

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *HBM / LDS Nicolet GP-16* at our website: *Click HERE*

DATA ACQUISITION SYSTEM LIBERTY

Portable, rugged, stand alone DAQ system

The LIBERTY DAQ System combines the power of a high end lab DAQ system with extreme portability and ruggedness. And although power is minimized, performance is not:

- **4/8 slot mainframe for up to 256 ch per system**
- **Input modules for DC, Bridge, ICP®, TC, CANbus and others**
- **Sample rate to 1 MS/s aggregate, 100 kS/s per ch**
- **Stand alone operation without PC connected**
- **Internal storage to 8 GB CF card**
- **IRIG time code interface for synchronization**
- **Runs from AC, DC or internal battery**
- **Extremely robust, exceeds MIL-STD-810 for shock**
- **Wide operating temperature range**
- **Sealed enclosure for moisture and dust protection**



PORTABLE AND RUGGEDIZED DATA ACQUISITION

The LIBERTY DAQ System gives you the freedom to do your job faster, smarter and better. Forget all the past constraints that reduced your productivity. Set yourself free from your limited channel counts. Traditional bulky recorders and fragile, performance-limited PC systems just can't do an adequate job in your increasingly complex in-vehicle measurements. With LIBERTY, you'll get the job done without worrying which bottleneck you'll find next.



LIBERTY's compact 4 slot mainframe (approximately an 8" cube) accommodates from 8 to 128 channels. With low power battery operation and the ability to record data during 100 g shock, LIBERTY is the right solution for your rugged data acquisition needs.

LIBERTY EXAMPLE APPLICATIONS

Automotive Road Load Testing

Record hundreds of conditioned channels over the longest course, continuously or triggered. Data is quickly transferred to a PC for analysis through a wireless upload after returning to the garage.

Correlation Tests

You can log weeks of raw information to the Compact Flash cards and exchange cards in seconds for the next round of tests.

Heavy Equipment Field Testing

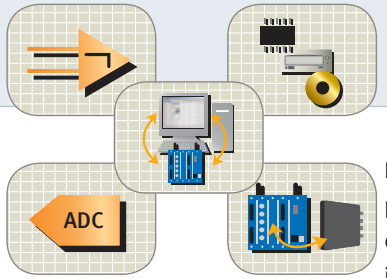
Use LIBERTY to digitize hydraulic pressures on the boom and view the data in real-time on the ground through the wireless connection. You can hot-swap batteries or recharge via a lightweight cable for unlimited test time.

Aerospace Helicopter Rotor Testing

LIBERTY mounts in any orientation without shock or vibration worries, so designing the test is easier. The configurable anti-alias filters and low-noise amplifiers assure clean, reliable signals. By monitoring real-time data through a wireless Ethernet connection, you can confirm a successful test immediately.

HBM Genesis HighSpeed products were previously sold under the Nicolet brand. The Nicolet brand is owned by Thermo Fisher Scientific Inc. Corporation.

Liberate yourself!



No more performance **concerns:**
- Unlimited channels with rates to 100 kS/s per channel
- Aggregate sample rate of 1 MS/s
- Up to 8 GBs of Compact Flash memory
- Synchronous sampling across all channels, no time skew
- Optional IRIG can be used to sync data from multiple mainframes

No more installation **concerns:**
- Operates up to 100 g shock
- IP54/NEMA 12X sealed system installs anywhere
- -10 to +55 °C operation for in-vehicle and field testing

No more vehicle loading **concerns:**
- Extremely small and lightweight
- All day internal battery operation or low-current DC input
- No need for heavy extra batteries and cabling
- Differential inputs avoid ground loops

No more data integrity **concerns:**
- Full-spectrum anti-alias filters, both time and frequency-domain
- Real-time display anywhere on your network

No more connectivity **concerns:**
- Fast Ethernet data transfer: wired or wireless
- Open 8 GB recordings in seconds with Compact Flash modules
- Exports data in over 20 popular formats including RPC, I-DEAS, MATLAB

Based on the concept of a mainframe with plug-in modules, LIBERTY offers a wealth of capabilities. Up to 256 channels can be installed within the mainframe. Multiple mainframes can be used for large scale testing. And with high performance signal conditioning and 16-bit accuracy, LIBERTY is the right solution for your difficult measurement task.



