



## GSP-730 GRF-1300/1300A

### 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

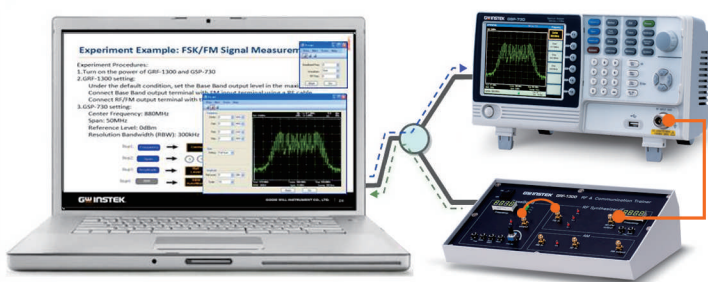
#### GRF-1300/1300A RF and Communication Trainer

- 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
- Mixer & 2.4GHz Bandpass Filter (Only GRF-1300A)

## Turn-key Solution for RF and Communication Experiment Courses

GW Instek GSP-730 is a 3 GHz Spectrum Analyzer developed mainly to fulfill the demands of RF Communications education. Budget constraint and inadequate teaching tools are normally the two hurdles for schools to provide high-quality courses for RF communications experiments. GSP-730, a spectrum analyzer of full functions, combines with the GRF-1300/1300A training kit to provide customer an economical turn-key solution for 3GHz RF and Communications Experiment Courses.

Properly connect GSP-730 Spectrum Analyzer, GRF-1300/1300A RF and Communications Trainer and a PC to perform ongoing experiments while the lecture is being given. Using a PC, teacher can present teaching material with Power Point slides and simultaneously control GSP-730 and GRF-1300/1300A to perform experiments and get spectrum displays parameter readings on the PC screen. GSP-730 and GRF-1300/1300A easily transfer 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-1300/1300A forms a fundamental training system for RF communications and telecommunications classes in the universities, colleges, vocational schools and the training center 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-1300/1300A provides an economical 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 $\pm 50$ 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	-85dBc/Hz (typical, 500kHz offset, RBW : 30kHz, Sweep time : 1.5s, Span : 1MHz@1GHz)	
	Average Noise Level	Input Range	+20 ~ -40dBm
	Frequency Characteristic	Accuracy	Within $\pm 2$ dB (1GHz) ; SPAN : 5MHz
	Input	Unit	dBm, dBV, dB $\mu$ V
SWEEP	Sweep Time	Input Impedance	50 $\Omega$
		Input VSWR	less than 2.0@input att $\geq 10$ dB
GENERAL	Display	Input damage level	+30dBm (CW average power), 25VDC
	Communication Interface	Input connector	N connector
	VGA Output	Setting Range	300ms ~ 8.4s, auto (not adjustable)
	Power Source	Accuracy	within $\pm 2\%$ (frequency span : full span)
OTHER	Operating Temperature	640 x 480 RGB color LCD	
	Operating Humidity	RS-232C	Sub-D female-D 9 pins
DIMENSIONS & WEIGHT	Storage Temperature	USB Connector	USB Host/Device full speed supported
		Sub-D female 15 pins	
		AC 100~240V, 50/60Hz	
		5 ~ 45 $^\circ$ C (Guaranteed at 25 $\pm 5^\circ$ C, without soft carrying case)	
		Less than 45 $^\circ$ C / 90%RH	
		-20 ~ 60 $^\circ$ C, less than 60 $^\circ$ C / 70%RH	
		296(L) x 153(W) x 105(H) mm/11.6(L) x 6(W) x 4.1(H) in, Approx. 2.2kg/4.9lb	

### GRF-1300/1300A

		GRF-1300A	GRF-1300
BASE BAND	Waveforms	Sine, Square, Triangle	Sine, Square, Triangle
	Frequency Range	0.1~3MHz, Step : 10kHz	0.1~3MHz, Step : 10kHz
	Amplitude	$\geq 1.5$ Vpp	$\geq 1.5$ Vpp
	Harmonic Distortion	$\geq 0.75$ Vpp into 50 Ohm	$\leq -30$ dBc
RF/FM ANALYSIS	Frequency Accuracy	$\pm 0.15$ MHz	$\pm 0.15$ MHz
	Adjustable Range	$\geq 45$ MHz (870M ~ 920MHz), Step : 1MHz	$\geq 45$ MHz (870M ~ 920MHz), Step : 1MHz
FM	Power Range	$\geq -15$ dBm	$\geq -15$ dBm
	Max Frequency Deviation	>3MHz	>3MHz
AM	Peak Difference	$\geq -18$ dBm	$\geq -18$ dBm
MIXER	LO + IF	$\geq -35$ dBm	-
	LO - IF	$\geq -35$ dBm	-
MIXER + MODULATION		$\geq -60$ dBm	-
BANDPASS FILTER	Frequency Centre: 2.4GHz	Bandwidth: $\pm 20$ MHz	-
INTERFACE	USB Device	USB Type B	
DIMENSIONS & WEIGHT		165(W) x 155(H) x 90(D)mm/6.5(W) x 6.1(H) x 3.5(D)in, Approx. 1.2kg/2.6lb	

Specifications subject to change without notice. SP-730GD1DH

## ORDERING INFORMATION

**GSP-730** 3GHz Spectrum Analyzer  
**GRF-1300/1300A** RF and Communications Trainer

## ACCESSORIES

**GSP-730** : Quick start manual x 1, User manual CD x 1, Power cord x 1  
**GRF-1300/1300A** : Experiment text book of student version, Power point file and remote control software CD, GRF-1300 : RF cable x 3, Antenna x 1/  
 GRF-1300A : RF cable x 6, Antenna x 2, N to SMA adaptor connector x 1, Power cord x 1

## OPTION

**GBK-001** GRF-1300 Experiment text book of teacher version  
**GBK-002** GRF-1300A Experiment text book of teacher version

## FREE DOWNLOAD

**PC Software** Training system remote control software

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