



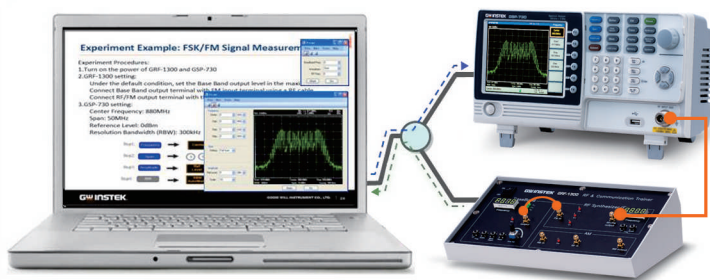
## GSP-730 3GHz SPECTRUM ANALYZER & GRF-1300 RF and COMMUNICATION TRAINER



### 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.

## 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

### 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

<b>FREQUENCY</b>	<b>Frequency Range</b> <b>Center Frequency</b>  <b>Frequency Span</b>  <b>Resolution Bandwidth</b> <b>SSB Phase Noise</b> <b>Inherent Spurious Response</b>	Setting Range Setting Resolution Accuracy Setting range Accuracy Setting Range -85dBc/Hz (typical, 500kHz offset, RBW : 30kHz, Sweep time : 1.5s, Span : 1MHz@1GHz) less than -45dBc@-40dBm Ref. Level (typical less than -50dBc)	150kHz ~ 3GHz 0.1MHz within ±50kHz (frequency span : 0.3GHz ~ 2.6GHz, 20 ±5°C) 1MHz ~ 3GHz within ±3% (frequency span : 0.3GHz ~ 2.6GHz, 20 ±5°C) 30KHz, 100KHz, 300KHz, 1MHz
<b>AMPLITUDE</b>	<b>Reference Level</b>  <b>Average Noise Level</b> <b>Frequency Characteristic</b>  <b>Input</b>	Input Range Accuracy Unit ≤ -100dBm (typical, center frequency : 1GHz RBW : 30kHz) within ±3.0dB@300MHz ~ 2.6GHz within ±6.0dB@80 ~ 300MHz, 2.6 ~ 3GHz Input Impedance Input VSWR Input damage level Input connector	+20 ~ -40dBm Within ±2dB (1GHz) ; SPAN : 5MHz dBm, dBV, dBμV less than 2.0@input att ≥10dB +30dBm (CW average power), 25VDC N connector
<b>SWEEP</b>	<b>Sweep Time</b>	Setting Range Accuracy	300ms ~ 8.4s, auto (not adjustable) within ±2% (frequency span : full span)
<b>GENERAL</b>	<b>Display</b> <b>Communication Interface</b>  <b>VGA Output</b> <b>Power Source</b>	640 x 480 RGB color LCD RS-232C USB Connector Sub-D female 15 pins AC 100~240V, 50/60Hz	Sub-D female-D 9 pins USB Host/Device full speed supported
<b>OTHER</b>	<b>Operating Temperature</b> <b>Operating Humidity</b> <b>Storage Temperature</b>	5 ~ 45°C (Guaranteed at 25 ±5°C, without soft carrying case) Less than 45°C / 90%RH -20 ~ 60°C, less than 60°C / 70%RH	
<b>DIMENSIONS &amp; WEIGHT</b>	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		
<b>GRF-1300</b>			
<b>BASE BAND</b>	<b>Waveforms</b> <b>Frequency Range</b> <b>Amplitude</b> <b>Harmonics Distortion</b>	Sine, Square, Triangle 0.1 ~ 3MHz ; Step : 10kHz ≥ 1.5Vpp ≥ -30dBc	
<b>RF/FM GENERATOR</b>	<b>Frequency Accuracy</b> <b>Adjustable Range</b> <b>Power Range</b>	±0.15MHz ≥ 45MHz (870M ~ 920MHz) ; Step: 1MHz ≥ -15dBm	
<b>FM</b>	<b>Max Frequency Deviation</b>	>3MHz	
<b>AM</b>	<b>Peak Difference</b>	≥ -18dBm	
<b>INTERFACE</b>	<b>USB</b>	USB Device	
<b>DIMENSIONS &amp; WEIGHT</b>	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**    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 system remote control software

Combined Test Solutions,  
4 Commerce Way, Stanbridge Road,  
Leighton Buzzard, LU7 4RW

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