Signal Conditioning

Four-slot and eight-slot LIBERTY mainframes accept a family of signal conditioners for all common sensors. LIBERTY automatically recognizes all combinations of signal conditioners with plug-and-play setup on your PC.

The *8 channel general purpose amplifier* offers single-ended inputs; the *16 channel general purpose amplifier* offers differential inputs. Both amps offer 16-bit resolution and up to 100 kS/s simultaneous sampling.

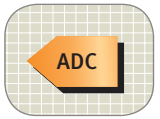
The *8 channel bridge amplifier* supports full, half and quarter bridge, all software selectable. Bridge completion, shunt cal selection and auto balance are also software selectable. For additional flexibility, the inputs can be configured as differential.

The *8 channel ICP amplifier* supports any sensors that require ICP power such as accelerometers or microphones or can be configured for DC voltage.

The *32 channel Dc-32 amplifier* packs 32 simultaneously sampled differential inputs into one LIBERTY slot. By adding one or two *16 channel thermocouple breakout boxes*, LIBERTY can support 32 thermocouple channels with built in cold junction compensation. The breakout box allows the TC signals to be measured right next to the sensor, thus helping to reduce noise.

The CANbus and *Digital Input* module supports up to 64 CAN 2.0B inputs as well as 32 digital input channels. The digital inputs also support counter/timer, frequency, RPM and quadrature inputs.

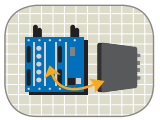
The *2 channel 5B carrier module* enables various other signals to be conditioned and recorded with LIBERTY. Available 5B modules include Frequency, RPM, PT100 and many others.



Acquisition

LIBERTY's compact 4-slot enclosure (approximately an 8"/20 cm cube) accommodates from eight to 128 channels internally. For even larger tests, use our 8-slot mainframe to house up to 256 channels. For larger tests, add the IRIG option to each mainframe and have data from multiple mainframes time aligned. LDS' *Perception* software enables complete control of multiple LIBERTY mainframes from a single PC.

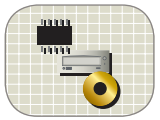




Total Battery Operation

An extremely rugged and low power design allows the LIBERTY to take the punishment of in-vehicle tests. Each LIBERTY board has an average power requirement of 1 to 5 W resulting in a maximum 30 W power requirement for the entire system. Plug additional battery modules into the amplifier slots to increase stand-alone operation time. For continuous stand-alone operation, LIBERTY's power management system lets you hot swap the battery modules.

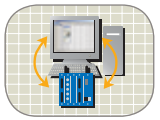
State-of-the-Art solution



Storage

LIBERTY's auto-on feature means you can start LIBERTY with the turn of the ignition key (or other DC power source); there is no need for a fragile PC in the vehicle.

At the end of the test, you can upload data to your PC via fast Ethernet, or simply exchange the Compact Flash card to transfer 8 GB in seconds! LIBERTY can also be operated without the Compact Flash card, in which case data is streamed directly to the attached PC or laptop via Ethernet.



Control

Once configured, LIBERTY operates as a stand-alone recorder with no dependence on your PC. LIBERTY also provides real-time display and control from a PC anywhere n your network over standard Ethernet. Support for wireless Ethernet lets you see your signals in the passenger seat or in the pit lane without being tethered to a bulky cable.

The *Perception* Software Simplifies Control

The software that controls a system is important to your productivity. Before you touch a button, the *Perception* software automatically discovers all available hardware on the network and begins displaying your signals. A spreadsheet-style setup lets you group similar amplifiers together for adjustment with a single command. When you need advanced features like multiple rates, or a wide variety of display types, they are available at a keystroke.

Once set up from your PC, all settings are stored in flash memory and LIBERTY is ready for stand-alone acquisition.

