

Integrating Student
Computing & Science

fourier



**12-bit resolution, timing module and
working with TI-83 calculators**

MultiLogPRO™

The perfect combination between a graphic calculator and a data logger



An advanced tool for scientific research and exploration

Now with a graphic display, video and audio capabilities, the MultiLogPRO is setting new benchmarks in data logging solutions. Despite being so advanced, our customers tell us that the MultiLogPRO is so easy and intuitive to use that even newcomers find they can begin an experiment in minutes. It takes three easy steps to start logging:

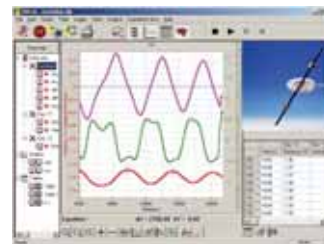
1. Switch the logger *On*
2. Insert sensor(s)
3. Press *Enter* to start

Experiment readings will immediately be displayed and recorded.

- Graphic display
- More than 50 types of probes and sensors
- Powerful analysis software
- Multimedia reports of your experiment with data, video and text files
- Curriculum material covering: Biology, Chemistry, Physics and Environmental Science



Use the MultiLogPRO LCD display to see online data in meter, table, or graph.



Video and audio enabled software allows students to view experiment video and audio linked and synchronized with experiment data.

MultiLogPRO



MultiLogPRO has won tenders in Russia, Singapore, Mexico and the United States to name just a few of the 20,000 customers in more than 26 countries.

The MultiLogPRO is the perfect tool for “doing” scientific research and exploration. It helps students perform almost any kind of measurement using a variety of 50 sensors. This hand held portable data logger can be used both in the laboratory and in the field.

It is known that learning should involve self-experimenting. It is also said that “what you hear you forget, what you see you remember and what you do you understand”.

Powerful

The MultiLogPRO system includes 50 sensors for various scientific uses. It can record data from up to eight different sensors at the same time. It is the only data collection and processing tool you need for Biology, Chemistry, Physics and Environmental Science education.

Setting up the MultiLogPRO is done using a small “4 key” keypad. Its icon based menu is clear, simple and very similar to PDA organizers.

Graphic Display



Use the MultiLogPRO graphic display to see online data via various

displays, including meters, tables and graphs. You can analyze the collected data by placing markers on the graphic window to take accurate measurements. The system allows you to read notes about the experiment

Fast

The MultiLogPRO can sample data as fast as 20,800 measurements per second (critical for electricity or sound experiments). Setting up an experiment using the MultiLogPRO takes seconds.

Portable

The MultiLogPRO runs either connected to the PC or as a stand-alone device. Experiments can be set up using the keypad.

The 450 gram MultiLogPRO can record 200 hours of data, and its memory holds more than 100,000 samples. An internal 7.2 V rechargeable battery saves you the need for continuous battery replacement.

Wide Variety of Sensors



Fourier offer a range of more than 50 sensors for high quality and accurate

measurements across a wide range of parameters.



the school lab and out in the field.

Curriculum Pack

MultiLogPRO system comes in complete kits for various fields of scientific education. Each kit contains the MultiLogPRO data logger, the MultiLab software, sensors for a specific field of study and a relevant experiment book for that field. Currently, kits are available for Physics, Chemistry, Biology and Environmental Sciences, with more than 70

to 100 different activities. The curriculum is designed by teachers from all over the world and by famous publishers like Longman.



