



GSP-730 & GRF-1300

FEATURES

GSP-730 Spectrum Analyzer

- Frequency Range : 150kHz ~ 3GHz
- Autoset Function
- Noise level : $\leq -100\text{dBm}$
- RBW Range : 30kHz, 100kHz, 300kHz, 1MHz
- ACPR/CHPW/OCBW Measurement
- 3 Traces in Different Colors
- Split Window Function
- Limit Line Function
- Remote Control Software
- Presentation Material for Training Courses
- Support Interface : USB Device/Host, RS-232C
- 5.6" TFT LCD with VGA Output

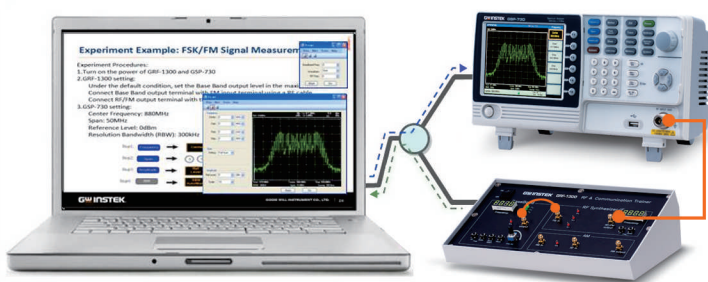
GRF-1300 RF and Communication Trainer

- Waveform Support :
Sine Wave : 0.1 ~ 3MHz
Square Wave : 0.1 ~ 3MHz
Triangle Wave : 0.1 ~ 3MHz
- RF Frequency : 870 ~ 920MHz
- AM Modulation & FM Modulation
- 5 On/Off Switches and 5 Test Points to Simulate 8 Failure Conditions for Learning Outcome Test
- USB Interface to Provide Remote Control

Turn-key Solution for RF and Communication Experiment Courses

GW Instek GSP-730 is a 3 GHz Spectrum Analyzer mainly developed to fulfill the demands of RF Communication educations. Budget constraint and inadequate of teaching tools are normally the two hurdles for schools to provide high-quality courses for RF communication experiments. GSP-730 is a spectrum analyzer of full functions, with appropriate combination with the training kit, GRF-1300, provide customers an economic turn-key solution for 3GHz RF Communication Experiment Courses.

With its components, GSP-730 Spectrum Analyzer, GRF-1300 RF and Communication Trainer and a PC, properly connected, a tangible system is integrated for performing ongoing experiments while the lecture is being given. Using a PC, the teacher can present teaching material with PowerPoint slide and simultaneously control GSP-730 and GRF-1300 to perform experiments and get spectrum displays and parameter readings on the PC screen. GSP-730 and GRF-1300 easily transferred the current teaching materials, including the PowerPoint slides, textbook, and the remote control software, into electronic-teaching system.



Fully-electronic RF Training System

The combination of GSP-730 and GRF-1300 forms a fundamental training system for RF communication and telecommunication classes in the universities, colleges, vocational schools, and the training centers in military as well as the private companies. Instead of the tremendous cost of the installation of new training system, the conjunction of GSP-730 and GRF-1300 provides an economic solution to eliminate two obstacles, budget constraint and insufficiency of teaching tools.

APPLICATIONS

- Education, Training
- Fourier Theory Investigation
- Motherboard Circuit Measurement
- Wireless Communication Signal Measurements
 - GSM, 3G, 4G Mobile Phone
 - Bluetooth, Zigbee, Wi-Fi
 - AM/FM Modulation
- Remote Controller Maintenance

SPECIFICATIONS

GSP-730			
FREQUENCY	Frequency Range	Setting Range	150kHz ~ 3GHz
	Center Frequency	Setting Resolution	0.1MHz
	Frequency Span	Accuracy	within ± 50 kHz (frequency span : 0.3GHz ~ 2.6GHz, 20 $\pm 5^\circ$ C)
	Resolution Bandwidth	Setting range	1MHz ~ 3GHz
SSB Phase Noise		Accuracy	within $\pm 3\%$ (frequency span : 0.3GHz ~ 2.6GHz, 20 $\pm 5^\circ$ C)
	Inherent Spurious Response	Setting Range	30KHz, 100KHz, 300KHz, 1MHz
AMPLITUDE	Reference Level	Input Range	+20 ~ -40dBm
		Accuracy	Within ± 2 dB (1GHz) ; SPAN : 5MHz
	Average Noise Level	Unit	dBm, dBV, dB μ V
	Frequency Characteristic		≤ -100 dBm (typical, center frequency : 1GHz RBW : 30kHz)
			within ± 3.0 dB@300MHz ~ 2.6GHz
	Input		within ± 6.0 dB@80 ~ 300MHz, 2.6 ~ 3GHz
SWEEP	Sweep Time	Input Impedance	50 Ω
		Input VSWR	less than 2.0@input att ≥ 10 dB
		Input damage level	+30dBm (CW average power), 25VDC
GENERAL	Display	Input connector	N connector
	Communication Interface	Setting Range	300ms ~ 8.4s, auto (not adjustable)
	VGA Output	Accuracy	within $\pm 2\%$ (frequency span : full span)
	Power Source		
OTHER	Operating Temperature	640 x 480 RGB color LCD	
	Operating Humidity	RS-232C	Sub-D female-D 9 pins
	Storage Temperature	USB Connector	USB Host/Device full speed supported
DIMENSIONS & WEIGHT		Sub-D female 15 pins	
		AC 100~240V, 50/60Hz	
GRF-1300			
BASE BAND	Waveforms	Sine, Square, Triangle	
	Frequency Range	0.1 ~ 3MHz ; Step : 10kHz	
	Amplitude	≥ 1.5 Vpp	
	Harmonics Distortion	≥ -30 dBc	
RF/FM GENERATOR	Frequency Accuracy	± 0.15 MHz	
	Adjustable Range	≥ 45 MHz (870M ~ 920MHz) ; Step: 1MHz	
	Power Range	≥ -15 dBm	
FM	Max Frequency Deviation	>3MHz	
AM	Peak Difference	≥ -18 dBm	
INTERFACE	USB	USB Device	
DIMENSIONS & WEIGHT		165(W) x 155(H) x 90(D)mm / 6.5(W) x 6.1(H) x 3.5(D)im	
		Approx. 1.2kg / 2.6lb	