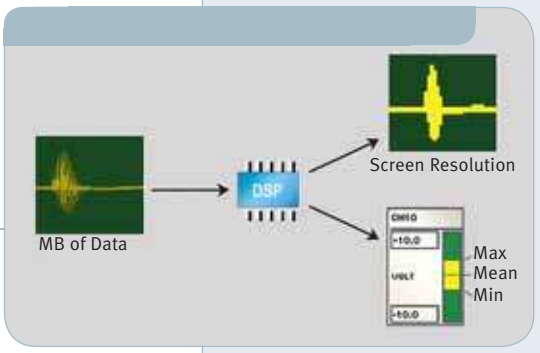
Perception allows you to select different sample rates per acquisition board and keep the size of your recordings manageable. Additionally, the advanced trigger functionality enables you to record only events of interest and discard the rest – saving valuable disk space.

For more in-depth analysis and reporting, use the powerful *FlexPro* software or export data in over 20 formats for use in MATLAB, I-DEAS and other popular programs.



StatStream®

Most PC-based DAQ systems can easily acquire megabytes of data. But even the most powerful PC is poorly equipped to display and process files of megabytes or gigabytes. In fact, most DAQ systems fail to display over 99% of your live data!



The exclusive *StatStream* technology accelerates all aspects of your measurement task with dedicated hardware and firmware. While recording, *StatStream* pre-processes a display summary at the full resolution of your PC monitor. Even a single-point transient on any channel is accurately displayed.

In addition, *StatStream* continuously calculates parameter values on blocks of data. You know the vital statistics at every moment, including warnings if any channel goes off scale. The *Perception* software offers a variety of meters to display these on-line parameters.

When reviewing your stored files, the embedded *StatStream* data enables an accurate, detailed overview of any size file in seconds. Unlike competitive systems, your PC has no need to inspect gigabytes of information just to display the last kilobyte. As you zoom in, more detail is displayed while always maintaining the highest visible resolution.

