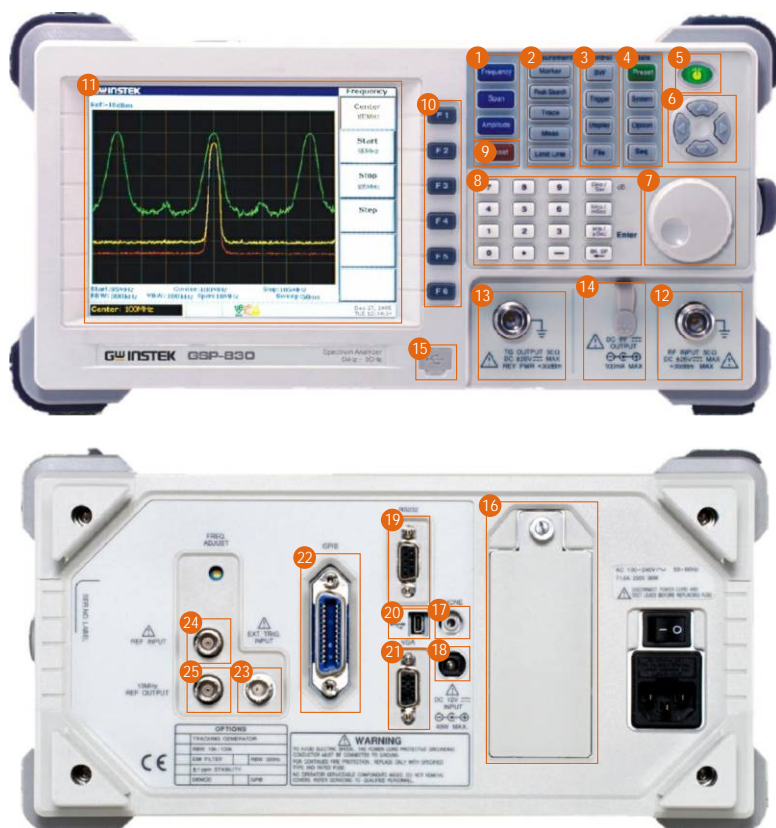


# SPECTRUM ANALYSER, GSP-830



## Main Functions

2. Measurement Keys
3. Control Keys
4. State Keys
5. Power Button
6. Arrow Key
7. Fly Wheel
8. Numeric Keypad
9. Autoset Function
10. Function Keys
11. 640x480 High Resolution LCD Display
12. R F Input
13. Tracking Generator Output
14. DC Output for Pre-Amplifier (GAP-801)
15. USB Host (type A)
16. Battery Pack Slot
17. Headphone Output
18. DC Input Jack
19. RS-232 Interface
20. USB(type mini-B)
21. VGA Output
22. GPIB Interface
23. External Trigger
24. REF Input
25. 10MHz REF Output

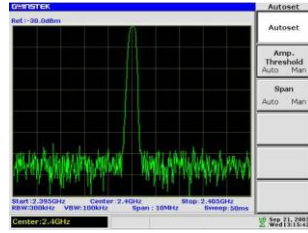
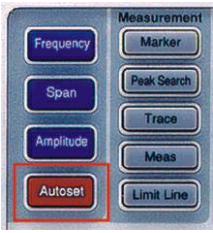
## FŐBB TULAJDONSÁGOK

- Frekvencia tartomány: 9kHz... 3GHz
- Alacsony zajszint (-117 dBm @1 GHz, 3k RBW)
- Szekvenciális programozási funkció
- ACPR, OCBW, csatorna teljsítmény, N-dB, fázis zaj mérés
- Jó/NEM-JÓ osztályozás határérték beállítással
- 5 marker delta markerrel
- 10 marker delta markerrel és csúcsérték/osztályozási funkcióval
- Kétszemes képernyő különálló beállításokkal
- AC/DC/ hálózati és telepes működés
- USB/RS-232C/GPIB(opció) interfészek
- Közvetlen VGA kimenet
- 6.4" TFT színes LCD,640 x 480 pixel
- Opciók: előerősítő, tracking generátor

## ALKALMAZÁSOK



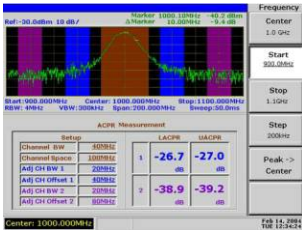
## A. AUTO SET FUNCTIONS



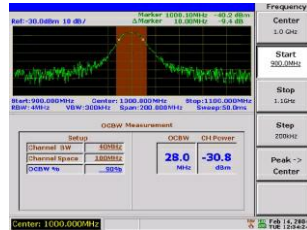
Going through special training and/or numerous panel operations is a common requirement to capture RF signals in a precise manner. Everything is changed now: GSP-830's internal Autoset function automatically captures RF signal and configures the optimal display setting in just one operation step. Of course for complex signals you can still

manually adjust settings such as amplitude and frequency span. Using spectrum analyzer will never be a complicated matter again.

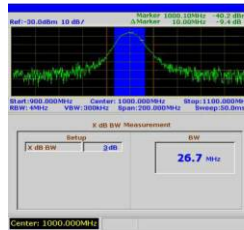
## B. POWER MEASUREMENT FUNCTION



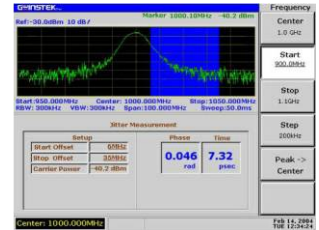
ACPR



OCBW



N-dB BW Measurement

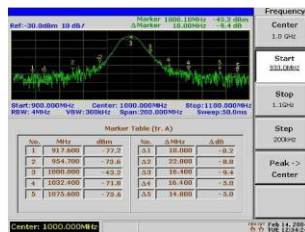
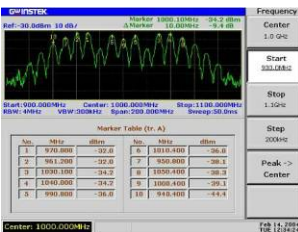


Jitter Measurement

GSP-830 provides various power measurement functions: ACPR, OCBW, Channel Power, Phase Jitter, and N-dB. Two adjacent channels as well as channels bands are shown at the same time with different color codes, letting you recognize the result at a glance. During power measurements, the

display is split in half showing all parameters together with the waveform.

## C. MARKER FUNCTION



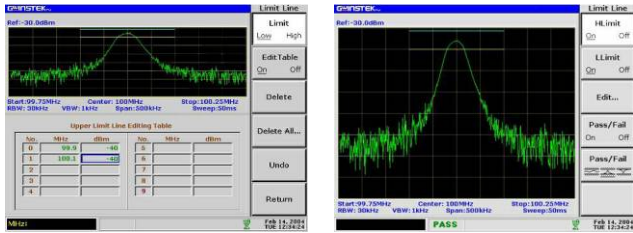
## D. CORRECTION TABLE FUNCTION



Using the 5 pairs of flexible and all-round markers in GSP-830, you can easily find and observe the signal peaks, track them, or measure the delta. The markers provide accurate status of any frequency in a table list, letting you grasp all signal aspects in a glance.

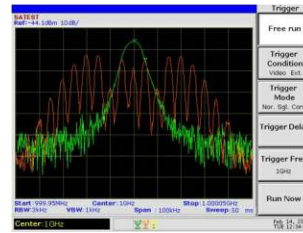
GSP-830 provides up to five sets of amplitude correction functionality for compensating antenna effect. Each correction set includes 30 amplitude adjustment points in independent frequencies, allowing adjustment of antenna effect over measurements.

## E. PASS/FAIL JUDGMENT



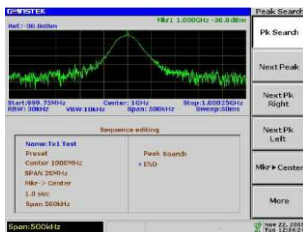
You can increase the production line efficiency by using the three types of GSP-830 Pass/Fail test setting (Hi, Lo, Curve) with high/low limit. GSP-830 swiftly and accurately determines whether the waveform is within the specified range or not. The display shows the low/high limit line shape in real time; the delta between the target shape is always clear.

## F. TRIGGER FUNCTION



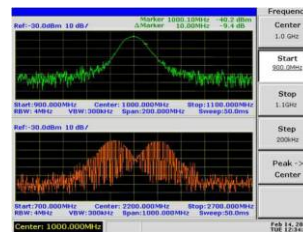
The configurable trigger feature adds a very flexible yet powerful triggering capability to GSP-830. You can select and set various trigger characteristics: source, mode, delay, frequency, etc.

## G. AUTO SEQUENCE MODE



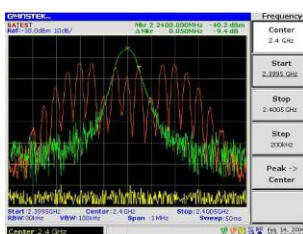
Automatic sequence feature offer a special functionality that frees you from complex programming; GSP-830 configures ATE test system by itself. After setting up sequence sets from the front panel, it will be very convenient to run different measurements in series (in a single key press) or to carry out the whole test sequences step by step.

## H. SPLIT WINDOWS DISPLAY IN LIVE MODE



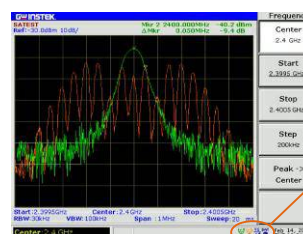
In the split window mode, you can measure two traces at the same time with different scale settings. More importantly, real-time display update is maintained under the split window mode. This feature is especially useful when measuring harmonics.

## I. THREE-TRACE INDEPENDENT DETECTION



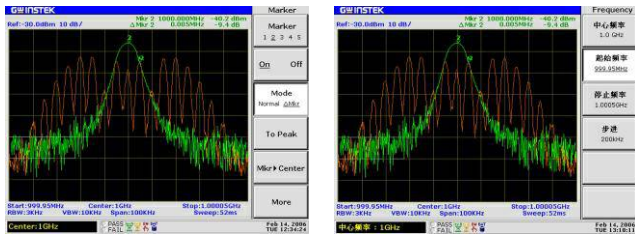
GSP-830 can display three traces at once, enhanced with various signal detection modes: peak, average, sample, etc. The other useful trace functions include trace math operations using the stored traces.

## J. STATUS INFORMATION PRESENTED BY ICONS



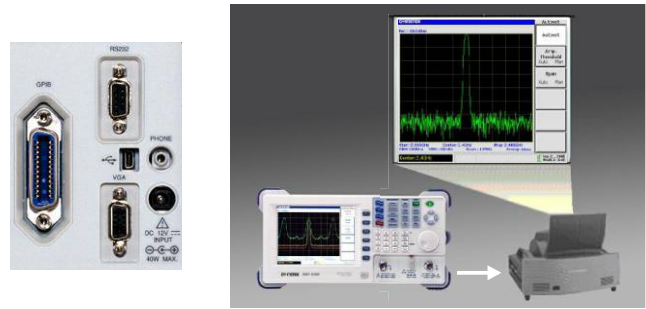
Breaking out of the traditional methodology, GSP-830 has adopted status icon to show the current instrument state in the display. The well-considered pictures help you grasp the current condition immediately. No need to worry about other functions or settings causing measurement errors.

## K. MULTI-LANGUAGE OPERATION



In order for you to operate the spectrum analyzer effectively, GSP-830 offers multi-language operation feature, which gives you the familiar environment and lets you dive into the RF measurement even at the first try.

## L. VGA OUTPUT



The VGA output terminal can be used for showing GSP-830 display content on an external device, such as projector screen or VGA monitor. It offers a huge benefit in a large amount of applications such as education and remote monitoring.

## M. USB INTERFACE INCLUDED IN THE STANDARD CONFIGURATION



GSP-830 provides multiple PC connections. In addition to the standard RS-232C and optional GPIB for ATE control, GSP-830 now includes the widely adopted USB Host for data transfer and display printout. You can directly connect Flash drives to USB Host port to transfer measurement data, or an external printer to directly

printout the display image. This feature improves the work efficiency and makes file transfer far more convenient.