Integration to TI Calculator

MultiLogPRO attaches to the Texas Instrument Calculator TI-83. When used with the MultiLogPRO, students will be able to display graphs of their data on the MultiLogPRO while simultaneously processing their data on the TI calculator. Students can now receive all the benefits of the Texas

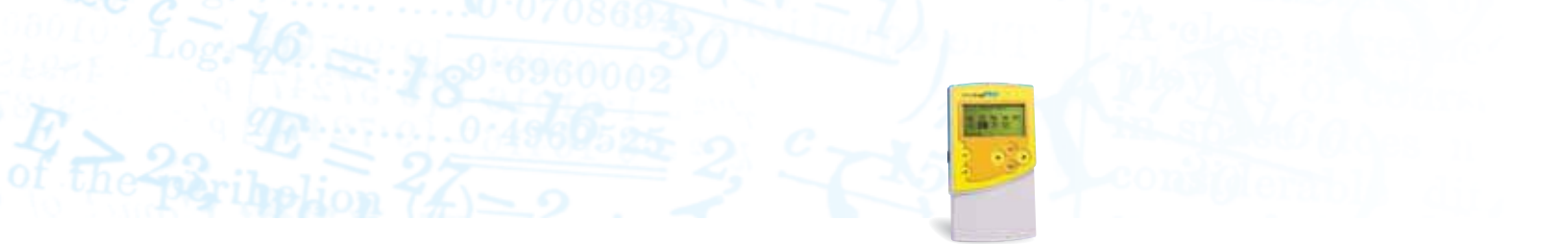


Instrument Calculator combined with the enhanced data collection and analysis

capabilities of the MultiLogPRO.

12-bit Timing Module

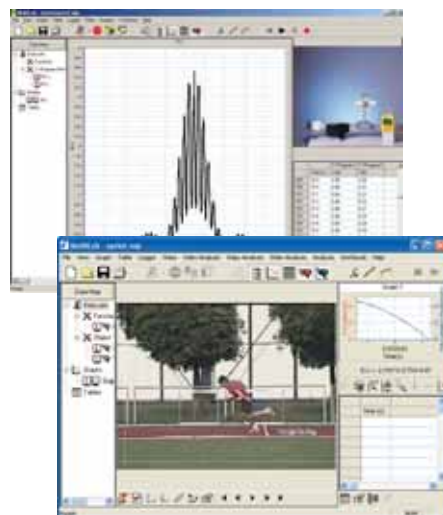
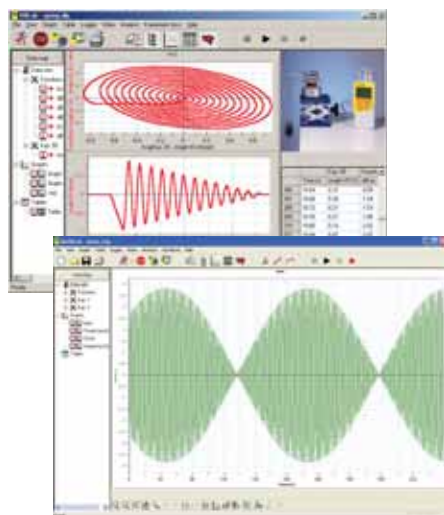
The built in timing module allows the use of the MultiLogPRO wide graphic screen to measure time, speed and acceleration with one or two photo gates. The module allows the user to define time, speed, acceleration and number of photogates. The MultiLogPRO then shows in large digits the measured parameter at a resolution of 100 microseconds. The Timing module integrates a simple, yet accurate stopwatch feature enabling precise timing of experiments for



MultiLogPRO Software: **MultiLab**

The best analysis software with unique multimedia tools

Operating System:
**Windows 95/98/
2000/ME/XP/Vista
MAC OS 9 and OS X**



MultiLab Features

- Graph, video, table and meter displays
- Full multimedia experiment reports with data, video, audio and text files
- Online or recorded experiment video stream
- Recording audio comments
- Working with USB communication port
- Automatic COM port recognition
- Online data transfer and display of data in real-time
- Automatic and manual data download
- Stored data and video on hard disk
- Quick export and import of sampled data to Excel
- Data logger programming via Setup Wizard
- Data Analysis Wizard:
 - Automatic curve fitting: linear, polynomial, power and exponential
 - Integral
 - Derivative
 - Smoothing (averaging)
 - Manual curve fitting
 - Mathematical and trigonometric functions
- Measurement readings and analysis facilitated by locating cursors on the graphic display
- Advanced zooming and panning tools
- Predict tool – enables students to graphically predict data results
- Capture tool – to capture and record specific data points from the stream of downloaded MultiLogPRO data
- Crop tool – for trimming the edges of a data set
- Workbooks – Lab manuals with quick MultiLogPRO setup programming
- Calibration of the MultiLogPRO sensors
- Capability of interfacing with sensors from other vendors