Upgrade to the Most Advanced DAQ System

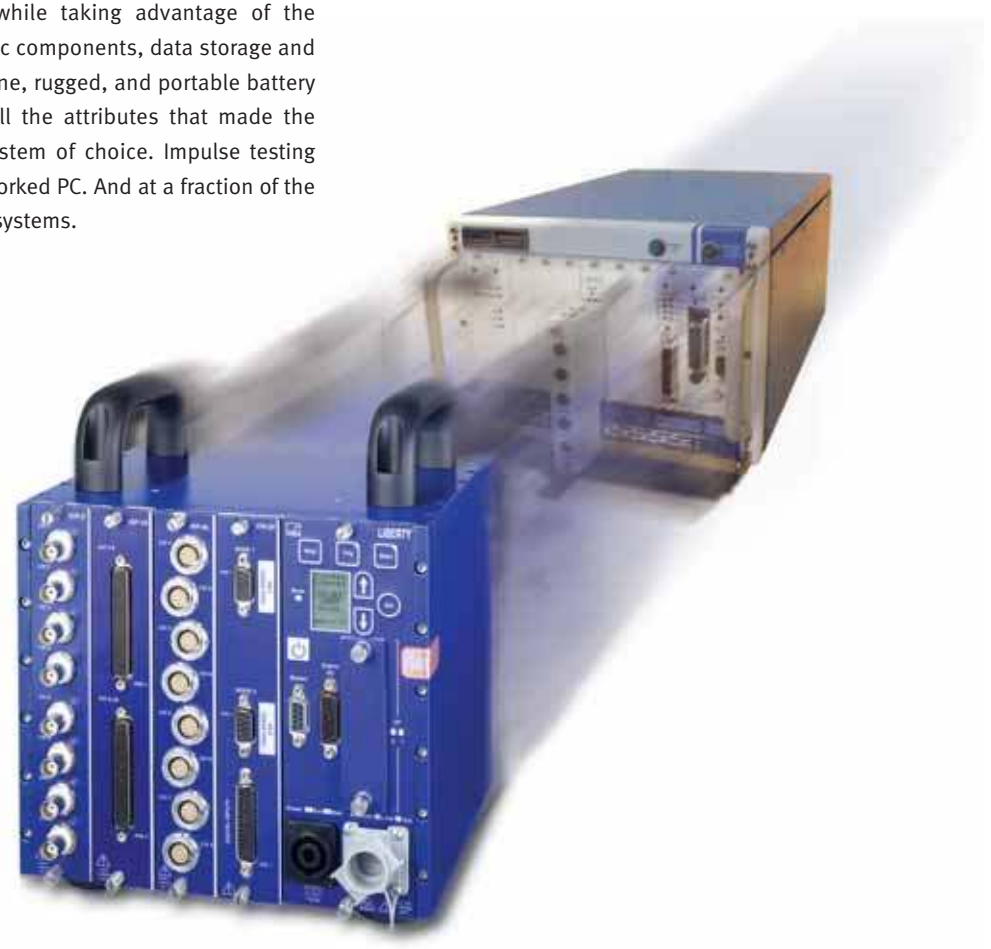
Replace MEGADAC with LIBERTY

The MEGADAC family of high performance, extremely high reliability data acquisition and signal conditioning equipment can be directly replaced by the LIBERTY. Similar to the MEGADAC, LIBERTY has been designed to meet demanding applications in the automotive, aerospace and structural testing communities. LIBERTY retains the modular design and programmable input modules of the MEGADAC, while taking advantage of the newest technology in electronic components, data storage and software power. The stand-alone, rugged, and portable battery operated LIBERTY enhances all the attributes that made the MEGADAC your acquisition system of choice. Impulse testing with all the flexibility of a networked PC. And at a fraction of the cost and space of competitive systems.

Available Acquisition Boards Summary

Model	Input Type	Channels	Application
GP-8	Single Ended	8	General purpose; scope probes or external signal conditioners
GP-16	Differential	16	General purpose; floating signals
Bridge	Bridge/Diff	8	Strain gage, strain-based sensors
ICP	Single Ended	8	ICP-type accelerometers or force sensors
DC-32	Differential	32	General purpose; floating signals
DC-32/TC	TC/Diff	16/32	J, K, E, T, N, S, R or B thermocouple
CAN/DI	CANbus	32/node	Data from CANbus
CAN/DI	Digital	32	Event inputs as well as counter/timer, frequency, RPM or quadrature encoder

Options:
- *IRIG expansion board for precise timing and synchronization.*
- *5B carrier module allows up to two 5B modules to be used with* LIBERTY. *The output of the 5B is fed into one of the general purpose channels. Use this carrier to record PT100 or current inputs with* LIBERTY.



ICP® is a registered trademark of PCB Group, Inc., Depew, New York.

Head Office
HBM GmbH
Im Tiefen See 45
64293 Darmstadt
Germany
Tel: +49 6151 8030
Email: info@hbm.com

France
Sales Office
LDS Test and Measurement SARL
9 ave du Canada, Les Ulis, BP 221
91942 Courtaboeuf Cedex
Tel: +33 (0)1 64 86 45 45
Email: info@hbm.com

Germany
Sales Office
LDS Test and Measurement GmbH
Carl-Zeiss-Ring 11-13
85737 Ismaning
Tel: +49 89 92 33 33 0
Email: info@hbm.com

UK
Sales Office
HBM United Kingdom Limited
1 Churchill Court, 58 Station Road
North Harrow, Middlesex, HA2 7SA
Tel: +44 (0) 208 515 6100
Email: info@uk.hbm.com

USA
Sales Office
LDS Test and Measurement LLC
8551 Research Way, M/S 140
Middleton, WI 53562
Tel : +1 (608) 821 6600
Email: info@hbm.com

PR China
Sales Office
LDS Test and Measurement
Room 2912, Jing Guang Centre
Beijing, China 100020
Tel: +86 10 6597 4006
Email: info@hbm.com

www.hbm.com/highspeed

HBM reserves the right to change this document without notice. It provides outline specification only and cannot be used as the basis of any contract.

S2651-1.0 en

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP