

- 3 Axis Acceleration
- 4 Million Sample Non-Volatile Memory
- Portable Battery Operation
- -20 to +60°C Operation
- Simple PC Based Programming
- Standard Ranges:
  - ±2g, ±5g, ±10g, ±25g, ±50g, ±100g
- Logs Various Data Types:
  - AC and DC Acceleration
  - AC and DC Peak Acceleration
  - Peak Acceleration Events
  - RMS Acceleration
  - AC Velocity
  - AC Peak Velocity
  - RMS Velocity
  - Temperature
- 115.2 kBaud Serial Data Link



## **DESCRIPTION**

The Model 3310 is a battery powered, acceleration and thermal data acquisition system which provides sample rates of up to 4000 samples per second on each of its three acceleration axes. Its useful bandwidth ranges from DC to 500Hz. The 3310 contains three orthogonally mounted model 1010 digital capacitive accelerometers and utilizes a RISC microprocessor and a custom ASIC to automatically log AC/DC accelerations or AC velocities into its on-board flash memory. To reduce the amount of stored data, the user can record peak acceleration or velocity samples for selected time intervals or apply a root mean squared (RMS) algorithm to the data. Multiple windows of contiguous acceleration samples can also be recorded with each window center triggered on its acceleration threshold exceeding event. The 3310 comes in a rugged die cast aluminum case with an overall size of 3.5" x 4.5" x 2.2" and a weight of 29 oz. including batteries. A user's manual and 110VAC to 9VDC plug-in power adapter are included.

## **OPERATION**

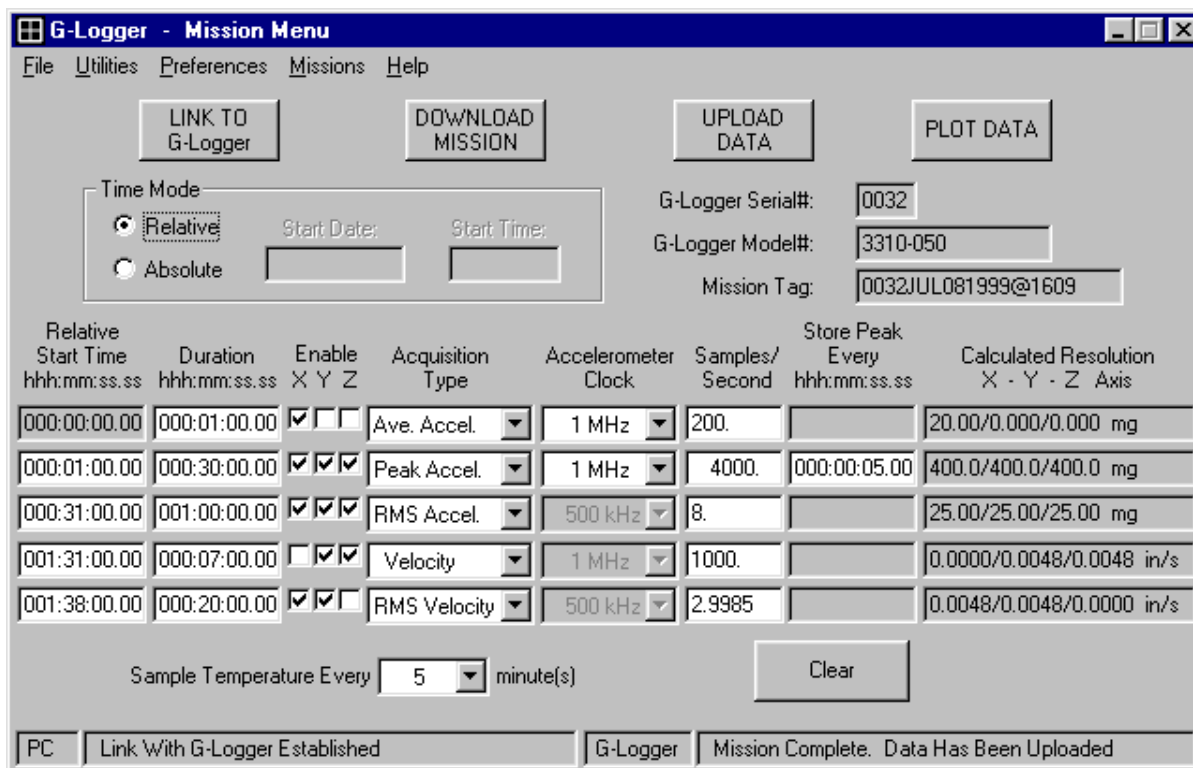
The Model 3310 is easily programmed via menu based 'mission' planning software running under Windows 95/98/NT4.0/2000/XP on your personal computer. After downloading a mission to the 3310, via a supplied RS-232 serial cable connected to your PC's serial port, the 3310 can be disconnected and moved to the data collection site. An AC power adapter is included to power the 3310 during mission programming and data download if battery power needs to be conserved. Missions can be programmed to start immediately, after a delay or at an absolute time/date with sequentially programmable data types and independent time durations. Total data acquisition time (depending upon acquisition rate and battery life) ranges from 300 seconds to 21 days. Battery life ranges from 7 to 21 days, depending upon the acquisition type and sample rate chosen. The data sample rate can be set from 1 to 4000 per second. Case mounting is accomplished via two #8 screws which can be tightened with the cover attached.