Sophisticated analysis tools and views

MultiLab is a comprehensive program that provides everything you need in order to: Collect data, display the data in graphs, meters and tables, analyze the data with sophisticated analysis tools and even view online or recorded video movies of the actual experiment. The program includes four windows: A graph, table, video and a navigation window called the Data Map. All four can be displayed simultaneously, or in any combination.

Multimedia capabilities

Unique video and audio features allow students to view online or recorded movies. The complimentary Fourier webcam means students can film their experiment process, while data is displayed in graph, or meter format. Now, students can participate in e-learning projects with complete multimedia Lab reports, combining real-time, synchronized annotated graphs and video.

Working with Workbook

Workbook tool gives students a step-by-step preview of the Lab activity to be conducted, and then automatically configures the software and sets up the logger for data

collection. Students can use existing Workbooks or create new ones.

Fourier's online experiment library

The library offers previous experiment files created by other classes, or twenty two in-house experiments developed by the Fourier pedagogic team. The Fourier experiments all carry audio and full experiment data. All videos that are currently stored on the MultiLab can be displayed showing the data synchronized with the video. These videos are crucial for preparing students for a new experiment or referring to when writing lab reports.

Video Motion Analyzer

Video Motion Analyzer means any movie of motion (for example throwing a ball) can be used either from the Fourier library, filmed with your own video camera, or something recorded on MultiLab previously and can be converted into data. The data is directly put into graph format. Later the data can be analyzed using the sophisticated MultiLab analysis tools.

MultiLogPRO

Fourier MultiLogPRO Bundles

Fourier Science bundles provide the complete solution for physics, chemistry and biology. Contact us at info@fourier-sys.com; 900 564 2548 to discuss which of the nine MultiLogPRO bundles best meet your curriculum needs.



MultiLogPRO Specifications

Inputs	Auto ID mode:	Up to 4 simultaneous analog inputs Up to 2 simultaneous digital inputs	
	8 sensors mode:	Up to 8 simultaneous analog inputs Up to 2 simultaneous digital inputs	
	External sensors:	More than 50 available (for more details see www.fourier-sys.com)	
Outputs	RS232 PC Host Interface	at 19,200 bps	
	USB communication		
	4 Digital Control Outputs		
Sampling	Capacity:	104,000 samples	
	Rate:	Variable, from 1 Sample/Hour to 20,800 Sample/Sec	
	Resolution:	12-bit (1024 Levels)	
Features	Full keyboard:	Enables manual programming	
	LCD Graphic display:	64 x 128 pixels, shows logger setup and measured data	
	Stand-alone operation:	Works without PC connection Automatic sensor recognition (for 4 inputs)	
	Automatic self test:	Reports system status	
	Trigger:	Programmable or manual	
	Calibration:	Auto. calibration of sensors offsets Built-in timer for delayed logging	
	Memory backup battery:	Data saved up to 10 yrs	
	Built-in clock & calendar:	Keeps track of time and date of all stored data	
	Built-in 7.2 V rechargeable battery		
	Event recording		
	Timing module for measuring time, speed and acceleration with Stop watch feature		
	Power Supply	Voltage:	Internal 7.2 V NiCA battery or External 9 to 12 V DC input
		Battery life:	100 Hours (no sensor connected)
Software	MultiLab		
Operating Temp. Range	0 to 50 °C		
Dimensions	185 x 100 x 32 mm		
Weight	450 gr		
Standard Compliance	CE, FCC		