GDS-840S	GDS-840C
FREQUENCY COUNTER	Readout Resolution Frequency Range Signal Source	6 digits AC Coupled , 20Hz ~ bandwidth ; Resolution : 10Hz All available trigger source except the Video Trigger mode							
ADJUSTABLE PROBE COMPENSATION SIGNAL	Frequency Range Duty Cycle Range	1kHz ~ 100kHz , 1kHz/STEP 5% ~ 95%; 5%/STEP				1kHz (Approx. 3%) 50%			
EXTERNAL TRIGGER	Range	±15V							
	Sensitivity	DC ~ 25MHz : ~50mV 25MHz ~ 60MHz : ~100mV		DC ~ 25MHz : ~50mV 25MHz ~ 100MHz : ~100mV		DC ~ 30MHz : ~50mV 30MHz ~ 150MHz : ~100mV		DC ~ 30MHz : ~50mV 30MHz ~ 150MHz : ~100mV 150MHz ~ 250MHz : ~150mV	
	Input Impedance	1MΩ± 2% , ~18pF				1MΩ± 2% , ~22pF		1MΩ± 2% , ~18pF	
	Maximum Input	300V(DC+ AC peak) , CATII				300V(DC+ AC peak) , CATII			
CONTROL PANEL FUNCTION	AutoSet Save/Recall Waveform Trace Save/Recall	" Autoset " can adjust vertical (Volt/div) , Horizontal (Sec/div) and Trigger level automatically Up to 15 sets of measurement conditions can be saved and recalled 2 sets of waveform can be saved and recalled							
INTERFACE	Standard	RS-232C				RS-232C, USB, Printer Port, Go/NoGo Output			
	Optional Opt. 01	GPIB (Factory Instaled)				GPIB (Factory Instaled)			
	Optional Opt. 11	USB, Printer Port, Go/NoGo Output (Factory Installed)				–			
POWER SOURCE		100V ~ 240V AC , 47Hz ~ 63Hz , Auto selection							
DIMENSIONS & WEIGHT		310W x 142H x 254D (mm) , Approx. 4.1kg							

ORDERING INFORMATION

GDS-806C 60MHz, 2-channel, Color LCD Display DSO
GDS-806S 60MHz, 2-channel, Mono LCD Display DSO
GDS-810C 100MHz, 2-channel, Color LCD Display DSO
GDS-810S 100MHz, 2-channel, Mono LCD Display DSO
GDS-820C 150MHz, 2-channel, Color LCD Display DSO
GDS-820S 150MHz, 2-channel, Mono LCD Display DSO
GDS-840C 250MHz, 2-channel, Color LCD Display DSO
GDS-840S 250MHz, 2-channel, Mono LCD Display DSO

ACCESSORIES :
User manual x 1, Power Cord x 1
Probe-GTP-060A-2 : 60MHz (10 : 1/1 :1) Switchable Passive Probe for GDS-806S/806C (one per channel)
Probe-GTP-100A-2 : 100MHz (10 : 1/1 :1) Switchable Passive Probe for GDS-810S/810C (one per channel)
Probe-GTP-150A : 150MHz (10 : 1/1 :1) Switchable Passive Probe for GDS-820S/820C (one per channel)
Probe-GTP-250A : 250MHz (10 : 1/1 :1) Switchable Passive Probe for GDS-840S/840C (one per channel)

OPTION

Opt.01 : GPIB Interface (Factory Installed)
Opt.11 : USB Interface, Printer Port, Go/NoGo Output (Factory Installed) (for GDS-806/810 Series Only)

OPTIONAL ACCESSORIES

GRA-405 Rack Mounting (19", 4U)
GSC-005 Soft Carrying Case
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 RS-232C Cable, 9-pin Female to 9-pin, Null Modem for Computer
GTL-242 USB2.0 A-B Type Cable

FREE DOWNLOAD

PC Software FreeCapture Software (RS-232)
FreeView software (USB)
Driver LabView Driver

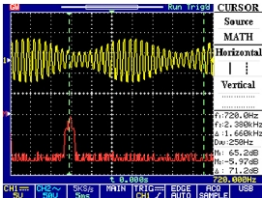
Rear Panel

GRA-405 Rack Adapter Panel

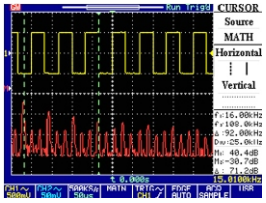
Rack Mounting (19", 4U)

GSC-005 Soft Carrying Case

A. FFT FUNCTION



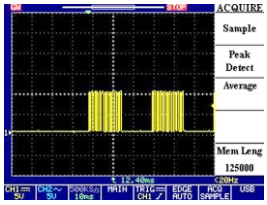
FFT Function for AM Signal



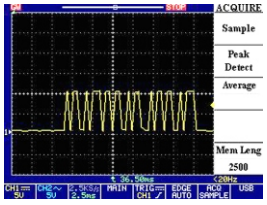
FFT Function for Square Waveform

With the FFT function, the GDS-800 Series can easily transform the signal display from time domain into frequency domain. Most remarkably, the GDS-800 Series is able to display a signal in the time domain and frequency domain at the same time. The cursors under the FFT mode can indicate the frequency and voltage values as well as the relative values of △frequency and △voltage.
All these measurement readings can be simultaneously shown in the display.

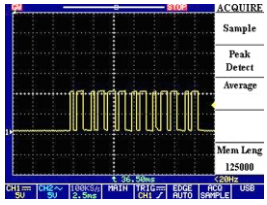
B. 25GSa/s ET SAMPLING RATE AND 125k MEMORY



The encoded signal from a car-door remote controller



The same signal is acquired at 2500 points record length only

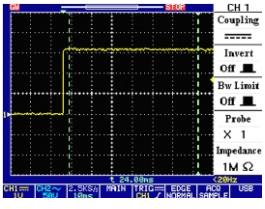


The same signal is acquired at a total 125000 points record length

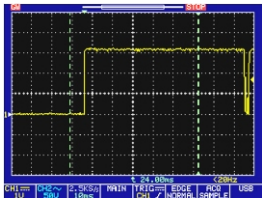
The GDS-806/810/820/840 Series, with superior sampling rate up to 25GSa/s, provide 40ps point to point resolution for displaying repetitive waveforms. With 125k points long memory, the GDS-800 Series vive higher or equal sampling rate and longer record length for the signals being observed.

In general, under the same time base setting, the longer memory a DSO has, the higher sampling rate it performs. This is one of the reasons the GDS-800 Series can always give a better waveform display than oscilloscopes with short memory.

C. 12 DIVISION HORIZONTAL DISPLAY



The conventional 10 division horizontal display

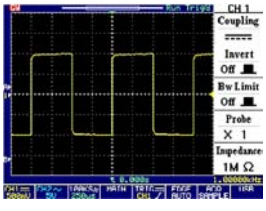


The extra 12 division horizontal display

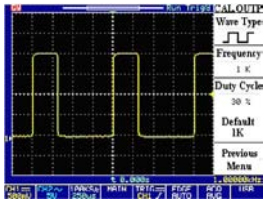
The on-screen menu of a DSO makes the operation easier, but it also limits the space for waveform display. The GDS-800 Series offers users with an alternative to view the waveform in 12 divisions by hiding the on-screen menu when not used.

By simply pressing a button, the display becomes available for 12-division waveform. Press the button again, and the display goes back to normal. This is a very useful feature when expecting to view a longer portion of the signal under test.

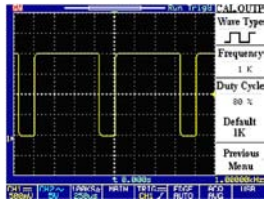
D. FREQUENCY ADJUSTABLE PROBE CALIBRATION SIGNAL



Frequency at 1kHz, Duty Cycle at 50%



Frequency at 1kHz, Duty Cycle at 30% (for GDS-806/810 Series only)

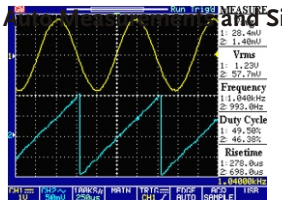


Frequency at 1kHz, Duty Cycle at 80% (for GDS-806/810 Series only)

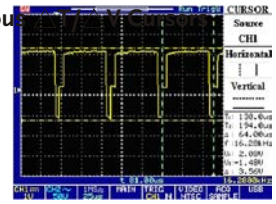
The probe calibration signal in the GDS-806/810 is frequency adjustable from1kHz to 100kHz in 1kHz step, and duty cycle adjustable from 5% to 95% in 5% step. The probe calibration signal is provided mainly for accurately running probe compensation, but is also adequate to be used as a signal source for education and basic testing purpose.(This function is only available in GDS-806/810 Series)

E.

15 Auto Measurements and Simultaneous Display of Cursor Measurements



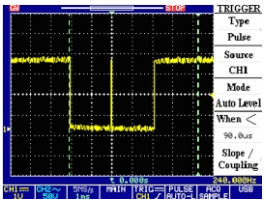
Displaying 10 Auto-Measurement data simultaneously



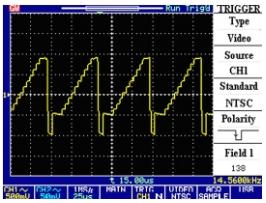
Operating vertical and horizontal Cursor measurements simultaneously

The 15 Auto Measurement functions in the GDS-800 Series enable users to easily measure the most frequently tested parameters .
The GDS-800 Series are able to display 10 auto measurement data on the screen for two channels at the same time. Users will be able to get all their measurements results at a glance.

F. ADVANCED TRIGGER FUNCTIONS



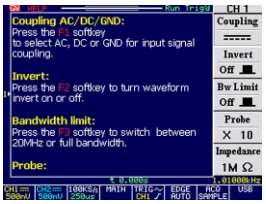
Pulse Width Trigger



Video signal trigger

The GDS-800 Series provides advanced trigger features such as TV line trigger, video trigger, pulse width trigger, event delay trigger and time delay trigger, which could only be found in a higher-end GDS-800 Series. The advanced trigger capability of the GDS-800 Series makes the waveform capture in a broad range of applications possible.

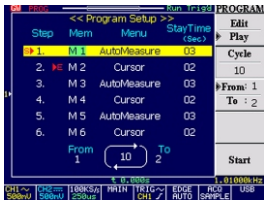
G. ON-SCREEN HELP MANUAL



"Real-Time" On-Screen Help Manual

The On-Screen Help Manual allows users to get a real-time help whenever they need to know the details of any function key. Press the "Help" key first, then press any other function key on the front panel, the On-Screen Help contents for that specific function key will appear in the display..

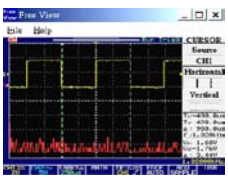
H. AUTO SET-UP SEQUENCE



Auto Set-Up Sequence

The Auto Set-Up Sequence enables testing engineers to carry out ATE tests without complex software programming. After users program a sequence from the front panel, the GDS-800 Series starts performing the measurements step by step according to the sequence of front until completion. The ATE test cycle can be programmed to repeat for a number of time.

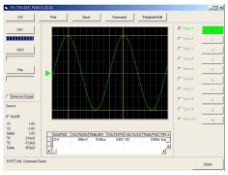
I. VERSATILE INTERFACE



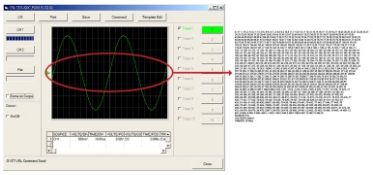
USB Interface for Video Output

Real-Time Waveform Monitoring via USB Interface

External VGA Projector Monitor



Waveform Captured via RS-232C or GPIB Interface



125000 Points Acquisition Memory can be Transferred to a Personal Computer

The GDS-800 Series provide various kinds of interface including RS-232C, GPIB, USB, and printer port. With a software made specially for USB communication, the GDS-800 Series enables users to view nearly synchronous waveform displays on both PC screen and the GDS-800 Series.