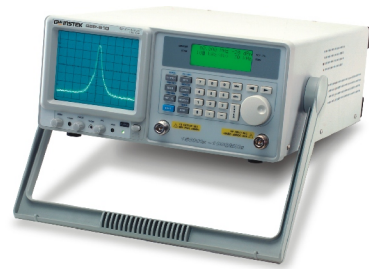


# 1GHz SPECTRUM ANALYZER



## GSP-810 (150kHz~1GHz)



The GSP-810 Spectrum Analyzer is a digitally synthesized, easy-to-use RF measurement instrument with a frequency range up to 1GHz. It uses a state-of-the-art design with a phased-locked RF system that combines measurement quality and performance with an affordable price. For flexibility and versatility, the GSP-810 has a number of options and optional accessories such as a factory installed tracking generator or the extensive probe kit options. The GSP-810 is also designed for rugged use with a 1-watt input protection. The small size and light weight of the GSP-810 make it easy to carry and stow anywhere.

The GSP-810 includes free software (Windows 2000/XP compatible) for displaying, saving and printing results via the standard RS232 interface. Optional software is also available for full PC remote control at additional cost.

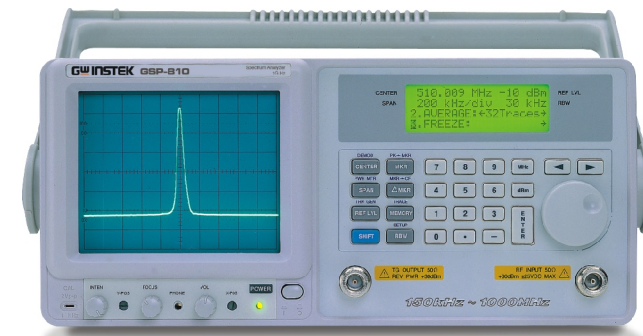
All these functions and features make the GSP-810 an affordable, expandable, and high quality instrument suitable for a variety of applications.

### FEATURES

- \* Frequency Range : 150kHz ~ 1GHz
- \* Fully Digital Phase Locked Loop Technique Design
- \* High Frequency Stability :  $\pm 10$ ppm
- \* High Resolution of Span to Measure the More Detailed Signal : Zero, 2kHz~100MHz/div
- \* RBW : 3k, 30k, 220k, 4MHz
- \* High Input Protection Level : +30dBm,  $\pm 25$ VDC
- \* Reference Level Range : -30dBm ~ +20dBm
- \* Good Noise Floor Performance: -95dBm @30kHz, -100dBm Typical @220kHz RBW
- \* Two Markers for Absolute and Relative Measurement
- \* Functions: Max. Hold, Average(2 ~ 32 Traces), Freeze, Peak Search, Marker to Center Functions
- \* 9 Memories of Save/Recall
- \* RS-232C Interface and Software to get Trace from GSP-810 to PC
- \* Options: Tracking Generator, Power Meter, Remote Control Software

SPECIFICATIONS	
<b>FREQUENCY</b>	
Frequency Range	150kHz~1GHz
Aging Rate	$\pm 10$ ppm, 0~50 °C, $\pm 2$ ppm/yr
Span Range	Zero, 2kHz~100MHz/div in 1-2-5 sequence
Phase Noise	-77dBc/Hz @ 1GHz 30kHz offset
Frequency Resolution	1kHz C.F. entry, 40Hz sweep resolution at 2kHz/div
Frequency Display	6 1/2 digit setting
Frequency Control	Digital phase locked
<b>RESOLUTION BANDWIDTH</b>	
RBW Range	3kHz, 30kHz, 220kHz, 4MHz
RBW Accuracy	15%
Video Bandwidth Range	1.6kHz/90kHz couple with RBW
<b>AMPLITUDE</b>	
Measurement Range	-100dBm~+20dBm
Overload Protection	+30dBm continuous, $\pm 25$ VDC
Reference Level Range	-30dBm~+20dBm
Amplitude Display Range	75dB
Amplitude Accuracy	$\pm 1.5$ dB typical @ 0dBm, 80MHz
Frequency Flatness	$\pm 1.5$ dB over 100MHz, $\pm 2.5$ dB typical over entire band/ $\pm 3$ dB:150kHz~10MHz
Amplitude Level Linearity	$\pm 1.5$ dB over 70dB
<b>DYNAMIC RANGE</b>	
Average Noise Floor	-95dBm @30kHz RBW, -100dBm typical /-75dBm: 150kHz~10MHz
Third Inter-Modulation	<-70dBc, @-40dBm input, 2tones, 2MHz apart/ <-45dBc:150kHz~10MHz
Harmonic Distortion	<-40dBc, RF input < selected reference
Non-Harmonic Spurious	<-60dBc typical down from reference level, average, 5MHz/div
<b>DISPLAY SYSTEM</b>	
Display Device	CRT Display, 8 x 10 graticule, 6-inch waveform screen LCD Display, 4 line x 20 character data screen
Display Function	Center Frequency Control, Bandwidth, Reference Level, Span Range, Amplitude
<b>FUNCTIONS</b>	
Marker Mode	Absolute, relative, PK->marker, marker->center
Number of Markers	2
Marker Resolution	0.1dB, 1kHz
Marker Accuracy	0.1dB $\pm$ amplitude accuracy
Memory	10 memorise of save/recall
Trace	Max. hold, average(2~32 traces), freeze(Hold)
Setup	Access parameters
Demodulator	WB FM, 120kHz deviation MB FM, 75kHz deviation NB FM, 30kHz deviation AM
Calibrate Signal	Outputs : Internal speaker, 3.5mm stereo jack, wired for mono operation 80MHz, -30dBm
<b>INTERFACE</b>	
RS-232C standard & remote display software (The software will be downloaded from GW Website.)	
<b>POWER SOURCE</b>	
AC 100V/120V/220V/230V $\pm 10\%$ , 50/60Hz	
<b>DIMENSIONS &amp; WEIGHT</b>	
310(W) x 150(H) x 455(D) mm, Approx. 8.5kg	

Note: Need to Collocate the Optional Accessories.



GSP-810

### ORDERING INFORMATION

<b>GSP-810</b>	1GHz Spectrum Analyzer	
<b>ACCESSORIES :</b>	User manual x 1, Power cord x 1	
<b>FREE DOWNLOAD</b>		
<b>PC Software</b>	Remote Display Software	
<b>Programming Labrary</b>	DLL file for Programming Use	
<b>OPTION</b>		
<b>Opt. 01 TRACKING GENERATOR (Factory Installed)</b>		
Frequency Range	150kHz ~ 1GHz	
Amplitude Range	- 50 dBm ~ 0dBm	
Amplitude Resolution	1 dB	
Amplitude Accuracy	$\pm 1$ dB @ 0 dBm, 80 MHz	
Attenuation Accuracy	$\pm 1$ dB @ 50 MHz	
Amplitude Flatness	$\pm 1$ dB @ 10 MHz/DIV, $\pm 1.5$ dB@0dB, entire band	
Harmonics	< -30 dBc (<-25dBc, 150kHz ~ 10MHz)	
Reverse Power	< +30 dBm	
Impedance	50 $\Omega$ nominal	
Return Loss	< 10 dB (VSWR < 2)	
Connector	Type N female	
<b>Opt. 02 POWER METER (Factory Installed)</b>		
Frequency Range	10MHz ~ 2 GHz, usable to 2.7GHz	
Power Level Range	-20 dBm ~ +23 dBm, usable to +30 dBm	
Power Level Overload	+40 dBm < 10% duty cycle, < 10 ms duration	
Return Loss	< 1:1.35 VSWR into 50 ohms, < 1:1.25 typical	
Readout Resolution	0.2 mW, 100 mW scale, 2 $\mu$ W, 1 mW scale; 0.1dB, Log scale	
Accuracy	$\pm (10\% \text{ rdg} \pm 1 \text{ digit})$	
Readout	mW or dBm	
<b>Opt. 03 REMOTE CONTROL SOFTWARE</b>		
Connecting PC to get the trace and provide the control for setting		
<b>OPTIONAL ACCESSORIES</b>		
<b>ATA-001 BNC Antenna</b>	(An additional ADP-001 is needed for fitting GSP spectrum analyzers)	
<b>ATA-002 Near Field Probe</b>	(An additional ADP-001 & GTL-110 is needed for fitting GSP spectrum analyzers)	
<b>RLB-001 Return Loss Bridge</b>	RLB Frequency Range 10MHz ~ 1GHz	
<b>GTP-3000 Passive touch Probe Set</b>	PR-03 Passive touch probe, SMA(F) ADP-002 Adaptor, SMA(J/F) ~ N(P/M)	
<b>GTL-303RF Cable Assembly</b>	SMA(P/M), 600mm	
<b>GKT-001 General Kit set</b>	ADP-002: adaptor, SMA(J/F) ~ N(P/M) x 2 GSC-002: Kit box x 1 ATN-100: 10dB attenuator, N(J/F) ~ N(P/M) x 1 GTL-303: RF cable assembly(RD316),SMA(P/M),600mm) x 2	
<b>GKT-002 CATV Kit set</b>	ADP-001: adaptor, BNC(J/F) ~ N(P/M) x 2 GSC-003: Kit box x 1 ADP-101: adaptor,BNC(J/F) 75 $\Omega$ ~BNC(P/M)50 $\Omega$ x 2 GTL-304: RF cable assembly(RG223,N(P/M)-N(J/F),300mm)x2	
<b>GKT-003 RLB Kit set</b>	CAK-001: termination 50 $\Omega$ , N(P/M) x 1 GSC-004: Kit box x 1 CAK-002: Cap with chain, N(P/M) x 1 CTL-302: RF cable assembly(RG223,N(P/M),300mm)x2	
<b>GKT-006 EMI Probe Kit set</b>	ANT-01: 6cm Loop, H-Field Probe x 1 Test Lead: BNC(P/M)~BNC(P/M) RF Cable x 1 ANT-02: 3cm Loop, H-Field Probe x 1 Test Lead: SMA(P/M)~SMA(P/M) RF Cable x 1 ANT-03 6mm Stub tip, E- Field Probe x 1 ADP-01: N(P/M)~BNC(J/F) Adapter x 1 PR-03: Touch Passive Probe x 1 ADP-02: N(P/M)~SMA(J/F) Adapter x 1	
<b>GTL-301 RF Cable</b>	RG 223 N(P/M), 1000mm	

### GKT-001 General Kit Set

ADP-002  
ATN-100  
GTL-303  
GSC-002  
For:GSP-810/827/830



### GKT-002 CATV Kit Set

ADP-001  
ADP-101  
GTL-304  
GSC-003  
For:GSP-810/827/830



### GKT-003 RLB Kit Set

CAK-001  
CAK-002  
GTL-302  
GSC-004  
For:GSP-810/827/830



### GKT-006 EMI Probe Kit Set

ADP-01 Test Lead: BNC(P)~BNC(P) RF Cable x 1  
ADP-02 Test Lead: SMA(P)~SMA(P) RF Cable x 1  
ANT-01  
ANT-02  
ANT-03  
PR-03  
For:GSP-810/827/830



### RLB-001 Return Loss Bridge

10MHz ~ 1GHz  
For: GSP-810/827/830