## N. OPERATION TIME OF 3HOURS WITH THE BATTERY PACK



Li-Ion Battery Pack



Soft Carrying Case

Three types of power supplies are prepared for GSP-830: AC (100~240V), DC (+11~17V), and battery. Using the battery pack, you can operate GSP-830 for up to 3 hours without external power source. When using GSP-830 inside automobiles, the standard 12V supply provides not only the power source

but also battery charging. These multiple power choices will definitely satisfy your mobile measurement needs.

## SPECIFICATIONS

|                      |   |  |
|----------------------|---|--|
| FREQUENCY            | Frequency Range<br>Aging Rate<br>Span Range<br>Phase Noise<br>Sweep Time Range  | 9kHz ~ 3GHz<br>± 10ppm, 0-50°C, 5ppm/yr<br>2kHz ~ 3GHz in 1-2-5 sequence, full span, zero span<br>-80dBc/Hz @1GHz , 20kHz offset typical<br>50ms ~ 25.6s   |
| RESOLUTION BANDWIDTH | RBW Range<br>RBW Accuracy<br>Video Bandwidth Range  | 3kHz, 30kHz, 300kHz, 4MHz<br>15%<br>10Hz ~ 1MHz in 1-3 steps   |
| AMPLITUDE            | Measurement Range<br><br>Overload Protection<br>Reference Level Range<br>Accuracy<br>Frequency Flatness<br>Display Range Linearity                                      | -103dBm ~ +20dBm, 1MHz ~ 15MHz, Ref. Level ≥ -30dBm<br>-120 ± 1dBm ~ +20dBm, 15MHz ~ 600MHz, Ref. Level@-50dBm<br>-117 ± 1dBm ~ +20dBm, 600MHz~2.3GHz, Ref. Level@-50dBm<br>-115 ± 1dBm ~ +20dBm, 2.3GHz ~ 3GHz<br>+30dBm, 25VDC<br>-110dBm ~ +20dBm<br>± 1dB @100MHz<br>± 1dB<br>± 1dB over 70dB  |
| DYNAMIC RANGE        | Average Noise Floor<br><br>Third Inter-Modulation<br>Harmonic Distortion<br>Non-Harmonic Spurious   | -135dBm/Hz, 1MHz ~ 15MHz, Ref. Level ≥ -30dBm<br>-152 ± 1dBm/Hz, 15MHz ~ 600MHz, Ref. Level@-50dBm<br>-149 ± 1dBm/Hz, 600MHz ~ 2.3GHz, Ref. Level@-50dBm<br>-147 ± 1dBm/Hz, 2.3GHz ~ 3GHz<br>< -70dBc @-40dBm Input , Ref. Level@-30dBm<br>< -60dBc RF Input < -40dBm, Ref. Level@-30dBm<br>< -110dBm @3kHz RBW  |
| GENERAL              | Display<br>Internal Memory<br>Markers<br>Trace Detection<br>Power Measurement<br>Autoset Function<br>Sequence   | 640 x 480 high resolution color TFT LCD<br>10 Traces , 10 Setup info , 10 Limit lines , 5 Corrections , 10 Sequences<br>10 Markers for peaks; 5 normal-delta marker pairs ; Functions: Delta , Peak , Marker Track<br>3 traces with Peak, Maximum hold, Freeze, Average and Trace math<br>ACPR, OCBW, Channel power, N dB BW, and Phase jitter<br>Auto tuning the measurement result for observation<br>Automated test by user-defined macros without any remote control |
| CONNECTORS           | RF-Input<br>External Reference<br>Clock Input<br>External Trigger Input<br>Reference Clock Output<br>DC Input<br>RS-232C<br>USB Connector<br>DC Voltage Output Terminal | Type: N female, 50 Ω nominal ; RF input VSWR: <2 : 1 @ 0dBm Ref. Level<br>Type: BNC female,<br>1M, 1.544M, 2.048M, 5M, 10M, 10.24M, 13M, 15.36M, 15.4M, 19.2M<br>Type: BNC female, accept +5-V TTL signal<br>Type: BNC female, 10MHz<br>Jack: 5.5mm, 12V<br>Sub-D 9 pins female<br>Front panel: type A receptacle ; Rear panel: type mini-B receptacle<br>Type: SMB male, outputs +9V/100mA max.   |
| POWER SOURCE         | AC 100 ~ 240V, 50/60Hz  |  |
| ACCESSORIES          | Power cord x 1 , User manual x 1  |  |
| DIMENSIONS & WEIGHT  | 330(W) x 170(H) x 340(D) mm, Approx. 6kg  |  |

### OPTION LIST

|   |   |   |
|---|---|---|
| Opt. 01 Tracking Generator                        | Frequency Range<br>Amplitude Range<br>Amplitude Accuracy<br>Amplitude Flatness<br>Harmonics<br>Reverse Power<br>Impedance<br>TG output VSWR | 9kHz ~ 3GHz<br>-50dBm ~ 0dBm<br>±1dB@100MHz, 0dBm<br>±1dB@0dBm<br><-30dBc typical<br>+30dBm<br>Type: N female, 50 Ω nominal<br>< 2 : 1                                    |
| Opt. 02 Battery pack                              |   | 10.8V Li-Ion battery pack x 2   |
| Opt. 03 ±1ppm Stability                           |   | ±1ppm , 0 ~ 50 °C, ±1ppm/yr   |
| Opt. 04 300Hz RBW                                 |   | RBW 300Hz, 3dB bandwidth<br>RBW accuracy : 20%  |
| Opt. 05 9kHz & 120kHz RBW(*)                      |   | RBW selections : 9kHz and 120kHz, 6dB bandwidth<br>RBW accuracy : 15%   |
| Opt. 06 10kHz & 100kHz RBW(*)                     |   | RBW selections : 10kHz and 100kHz, 3dB bandwidth<br>RBW accuracy : 15%  |
| Opt. 07 AM/FM Demodulator & 10kHz & 100kHz RBW(*) |   | Demodulation : AM , FM<br>Output : internal speaker, 3.5mm stereo jack wired for mono operation<br>RBW selections : 10kHz and 100kHz, 3dB bandwidth<br>RBW accuracy : 15% |
| Opt. 08 GPIB Interface                            |   | IEEE 488 bus  |

### OPTIONAL ACCESSORY

|                            |   |
|----------------------------|---|
| GSC-001 Soft Carrying Case | Soft Carrying Case  |
| GKT-001 General Kit set    | ADP-002: adaptor, SMA(J/F) ~ N(P/M) x 2<br>ATN-100: 10dB attenuator, N(J) ~ N(P) x 1<br>GTL-303: RF cable assembly(SMA(P),RD316,600mm)x2<br>GSC-002: Kit box x 1              |
| GKT-002 CATV Kit set       | ADP-001: adaptor, BNC(J/F) ~ N(P/M) x 2<br>ADP-101: adaptor, BNC(J/F)75 Ω ~ BNC(P/M)50 Ω x 2<br>GTL-304: RF cable assembly(RG223, N(P)-N(J), 300mm)x2<br>GSC-003: Kit box x 1 |
| GKT-003 RLB Kit set        | GAK-001: termination 50 Ω , N(P) x 1<br>GAK-002: Cap with chain, N(P) x 1<br>GTL-302: RF cable assembly(RG223, N(P), 300mm)x2<br>GSC-004: Kit box x 1                         |
| GTL-401 DC Power Cord      | DC power cord with DC Jack and lighter plug, Current 5A   |
| GAP-801 Pre-Amplifier      | GAP-801: Pre-amplifier with 10dB(typical) 9kHz ~ 6GHz   |

NOTE : 1. (\*) Only one option can be selected among Opt. 05 to 07. 2. Opt. 01 & 03 to 07 are factory-installed. Specifications subject to change without notice. SP-830GDOBH

**ORDERING INFORMATION**  
GSP-830 3GHz Spectrum Analyzer

**STANDARD ACCESSORIES**  
User Manual , Power Cord

**OPTION**  
Please see SPECIFICATIONS Page

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