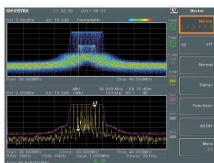


GSP-930

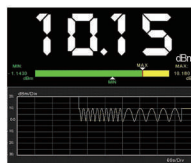


GSP-930, the all new 3GHz spectrum analyzer announced by GW Instek is designed by the edge of technology which provides professional characteristics to cover wide range of applications. The GSP-930 is a highly accurate spectrum analyzer and it offers various measurement functions, for example, Topographic and Spectrogram display mode, SEM, CNR, CTB, CSO, ACPR, OCBW, and so on. As well as the 10% adjustable RBW steps, built-in preamplifier, 1Hz resolution marker counter and IF output are all equipped in GSP-930 to provide outstanding measurement capability for R&D, production line, field service, signal monitoring, applications.



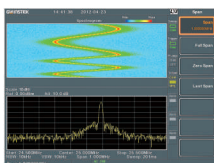
Topographic

Display shows the spectral color varies with signal occurrence times, which shows how the signal behaves from the aspect of frequency.



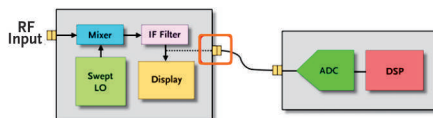
Power Meter

A 6GHz power meter is ready for average power measurement with the USB cabled power sensor (optional).



Spectrogram

Display shows spectral density of a signal varies with time. The instant frequency-change is traced in the display.

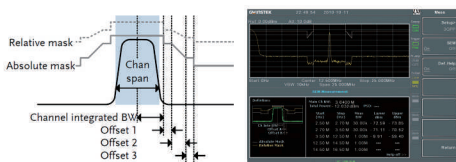


GSP-930

User's Application

IF output

Allow users to develop their own applications. In these cases, spectrum analyzer works as a broad band down converter.



Spectrum Emission Mask

The Spectrum Emission Mask is designed for picking up peaks of power in the neighboring channel. It is required to test in the modern communication systems.



Sequence

Allow to perform the series of front panel operations by editing the operations as a sequence and execute it..

FEATURES

- Frequency Range : 9kHz ~ 3GHz
- High Frequency Stability : 25ppb(0.025ppm)
- RBW : 10Hz ~ 10kHz in 1-3 Steps, 10kHz ~ 1MHz in 10% Adjustable Steps
- Phase Noise : -88dBc/Hz@1GHz, 10kHz Offset
- Built-in Measurement Functions : Channel Power, N-dB Bandwidth, OCBW, ACPR, SEM, TOI, CNR, CTB, CSO
- Gate Sweep Function
- 1Hz Resolution Marker Counter
- AM/FM Demodulation and Analysis
- Built-in Spectrogram and Topographic Display Modes
- 886MHz IF Output for User's Extended Applications
- Various Interface : USB Host/Device, RS-232C, LXI, Micro SD, GPIB(Optional)
- DVI-I Output for External Digital Display
- Built-in Preamplifier, 50dB Attenuator, and Sequence Function
- Optional 6GHz RF Power Sensor, Tracking Generator, Battery Pack



DVI Output

The digital visual interface sends the picture to LCD monitor or projector without distortion to gain the quality visual effect.

APPLICATIONS

- Wireless Communication Equipments R&D Lab and Manufacturers
- Broadcast Station, TV Station, Satellite Station, STB and LNB Manufacturers
- Radar System, Sonar System and Supersonic Wave System
- Telecom Operators and Maintenance Service Center
- Education Fields

