GSP-730 3GHz Spectrum Analyzer/GRF-1300A RF and Communications Trainer/USG-LF44 RF Signal Generator

CE | USB | RS-232 | VGA Output | PC Software

GSP-730/GRF-1300A/ USG-LF44

FEATURES

GSP-730 Spectrum Analyzer

- Frequency Range : 150kHz ~ 3GHz
- Autoset Function
- Noise level : ≤-100dBm
- 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-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 Band Pass Filter

USG-LF44 RF Signal Generator

- Frequency Range : 34.5MHz ~ 4400MHz
- Output Power Range : -30dBm ~ 0dBm
- Continuous Wave Signal Without any Modulation
- Support Fixed Frequency, Frequency Sweep, Frequency Hopping & Power Sweep Mode
- -107dBc/Hz Phase Noise@100kHz Offset
- Frequency Resolution : 10kHz
- PC USB Interface Powered and Controlled
- External PC Software Support Different Operating System

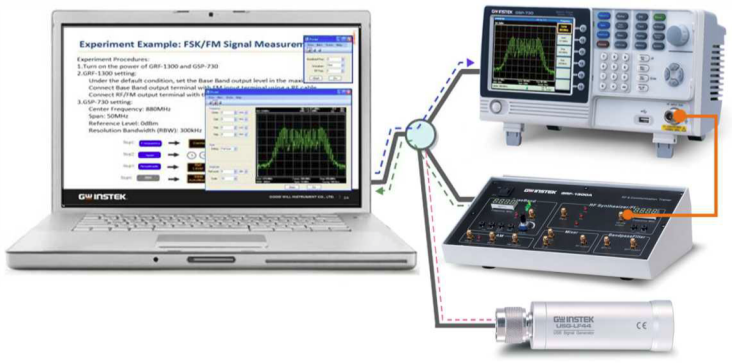
APPLICATIONS

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

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-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-1300A RF and Communications Trainer, USG-LF44 RF Signal Generator 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, GRF-1300A and USG-LF44 to perform experiments and get spectrum displays parameter readings on the PC screen. GSP-730, GRF-1300A and USG-LF44 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, GRF-1300A and USG-LF44 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, GRF-1300A and USG-LF44 provides an economical solution to eliminate two obstacles, budget constraint and insufficiency of teaching tools.

SPECIFICATIONS

GSP-730			
FREQUENCY	**Frequency Range**	Setting Range	150kHz ~ 3GHz
	Center Frequency	Setting Resolution	0.1MHz
		Accuracy	within ±50kHz (frequency span : 0.3GHz ~ 2.6GHz, 20 ±5°C)
	Frequency Span	Setting range	1MHz ~ 3GHz
		Accuracy	within ±3% (frequency span : 0.3GHz ~ 2.6GHz, 20 ±5°C)
	Resolution Bandwidth	Setting Range	30KHz, 100KHz, 300KHz,1MHz
	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 ~ -40dBm
		Accuracy	Within ±2dB (1GHz) ; SPAN : 5MHz
		Unit	dBm, dBV, dBμV
	Average Noise Level	≤ -100dBm (typical, center frequency : 1GHz RBW : 30kHz)	
	Frequency Characteristic	within ±3.0dB@300MHz ~ 2.6GHz	
		within ±6.0dB@80 ~ 300MHz, 2.6 ~ 3GHz	
	Input	Input Impedance	50Ω
		Input VSWR	less than 2.0@input att≥10dB
		Input damage level	+30dBm (CW average power), 25VDC
		Input connector	N connector
SWEEP	**Sweep Time**	Setting Range	300ms ~ 8.4s, auto (not adjustable)
		Accuracy	within ±2% (frequency span : full span)
GENERAL	**Display**	640 x 480 RGB color LCD	
	Communication Interface	RS-232C	Sub-D female-D 9 pins
		USB Connector	USB Host/Device full speed supported
	VGA Output	Sub-D female 15 pins	
	Power Source	AC 100~240V, 50/60Hz	
OTHER	**Operating Temperature**	5 ~ 45°C (Guaranteed at 25 ±5°C, without soft carrying case)	
	Operating Humidity	Less than 45°C / 90%RH	
	Storage Temperature	-20 ~ 60°C, less than 60°C / 70%RH	
DIMENSIONS &WEIGHT		296(L) × 153(W) × 105(H) mm / 11.6(L) x 6(W) x 4.1(H) in, Approx. 2.2kg / 4.9lb	
GRF-1300A			
BASE BAND	**Waveforms**	Sine, Square, Triangle	
	Frequency Range	0.1~3MHz , Step : 10kHz	
	Amplitude	≧1.5Vpp	
		≧0.75Vpp into 50 Ohm	
	Harmonic Distortion	≦-30dBc	
RF/FM ANALYSIS	**Frequency Accuracy**	±0.15MHz	
	Adjustable Range	≧45MHz (870M ~ 920MHz) , Step : 1MHz	
	Power Range	≧-15dBm	
FM	**Max Frequency Deviation**	>3MHz	
AM	**Peak Difference**	≧-18dBm	
MIXER	**LO + IF**	≧-35dBm	
	LO - IF	≧-35dBm	
MIXER + MODULATION		≧-60dBm	
BANDPASS FILTER	**Frequency Centre: 2.4GHz**	Bandwidth: ±20MHz	
INTERFACE	**USB Device**	USB Type B	
DIMENSIONS & WEIGHT		165(W) x 155(H) x 90(D)mm, Approx. 1.2kg	

ORDERING INFORMATION

GSP-730	3GHz Spectrum Analyzer
GRF-1300/1300A	RF and Communications Trainer
USG-LF44	RF Signal Generator
ADP-003	N type to SMA Adapter

ACCESSORIES

GSP-730 : Quick Start Manual x1, CD-ROM with User Manual x1, Power Cord x1

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

USG-LF44 : USB cable x1, CD-ROM with USG software, Primary RF Software and User Manual x1

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	Primary RF, Remote Control Software, USG Java program

SPECIFICATIONS

MODEL	USG-LF44	USG-0103	USG-0818	USG-2030	USG-3044
FREQUENCY RANGE	34.5 MHz ~ 4.4 GHz	100 MHz ~ 300 MHz	800 MHz ~ 1.8 GHz	2.0 GHz ~ 3.0 GHz	3.0 GHz ~ 4.4 GHz
OUTPUT POWER	-30 dBm ~ 0 dBm, in 1 dB steps				
INTERNAL REFERENCE FREQUENCY	25 MHz, aging ±1 ppm at first year				
FREQUENCY ACCURACY (0 dBm Output Level)	± 100 Hz at 100MHz	± 100 Hz at 100MHz	± 800 Hz at 800MHz	± 2 kHz at 2GHz	± 3 kHz at 3GHz
FREQUENCY RESOLUTION	10 kHz				
OUTPUT ISOLATION	≦ -75 dBc , Output Control On/Off				
MODE CONTROL	Fixed Frequency / Single Sweep / CW Sweep / Hopping / Power Sweep				
STEP DWELL	≦1000 ms in 1 ms steps				
FREQUENCY OFFSET	-50 kHz ~ 50 kHz in 10 kHz steps				
OUTPUT FLATNESS (0 dBm Output Level)	-1 dBm ~ 3.5 dBm, typical	-1 dBm ~ -2 dBm, typical	-1 dBm ~ -0.5 dBm, typical	-1 dBm ~ -0.5 dBm, typical	-1 dBm ~ 3.5 dBm, typical
PHASE NOISE Carrier Frequency at 10kHz Offset Frequency at 100kHz Offset Frequency	fc = 1.0 GHz < -97 dBc/Hz, typical -100 dBc/Hz < -107 dBc/Hz, typical -110 dBc/Hz	fc = 200 MHz <-100 dBc/Hz, typical <-110 dBc/Hz, typical	fc = 1.3 GHz < -97 dBc/Hz, typical <-102 dBc/Hz, typical	fc = 1.5 GHz <- 93 dBc/Hz, typical <- 100 dBc/Hz, typical	fc = 3.7 GHz <- 88 dBc/Hz, typical <- 94 dBc/Hz, typical
2ND HARMONICS (0 dB Attenuation)	≦ -15 dBc, typical 34.5 MHz ~ 2.0 GHz ≦ -10 dBc, typical 2.0 GHz ~ 3.0 GHz ≦ -25 dBc, typical 3.0 GHz ~ 4.4 GHz	≦ -45 dBc, typical > 100 MHz	≦ -25 dBc, typical > 800 MHz	≦ -30 dBc, typical 2.0 GHz ~ 3.0 GHz	≦ -25 dBc, typical 3.0 GHz ~ 4.4 GHz
3rd HARMONICS (0 dB Attenuation)	≦ -5 dBc, typical 34.5 MHz ~ 2 GHz ≦ -20 dBc, typical 2.0 GHz ~ 3.0 GHz ≦ -40 dBc, typical 3.0 GHz ~ 4.4 GHz	≦ -7 dBc typical ≦ 150 MHz ≦ -35 dBc, typical > 150 MHz	≦ -25 dBc, typical ≦ 900 MHz ≦ -35 dBc, typical > 900 MHz	≦ -55 dBc, typical 2.0 GHz ~ 3.0 GHz	≦ -40 dBc, typical 3.0 GHz ~ 4.4 GHz
SPURIOUS RELATED TO RESOLUTION SETTINGS	≦ -30 dBc, typical, Resolution < 1MHz ≦ -65 dBc, typical, Resolution ≧ 1MHz				
SPURIOUS RELATED TO THE FUNDAMENTAL OUTPUT	≦ -60 dBc, typical	≦ -60 dBc, typical	≦ -65 dBc, typical	≦ -65 dBc, typical	≦ -65 dBc, typical
SUPPORTED OS	Windows/Linux/Mac/Android				
INTERFACE	USB 2.0				
USB CONNECTOR TYPE	Mini B				
SUPPLY VOLTAGE	5V nominal				
CURRENT CONSUMPTION	200 mA				
RF CONNECTOR TYPE	N-type male				
IMPEDANCE	50 Ω nominal				
OUTPUT VSWR	< 1.5 : 1 , Output Level @ -30 dBm				
MAXIMUM PERMISSIBLE DC VOLTAGE	±25V				
MAXIMUM REVERSE POWER	+30dBm (1W)				
ELECTROMAGNETIC COMPATIBILITY	EN 55011 class A, EN 61326-1 (industrial environment), EN 61326-2-1, EN 61000-4-2, EN 61000-4-3 EN 61000-4-11				
DIMENSIONS & WEIGHT	30(W) x 103(H) x 30(D)mm; Approx. 100g				

Specifications subject to change without notice. USGGD1DH

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