Specifications subject to change without notice. SP-730GD1DH

ORDERING INFORMATION

GSP-730 3GHz Spectrum Analyzer
GRF-1300 RF and Communication System Trainer

ACCESSORIES

GSP-730 : Quick start manual x 1, User manual CD x 1, Power cord x1
GRF-1300 : Experiment text book of student version, Power point file and remote control software CD,
 RF cable x 3, Antenna x 1, N to SMA adaptor connector, Power cord x 1

OPTION

GBK-001 Experiment text book of teacher version

FREE DOWNLOAD

PC Software Training syetem remote control software

Global Headquarters

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GSP-730 Specification

Frequency

Frequency Range

Setting Range	150kHz to 3GHz
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Center Frequency

Setting Resolution	0.1MHz
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Accuracy	within ± 50 kHz (frequency span : 0.3GHz to 2.6GHz, 20 $\pm 5^{\circ}$ C)
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Frequency Span

Setting range	1MHz to 3GHz
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Accuracy	within $\pm 3\%$ (frequency span : 0.3GHz to 2.6GHz, 20 $\pm 5^{\circ}$ C)
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Resolution Bandwidth

Setting Range	30kHz, 100kHz, 300kHz, 1MHz,
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SSB Phase Noise

-85dBc / Hz (typical, 500kHz offset, RBW : 30kHz, Sweep time: 1.5s, Span:1MHz@1GHz)

Inherent Spurious Response

less than -45dBc @ -40dBm Ref. Level (typical less than -50dBc)

Amplitude

Reference Level

Input Range	+20 to -40dBm
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Accuracy	Within ± 2 dB (1GHz);SPAN:5MHz
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Unit	dBm, dBV, dB μ V
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Average Noise Level

≤ -100 dBm (typical, center frequency : 1GHz RBW : 30kHz)

Frequency Characteristic

within ± 3.0 dB @300MHz~2.6GHz,

within ± 6.0 dB @ 80~300MHz, 2.6~3GHz

Input

Input Impedance	50ohm
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Input VSWR	less than 2.0@input att ≥ 10 dB
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Input damage level	+30dBm (CW average power), 25VDC
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Input connector	N connector
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Sweep

Sweep Time

Setting Range	300ms to 8.4s, auto (not adjustable)
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Accuracy	within $\pm 2\%$ (frequency span : full span)
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General

Communication

Display	640*480 RGB color LCD
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Interface

RS-232C	Sub-D female-D 9 pins
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USB Connector	USB Host/Device full speed supported
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VGA Output

Sub-D female 15 pins

Power Source

AC 100~240V, 50/60Hz

Other

Operating Temperature	5 to 45°C (Guaranteed at 25 $\pm 5^{\circ}$ C, without soft carrying case)
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Operating Humidity	Less than 45°C / 90%RH
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Storage Temperature	-20 to 60°C, less than 60°C / 70%RH
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Dimensions	296 (L) \times 153 (W) \times 105 (H) mm
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Weight	Approx. 2.2kg
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GRF-1300 Specification

Base Band		
Waveforms		Sine, Square, Triangle
Frequency Range		0.1~3MHz Step: 10kHz
Amplitude		$\geq 1.5V_{pp}$
Harmonics Distortion		$\leq -30dBc$
RF/FM Generator		
Frequency Accuracy		$\pm 0.15MHz$
Adjustable Range		$\geq 45MHz$ (870M ~ 920MHz) Step: 1MHz
Power Range		$\geq -15dBm$
FM		
Max Frequency Deviation		$> 3MHz$
AM		
Peak Difference		$\geq -18dBm$
Interface		
		USB Device
Dimensions & Weight		
		165(W)*155(H)*90(D)mm, 1.2kg 6.5(W)*155(H)*90(D)mm, 2.6lb

GSP-730, 3GHz Spectrum Analyzer

Standard Accessories

Quick Start Manual *1
User Manual CD *1
Power Cord *1

GRF-1300, RF and Communication system trainer

Standard Accessories

Experiment Text Book, Student Version *1
Power Point File and Remote Control Software CD *1
RF Cable *3
Antenna *1
N to SMA Adaptor Connector *1
Power Cord *1

Option

GBK-001 Experiment text Book, Teacher Version

Free Download

Primary RF, Remote Control Software