## SPECIFICATIONS

FREQUENCY	Frequency Reference	Range Resolution Accuracy Aging Rate Frequency Stability Over Temperature	9 kHz ~ 3.0 GHz 1 Hz $\pm(\text{period since last adjustment} \times \text{aging rate}) + \text{stability over temperature} + \text{supply voltage stability}$ $\pm 2 \text{ ppm max. 1 year after last adjustment}$ $\pm 0.025 \text{ ppm, } 0 - 50 \text{ }^\circ\text{C}$
	Marker Frequency Counter Frequency Span Phase Noise	Resolution Range Offset From Carrier 10 kHz	1 Hz, 10 Hz, 100 Hz, 1 kHz 0 Hz (zero span), 100 Hz ~ 3 GHz $F_c = 1 \text{ GHz; RBW} = 1 \text{ kHz, VBW} = 10 \text{ Hz; Average} \geq 40$ <-88 dBc/Hz, Typical
	Resolution Bandwidth (RBW) Filter	Filter Bandwidth	10Hz ~ 3kHz in 1-3-10 sequence 10kHz ~ 1 MHz, increment in 10% step 200Hz, 9kHz, 120kHz, for EMI Filter
	Video Bandwidth (VBW) Filter	Filter Bandwidth	1 Hz ~ 1 MHz in 1-3-10 sequence
AMPLITUDE	Amplitude Range Attenuator RF Preamplifier	Measurement Range Input Attenuator Range Frequency Range Gain	100 kHz~1 MHz, DANL~18 dBm; 1 MHz~10 MHz, DANL~21 dBm; 10 MHz~3 GHz, DANL~30 dBm 0 ~ 50 dB, in 1 dB step, Auto or manual setup 1 MHz ~ 3 GHz 18 dB, Nominal (installed as standard)
	Maximum Safe Input Level Displayed Average Noise Level (DANL)	Average Total Power DC Voltage Reference Preamp off	$\geq +33 \text{ dBm, Input attenuator} \geq 10 \text{ dB}$ $\pm 50 \text{ V}$ 0 dB Attenuation; RBW 10 Hz; VBW 10 Hz; Span 500 Hz; Reference level = -60dBm; Trace average $\geq 40$ 9 kHz ~ 100 kHz, < -93 dBm, Nominal 100 kHz ~ 1 MHz, < -90 dBm - 3 x (f/100 kHz) dB, Nominal 1 MHz ~ 3 GHz, < -122 dBm, Nominal
	Level Display Range	Preamp on	100 kHz ~ 1 MHz, < -108 dBm - 3 x (f/100 kHz) dB, Nominal 1 MHz ~ 10 MHz, < -142 dBm, Nominal 10 MHz ~ 3 GHz, < -145 dBm + 3 x (f/1 GHz) dB, Nominal
	Spurious Response	Scales & Units Level Display Modes Number of Traces Detector Trace Functions Second Harmonic Intercept Input Related Spurious Residual Response(Inherent)	Scale: Log, Linear; Units: dBm, dBmV, dBuV, V, W Trace, Topographic, Spectrogram 4 Positive-peak, negative-peak, sample, normal, RMS (not video) Clear & Write, Max/Min Hold, View, Blank, Average Preamp off; signal input -30dBm; 0 dB attenuation; +35 dBm Typical; 10 MHz < f < 775 MHz; +60 dBm Typical; 775 MHz $\leq$ f < 1.5 GHz Preamp off; signal input -30dBm; 0 dB attenuation > 1 dBm, 300 MHz ~ 3 GHz; < -60 dBc, Signal level -30 dBm at 1st mixer; 20 ~ 30 $^\circ\text{C}$ < -90 dBm, Input terminated; 0 dB attenuation; preamp off
SWEEP	Sweep Time	Span > 0 Hz Span = 0 Hz	22 ms ~ 1000 s 50 $\mu\text{s}$ ~ 1000 s; Min Resolution = 10 $\mu\text{s}$
	Sweep Mode Trigger Source		Continuous; Single Free run; Video; External
INPUT/OUTPUT	Front Panel	RF Input Power for Option USB Host Micro SD Socket	N-type female, 50 ohm, nominal, VSWR <1.6 :1 SMB male, DC + 7V/500 mA max A plug, Version 2.0, Supports Full/High/Low speed SD 1.1, Supported Micro SD, Micro SDHC, Up to 32GB capacity
	Rear Panel	Reference Input/Output Alarm Output Trigger Input/ Gated Sweep Input LAN TCP/IP Interface USB Device IF Output Earphone Output Video Output RS-232C Interface GPIB Interface (Optional) AC Power Input Battery Pack (Optional)	BNC female, 10 MHz BNC female; Open-collector BNC female, 3.3V CMOS RJ-45 , 10Base-T ; 100Base-Tx ; Auto-MDIX B plug , for remote control only ; supports USB TMC ; Version 2.0 , Supports Full/High speed SMA female, 886 MHz output, Nominal 3.5mm stereo jack, wired for mono operation DVI-I, Single Link, Compatible with VGA/HDMI standard through adapter D-sub 9-pin female, Support Tx , Rx , RTS , CTS IEEE-488 bus connector AC 100 V ~ 240 V, 50/60 Hz, auto range selection Li-Ion rechargeable, with UN38.3 certification
GENERAL	General	Internal Data storage Power Consumption Dimensions & Weight	16 MB nominal < 65 W 210 x 350 x 100 (mm)/8.3 x 13.8 x 3.9 (in), Approximately 4kg (Basic unit)

Specifications subject to change without notice.

SP-930GD2DH

### ORDERING INFORMATION

**GSP-930** 3GHz Spectrum Analyzer

#### ACCESSORIES :

Quick Start Manual x 1, User Manual CD x 1, Power Cord x 1

#### OPTION

Opt. 01 Tracking Generator  
Opt. 02 Battery Pack  
Opt. 03 GPIB Interface

### OPTIONAL ACCESSORIES

**PWR-06** RF Power Sensor  
**GSC-009** Soft Carrying Case  
**GRA-415** Rack Adapter Panel

### FREE DOWNLOAD

**PC Software** Remote Monitor Software  
**IVI Driver** Supports LabVIEW and LabWindows/CVI Programming