## **APPLICATIONS**

SHIPPING DATA RECORDER  
CRASH EVENT RECORDER

RACE CAR INSTRUMENTATION  
FLIGHT VIBRATION MONITOR

ROTATING MACHINERY MONITOR  
AUTOMOTIVE SUSPENSION TESTING



The main menu is a user friendly interface for planning data acquisition 'missions'. Mission parameters are entered as direct numeric values or selected via drop-down submenus. An automatic 'mission tag' based on the serial number, start time and date is attached to each mission for foolproof mission and data identification.

**SPECIFICATIONS:**

<p><b>PHYSICAL</b>                  Case Size      3.5" x 4.5" x 2.2"                  Weight          29 oz. Including Batteries                  Mounting        2 holes, # 8 Screws                  Case Material   Die Cast Aluminum</p> <p><b>ENVIRONMENTAL</b>                  Operating Temp   -20 to +60°C                  Humidity          0 to 95% RH                  Max Shock        500g (.5 ms)</p> <p><b>PC REQUIREMENTS</b>                  Windows 95 / 98 / NT4.0 / 2000 / XP                  Serial Port with 16550 or 16550A UART                  486 or higher (Pentium recommended)                  16Mb RAM (32Mb recommended)                  40Mb free hard disk (100Mb recommended)</p> <p><b>OPERATIONAL</b>                  Memory            4 Million Samples                  Serial Data Rate   115.2 k-baud                  Internal DC Power   2 Alkaline 1.5V D-cells                  Opt. External Power 4.75-18VDC @ 300mA</p>	<p><b>TRIAxIAL SAMPLE RATES / RESOLUTIONS</b>                  Acceleration:    1/sec (15 bits) to 4000/sec (8 bits)                  Peak Accel:      1/sec (15 bits) to 4000/sec (8 bits)                  Peak store min interval = every .01 sec @ any sample rate,                  Peak store max interval = 1/2 total acquisition time period.</p> <p>Accel Events:    16/sec (15 bits) to 4000/sec (8 bits)                  1400 contiguous samples/event (triaxial mode)                  4200 contiguous samples/event (single axis mode)                  Up to 1000 center triggered event windows</p> <p>RMS Accel:      1/sec to 10/sec (12 bits @ all settings).</p> <p>Velocity:         1/sec to 4000/sec (12 bits @ all settings).</p> <p>Peak Velocity:   Fixed @ 2000/sec (12 bits).                  Peak store min interval = every .01 sec,                  Peak store max interval = 1/2 total acquisition time period.</p> <p>RMS Velocity:   1/sec to 10/sec (12 bits @ all settings).</p> <p><b>TEMPERATURE SAMPLE RATE / RANGE / RESOLUTION</b>                  1/min to 1/hr (-20 to +60°C ±0.5°C)</p>
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SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE