AIR-SEA SYSTEM II
GRAVITY METER

MICRO g LACOSTE
A DIVISION OF LRS

THE LATEST GENERATION OF DYNAMIC GRAVITY METERS

In 1965 LaCoste & Romberg introduced the world's first dynamically stabilized platform gravity meter. These meters revolutionized the geophysics world by making it possible, for the first time, to take highly accurate gravity measurements from a moving ship or aircraft. Since then, over a hundred of these instruments have sailed or flown around the world, logging millions of hours of gravity data. In 2005 LaCoste and Romberg merged with Micro-g Solutions to form Micro-g LaCoste. The new company continues to produce the finest metal spring based gravimeters available for airborne, marine and borehole applications.

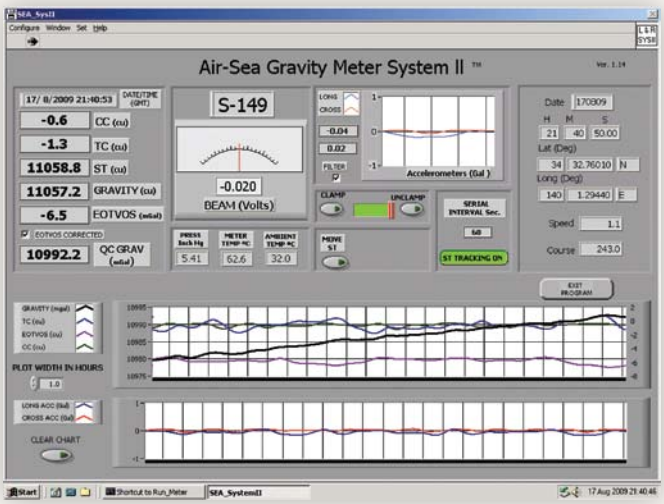
Detail of the gimbal-mounted gravity sensor.

The Air-Sea System II Gravity Meter is designed to meet or exceed our customer's requirements for a robust, accurate and relatively compact system to operate in some of the most demanding environments on earth. The system has proven itself, with more than 40 new or upgraded Gravity Meters in operation around the world. Based on our famous, time-tested Zero-Length Spring™ sensor technology, the Air-Sea System II Gravity Meter incorporates an advanced electronics system, user-friendly software, and a more compact, self contained sensor platform.

The Air-Sea Gravity System II offers capabilities unmatched by any stable-platform system currently in service. Fiber-Optic gyros, state of the art accelerometers, a tightly integrated digital control system and modern digital filters offer increased precision and greater reliability, even while running unattended.

CONTROL SYSTEM FEATURES

- Microsoft Windows™ Interface
- Simple configuration
- Separate Air and Sea Versions
- Real Time Data Output to Serial Port and Internal Hard Drive at 1 Hz
- Data Output spreadsheet compatible
- GPS Input
- User selectable FIR low-pass digital filtering
- Real Time EOTVOS correction on the Sea Version
- Real Time graphic plots with user selectable time bases
- Self diagnostics at start-up with logged report



LATEST ENHANCEMENTS

Gyros
The Air-Sea System II Gravity Meter has solid-state Fiber Optic Gyros (FOGs). The highest sensitivity is possible using direct digital output. The system is also compatible with new mechanical gyros.

Digital Control System
The all-new digital control system records data and monitors system performance with greater reliability.

DSP Platform Control
A digital processor board keeps the platform level independently of the system computer. This control system allows higher platform gain which gives faster response times and smaller errors.

Repeatability
Laboratory tests show a dynamic repeatability of better than 0.25 milliGals.

Increased Precision
Internal sampling of the analog signals at 1000 Hz improves accuracy, avoids aliasing, and produces 21 bit effective resolution.

Reliability
The new Air-Sea System II Gravity Meter employs industrial-grade electronics designed for long life and high reliability even in adverse conditions, minimizing the need for operator intervention and maintenance. Built-in diagnostic functions assist the operator in troubleshooting and repairs when necessary. Spare electronics are full modular plug-ins for less downtime.

Uninterruptible Power Supply
An Uninterruptible Power Supply is standard on the system, insulating the system from power fluctuations. It accepts AC input voltage (80-265 VAC).

Spring Tension Absolute Encoder
Spring Tension value is stored in permanent memory.

Stable time Base
Rubidium oscillator provides precision sampling.

GPS Interface
GPS data is recorded and a real-time EOTVOS correction is calculated.

Upgrade your Meter
Upgrades are available for all older LaCoste & Romberg Air-Sea Gravity Meters.

AIR-SEA II SPECIFICATIONS (SUBJECT TO CHANGE)

COMPONENT	VARIABLE	SPECIFICATIONS
SENSOR	RANGE: DRIFT: TEMPERATURE SETPOINT:	20,000 milliGals (worldwide) 3 milliGals/month after aging 46° to 55°C
STABILIZED PLATFORM	PLATFORM PITCH: PLATFORM ROLL: PLATFORM PERIOD: PLATFORM DAMPING:	± 22 degrees ± 25 degrees 4 Minutes 0.707 of Critical
CONTROL SYSTEM	RECORDING RATE: SERIAL OUTPUT:	1 Hz RS-232
SYSTEM PERFORMANCE	RESOLUTION: STATIC REPEATABILITY: DYNAMIC REPEATABILITY: 50,000 mGal Horizontal Acceleration 100,000 mGal Horizontal Acceleration 100,000 mGal Vertical Acceleration ACCURACY AT SEA:	0.01 milliGals 0.05 milliGals 1.0 milliGals or better 0.25 milliGals 0.50 milliGals 0.25 milliGals < 1.00 mGal reported
MISC.	OPERATING TEMPERATURE STORAGE TEMPERATURE POWER EQUIPMENTS (INTO UPS) DIMENSIONS: WEIGHT:	5° to 40°C -10° to 50°C 240 watts average 450 watts max 80-265 VAC, 47-63Hz 71 x 56 x 84 cm 28 x 22 x 33 in Meter: 86 kg; 190 lbs UPS: 30 kg; 65 lbs
GRAVITY UNITS	1 Gal = 1cm/sec^2 Earth's gravity varies from 978 to 983 Gals at the surface. (978,000 mGals to 983,000 mGals)	

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