

**Integrated Services and Consultancy (ISC)**, a ESA Group Company, is a leading provider of electronic test and measuring instruments for industry and educational institutions since 1993. ISC has a team of highly competent professionals who have excellent experience in building laboratory work benches both for academia and industry.

# Test & Measuring Instruments for Engineering Laboratories



Analog Oscilloscope



Spectrum Analyzer with  
GRF Kit



Multiple O/P Power Supply



Digital Storage Oscilloscope



## 40 Years of Reput & Trust

We take prides in creating more than 40 years of satisfied customer experiences throughout the world. Today, GW Instek is considered the most Reliable Brand for professional measurement instruments with supreme quality and the lowest TCO - Total Cost per Ownership. We invite you to be part of GW Instek success story and help perpetuate this value.



## DURABLE Uncompromised Durability

With an overriding commitment to provide highly durable products, GW Instek is your most Reliable choice when it comes to selecting the best measurement instruments with the lowest TCO - Total Cost per Ownership. Highly durable products mean long product lifetime capable of reducing operation & maintenance costs. This is definitely what you need to consider before investing.



## TRUST & PROMISE Your Most Trustworthy Partner

Being your most trustworthy and Reliable Partner, GW Instek promises to proactively provide insightful business solutions and products with the lowest TCO - Total Cost per Ownership, assisting your business to thrive in the highly competitive world. From feasibility evaluation, product selection, solution adaptation to timely after-sales service, we are dedicated to serving each individual customer and making your professional life easier than ever.

ISC provides high precision electrical Test & Measuring Instruments from Good Will Instrument, GW INSTEK, Taiwan. GW INSTEK is a global reputed brand well known for quality, reliability, performance and innovation. It provides high quality yet economical measurement solutions for the educational and industrial manufacturing sectors alike.

Our products are being used in reputed private, government and deemed universities. These include institutions like IITs, NITs, IIITs, IISc, IISERs, BITS etc. All GW INSTEK products adhere to ISO quality and environmental management standards, as well as European CE safety regulations that are globally trusted.

ISC also provides exceptional after sales support, technical training, calibration services and comprehensive maintenance/service support.

## PROPOSED LABORATORY SOLUTIONS

Engineering Laboratory	Lab Bench Requirement	Proposed GW INSTEK Solution
Electronics Labs	<ul style="list-style-type: none"> <li>Power Supply</li> <li>Function Generator/AFG</li> <li>Digital Oscilloscope</li> <li>Digital Multimeter</li> </ul>	<ul style="list-style-type: none"> <li>Multi O/P DC Power Supply: GPE-4323</li> <li>3MHz DDS Function Generator: SFG-1013/5MHz Arbitrary Function Generator: AFG-2005</li> <li>50MHz 2-Ch Digital Storage Oscilloscope: GDS-1052U</li> <li>Bench Top DMM: GDM-8341</li> </ul>
Electrical Labs	<ul style="list-style-type: none"> <li>Power Supply</li> <li>Oscilloscope</li> <li>Digital Multimeter</li> <li>LCR Meter</li> </ul>	<ul style="list-style-type: none"> <li>Multi O/P DC Power Supply: GPE-4323</li> <li>30MHz Analog Oscilloscope: GOS-630FC</li> <li>Bench Top Digital Multi Meter: GDM-8341</li> <li>Hand-held/Bench Top LCR Meter: LCR-914/LCR-6002</li> </ul>
Power Electronics Lab	<ul style="list-style-type: none"> <li>Digital Oscilloscope (for Power Analysis)</li> <li>Digital Multimeter</li> </ul>	<ul style="list-style-type: none"> <li>150MHz 4-CH DSO with Power Analysis S/W+ Diff Probe + Current Probe: GDS-3154+DS3-PWR +GDP-025+GCP-05</li> <li>5.5 Digit Bench Top Digital Multi Meter : GDM-8351</li> </ul>
Mechatronics Labs	<ul style="list-style-type: none"> <li>Leakage Tester</li> <li>Insulation Resistance Tester</li> <li>Clamp Meter</li> <li>LCR Meter</li> </ul>	<ul style="list-style-type: none"> <li>Leakage Current Tester: GLC-9000</li> <li>AC/IR Tester: GPT-9612</li> <li>AC/DC Clamp Meter: GCM-403</li> <li>Bench Top LCR Meter, 2KHz: LCR-6002</li> </ul>
RF Microwave & Wireless Communication	<ul style="list-style-type: none"> <li>Digital Oscilloscope</li> <li>Spectrum Analyzer</li> <li>Signal Generator</li> <li>Audio Generator</li> </ul>	<ul style="list-style-type: none"> <li>50MHz 4-CH DSO: GDS-1054B / 70MHz 4-CH DSO: GDS-1074B</li> <li>3GHz Spectrum Analyzer with Tracking Generator: GSP-830+TG</li> <li>Basic 3GHz Spectrum Analyzer with RF Training Kit : GSP-730+GRF-1300A</li> <li>PC Based RF Generator : USG LF-44</li> <li>1MHz Audio Generator: GAG-809/GAG-810</li> </ul>
Embedded Systems Labs and Digital Signal Processing Labs	<ul style="list-style-type: none"> <li>Power Supply</li> <li>Mixed Signal Oscilloscope</li> <li>Function Generator</li> </ul>	<ul style="list-style-type: none"> <li>Multi O/P DC Power Supply: Prog/Normal: GPD-4303S/GPE-4323</li> <li>70MHz, 2-Ch/4-Ch DSO with 8-CH Logic Analyzer &amp; Training Kit: GDS-2072A/GDS-2074A+DS2-08LA+GDB-03</li> <li>5MHz Arbitrary Function Generator: AFG-2005 / 25MHz Dual Ch AFG: AFG-2225</li> </ul>
EMI/EMC LAB	<ul style="list-style-type: none"> <li>Tracking Generator</li> <li>EMC Pretest &amp; EMI Probe Kit</li> </ul>	<ul style="list-style-type: none"> <li>3.25GHz Spectrum Analyzer with Tracking Generator with Built-in EMC Pretest Mode: GSP-9330</li> <li>EMI KIT: GKT-008</li> </ul>

## BASIC ENGINEERING TEST LAB BENCH

- 30MHz 30 MHz Analog Oscilloscope with Frequency Counter
- 50MHz Digital Storage Oscilloscope with Limited Life Time Warranty
- 3MHz DDS FG
- Multiple O/P DC Power Supply
- 50000 Counts Dual Display DMM
- Hand-held LCR Meter



**GOS-630FC**



**GDS-1052U**



**SFG-1013**



**GPE-4323**



**GDM-8341**



**LCR-914**

## ADVANCED ENGINEERING TEST LAB BENCH

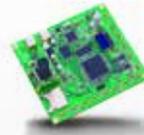
- 70MHz DSO with MSO /LA /AFG/DDS FG/GDB-03 Options to work as MSO
- 70MHz Digital Storage Oscilloscope with 4-CH I/P, 7" Display
- Arbitrary Function Generator with AM/FM/Sweep/Counter
- Multiple O/P Programmable DC Power Supply
- 5 ½ Digits Dual Display DMM
- Bench-top Precision LCR Meter
- 3GHz High end- Spectrum Analyzer with Tracking Generator
- 3GHz Basic Spectrum Analyzer with RF Training Kit & USB based R Generator



**GDS-2072A  
(2-Ch DSO -LA Opn.)**



**FG-225P  
Add on Module)**



**GDB-03**



**DS2-08LA**



**DS2-FGN**



**GDS-1074B (4-Ch DSO)**



**AFG-2125**



**GPD-4303S**



**GDM-8351**



**LCR-6002**



**GSP-830 + TG**



**GSP-730 + GRF-1300A+ USG-LF-044**

## GW INSTRON - ELECTRONIC TEST AND MEASURING INSTRUMENTS OFFERING FOR ENGINEERING LABS

### Oscilloscopes: Analogue /Digital Storage

#### 30MHz Analogue Oscilloscope: GOS-630FC

- 1mV/div High Vertical Sensitivity
- Internal 5 Digits Real-Time Freq Counter
- LCD Readout Display for Vertical/ Horizontal Scale /Frequency Measurement



#### 50MHz, 2-Ch DSO: GDS-1052U

- 250MSa/s Real-Time and 25GSa/s ETS
- 19 Auto Measurements with USB Port for PC Connection
- Limited Lifetime Warranty



#### 70MHz, 2-ch/4ch, DSO: GDS-1072B/GDS-1074B

- 1GSa/s maximum sampling rate with 10M maximum memory depth for each ch
- 7" , Colour LCD display
- 1Mpts FFT frequency domain signal display
- Zero Key function for horizontal time, vertical voltage and triggering
- Three(3) Years Warranty



### Function Generators

#### 3MHz DDS Function Generator: SFG-1013

- High Frequency Accuracy :  $\pm 20\text{ppm}$
- High Frequency Stability :  $\pm 20\text{ppm}$
- Max. Frequency Resolution : 100mHz
- Voltage Display



#### 5MHz Arbitrary Function Generator: AFG-2005

- 0.1Hz Resolution with Sine, Square, Triangular, Noise and Arb W/F
- 1% ~ 99% adjustable duty cycle for Sq W/F
- Amplitude, DC Offset and Other Key Setting Information Shown on the 3.5" LCD Screen Simultaneously
- PC Arbitrary Waveform Editing Software



#### 25MHz Arbitrary Function Generator: AFG-2125

- 0.1Hz Resolution with Sine, Square, Triangular, Noise and Arb W/F
- 20MSa/s Sampling Rate, 10 bit Vert Res & 4k Point Memory for Arb W/F
- 1% ~ 99% duty cycle for Sq W/F
- AM/FM/FSK Modulation, Sweep, and Frequency Counter Functions
- PC Arbitrary Waveform Editing Software



## Dual Ch Arbitrary Waveform Generator

### 25MHz, True Dual Channel AFG: AFG-2225

- Wide Frequency Ranges from 1 $\mu$ Hz to 25MHz (sine/square wave). with 1  $\mu$ Hz Resolution
- Couple, Tracking, Phase Operations of Dual Channel are Supported
- 1% ~ 99% Adjustable Duty Cycle for Sq W/F
- Built-in Standard AM/FM/PM/FSK/SUM/ Sweep/Burst and Frequency Counter



### 30MHz, Dual Channel AFG: AFG-3202

- 250MS/S, 16Bit Vert Resln, with 8 Mega Memory
- Harmonic signal generator/Pulse Generator
- Dual Ch with support SUM modulation, coupling, tracking, and phase functions
- Built-in AM/FM/PM/FSK/PWM/SUM modulation, sweep and burst functions
- Provide USB/LAN/GPIB (optional) instrument control interface



## DC Power Supplies

### 4 O/P DC Power Supply: GPE-4323

- 4 Independent Isolated Output, with 4.3 Inch LCD Display,
- Setting & Read back Resolution 10mA / 1Ma, Output ON/OFF, Key Lock Function,
- Analog Control (Remote I/O) for O/p ON / OFF
- Set View function for checking an original V / I setting during output on,
- Tracking series and parallel operation



### 4 O/p , Programmable High Res DC Power Supply: GPD-4303S

- Resolution 1mV/1mA, Digital panel control
- Coarse/fine control, 4 Sets Save/Recall,
- Key-Lock , Output on/off function
- Tracking Series and Parallel mode,
- USB Std I/F, PC S/W & USB Driver, Labview Driver



## Spectrum Analyzer

### 3GHz Spectrum Analyzer : GSP-830+ TG Opt.

- Low noise Floor (-117dBm @1Ghz,3Khz RBW)
- Sequence programming Function, ACPR, OCBW, Channel Power
- N-dB, Phase jitter measurement, Pass/Fail Test with Limit Line Editing.5 marker with delta marker, Peak Function
- Split Windows allows separate settings, Optional tracking generator and preamplifier



### 3GHz Spectrum Analyser with RF raining Kit & RF genr: GSP-730+GRF-1300A+ USG LF-44

- Auto set Function and noise level: <-100dBm
- RBW Range :30Khz,100kHz,300kHz,1Mhz, ACPR/CHPW/OCBW Measurement 3 traces in different colors,
- Split window function, Limit line function



## Mixed Signal Oscilloscopes

### GDS-2072A+FG-225P/DS2-FGN+GDB-03+DS2-08LA

- 70 MHz 2-Ch DSO /MSO with 25Mhz AFG/5MHz DDS module, 8-Ch Logic Analyzer,Signal Source/Training Kit
- 2GSa/s RTS, 2Mega Points Record Length
- 80,000 wfm/s of Waveform Update Rate,
- 8 inch TFT LCD Display, Built-in Segmented Memory and Waveform Search Functions,
- 36 Automatic Measurement Functions, Optional 8 Ch Logic analyzer(MSO), Optional FG
- Flexible Remote Control Connectivity Standard: USB ; Option: LAN/GPIB
- Upgradable CAN/LIN bus analysis , Advanced Logic, Data log , DVM and H-expansion functionalities



## LCR Meters

### 1KHz Hand-held LCR Meter: LCR-914

- Auto LCR Mode for DUT Measuring
- Measurement Parameter: L,C,R,D,Q, ESR,  $\theta$ , DCR, Parallel/Series Testing Mode
- Sorting Mode for Quality Control,
- Data Hold and Zero Mode Supported,
- Auto Range, Auto Backlit, Auto power-off



### 2KHz, Bench Top LCR Meter: LCR-6002

- Consecutive test frequency Measuring speed up to 25ms (max.)
- Full frequency range or spot OPEN/SHORT
- 16 major/secondary parameter measurement combinations
- DCR measurement and internal D.C. bias voltage ( $\pm 2.5V$ ), PASS/FAIL judgment
- Auto Level Control (ALC) function
- Standard interface : RS-232C, Handler and USB storage



## Digital Multimeters

### 50000 Counts Dual Display DMM : GDM-8341

- 50000 Counts, VFD display, with Dual Measurement/Dual display,
- Auto/manual Ranging, True RMS ,AC, AC+DC) measurements,
- Standard USB device interface for PC Conn.



### 5 ½ Digit Dual Display DMM : GDM-8351

- True RMS (AC, AC+DC) measurements, Auto/manual selection
- Continuity beeper, diode test, capacitance, frequency, temperature
- REL/REL#, Compare, Hold, dB, dBm, Math (MX+B, %, 1/X) Digital I/O provides dual mode (standard Compare and User definition modes)
- Standard RS-232C and USB device interface



## Other Specific Instruments

### Audio Generator: GAG-809/GAG-810



### Automatic Distortion meter: GAD-201G



### AC Millivolt Meter: GVT-417B/GVT-427B





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