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 : ≤-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-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**

| FREQUENCY | Setting Range: 150kHz – 3GHz  
| Center Frequency: 0.1MHz  
| Frequency Span: 1MHz – 3GHz  
| Resolution Bandwidth: 30kHz, 100kHz, 300kHz, 1MHz  
| SSB Phase Noise: -85dBc/Hz (typical, 500kHz offset, RBW: 30kHz, Spex: 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)  
| Unit: dBM, dBV, dBµV  
| Average Noise Level: ≤ -100dBm (typical, center frequency: 1GHz RBW: 30kHz)  
| Frequency Characteristic: within ±0dB at 300MHz, 2.6 – 3GHz  
| Input: Input Impedance: 50Ω  
| Input Impedance: less than 20@input att=1dBI  
| 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 color LCD  
| Communication Interface: RS-232C  
| VGA Output: Sub-D female 15 pins  
| Power Source: AC 100-240V, 50/60Hz |

| OTHER | Operating Temperature: 5 – 45°C (Guaranteed at 25 ±3°C, without soft carrying case)  
| Operating Humidity: Less than 45°C / 90%RH  
| Storage Temperature: -20 – 60°C, less than 60% / 70%RH |

| DIMENSIONS & WEIGHT | Dimensions: 296(L) x 151(W) x 105(H) mm / 11.6(L) x 6(W) x 4.1(H) in  
| Weight: Approx. 2.2kg / 4.9lb |

**GRF-1300**

| BASE BAND | Waveforms: Sine, Square, Triangle  
| Frequency Range: 0.1 – 3MHz; Step: 10kHz  
| Amplitude: ≥ 1.5Vpp  
| Harmonics Distortion: ≥ -30dBc |

| RF/FM GENERATOR | Frequency Accuracy: ±0.15MHz  
| Adjustable Range: ≥ 45MHz (870M – 920MHz); Step: 1MHz  
| Power Range: ≥ -15dBm |

| FM | Max Frequency Deviation: >3MHz |

| AM | Peak Difference: ≥ -18dBm |

| INTERFACE | USB: USB Device |

| DIMENSIONS & WEIGHT | Dimensions: 165(W) x 115(H) x 90(D)mm / 6.5(W) x 6.1(H) x 3.5(D)in  
| Weight: Approx. 1.2kg / 2.6lb |

### ORDERING INFORMATION

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

**GSP-730** Quick start manual x 1, User manual CD x 1, Power cord x 1  
**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

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Specifications subject to change without notice. SP-735GCD1DH