ADDESTATION

IT-Based Laboratory for Experiential Learning of Science

Install Addestation Software → User Friendliness

Bring to Life the Abstract Ideas → Science Is Fun

Connect Science to Real Life → Contextualization

State of the Art, Real Time

Datalogger Oscilloscope & Sensors

Kits & Gadgets

Ease of Implementation

Patented Technovations

Activity Contents

Creative & Critical Thinking
Develop Insights

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Addestation aMixer MGA [Product Code: GF003R]

- ✓ The aMixer MGA (Meter-Graph-Analysis) is a standalone handheld datalogger with a color LCD touch screen that facilitates outdoor and indoor data logging without a computer. It is capable of generating signal. It also allows on-board data analysis.
- ✓ It comes with a USB Cable for data collection via PC, an SD Storage Card for saving of experimental data, a DC Power Adaptor, an adjustable String Hanger, a rechargeable battery.
- ✓ It comes with a PC software. The software allows
  - MGA to be connected to PC via USB and captured data on the PC;
  - students to perform complex data analysis

Specifications

- Number of input channels : 4 channels
- Internal Built-in Sensor : Temperature Sensor
- Sampling Rate (Real-time Display) : up to 32,000 samples/sec
- Battery : support long logging duration (for the case of one data per minute, it can log data for 48 hours without external power supply)
- Power up time : 1 second (almost instant)
- Auto Sensor Identification : Yes
- On-Board Signal Analysis : Yes (including differentiation, integration, linear regression, etc.)
- Signal Generator : Yes (including sine waves, pulses, random pulse, pulse train, and sound playback)
- User Interface : Color LCD Touch Panel Display (3.2 inches), plus button control
- SD Card Socket : Yes
- Interface to computer : USB 2.0
- Weight : 240 g

Addestation aMixer MGA (New) [Product Code: GF003S]

- ✓ In additional to those features available in Addestation aMixer MGA, it comes with the following new features:
  - Thumb drive socket that allows saving of data via Thumb Drive (in addition to SD card)
  - For sampling rate of one data per minute, the battery can support datalogging for up to 10 days without external power supply.
  - It comes with a LED charging indicator

Addestation aMixer Mini [Product Code: GF003K]

- ✓ The aMixer Mini is a USB-based oscilloscope cum data logger that operates on a PC.
- ✓ It is small (length 7cm, width 4.7cm), and can be plugged directly to the USB port of the PC/laptop.
- ✓ It comes a PC software with site license.

Specifications

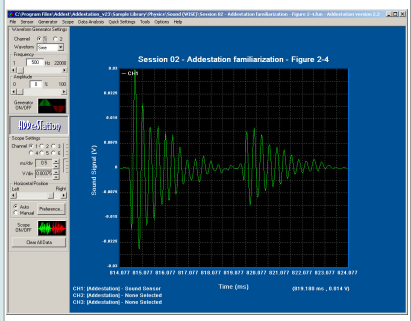
- Number of input channels : 4 channels
- Sampling Rate (Real-time Display) : up to 20,000 samples/sec
- Auto Sensor Identification : Yes
- Interface to computer : USB 2.0

Addestation Software [Version 6.0]

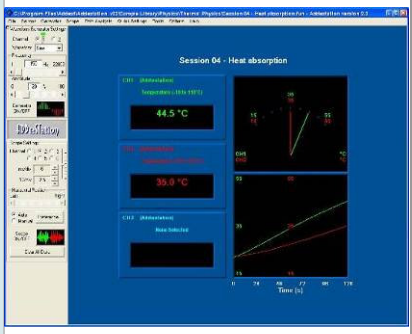
The Addestation version 6.0 software, which operates on Windows XP or later, comes with numerous useful features including those as follows:

Features

- Data Collection: When the computer is connected to the datalogger, the software is able to capture 12-bit data continuously at a rate of 1,000 samples per second , and display all captured data instantly on the screen;
- Sound Input: It is able to capture 16-bit data continuously at a rate of 44,000 samples per second via the computer's sound card, and display all captured data instantly on the screen;
- Input my own data: It allows user to manually key-in own values;
- Signal Generator: It can generate two independent sine waves of frequency up to 20,000 Hz, pulse, random pulse, pulse train, and complex waveforms containing up to 6 different harmonics;
- Sound Playback: It facilitates audio playback of collected data;
- Mode of Display: It offers digital view, analogue view as well as graphical and data table format;
- Viewing of Data: To facilitate viewing of data, there are features like zoom-in/out, left/right panning, best Y-scale, print preview with provision to include notes;
- Open Special: It facilitates merging of data collected at different times for comparison purpose;
- Data Export: All data can be conveniently exported into an Excel format file;
- Timer: It allows users to set the duration of data collection from 1 s to 10 days;
- Full Data Analysis: It facilitates differentiation, integration, linear regression, curve fitting. It also comes with a powerful versatile Function Calculator for a variety of data manipulation involving signals from various channels in a unified manner.
- Other Calculators: Besides the versatile Function Calculator, it has Scientific Calculator, Speed-of-Sound Calculator, Specific Heat Capacity Calculator and Resistance-to-Temperature Calculator.
- Signal Processing: It can improve the quality of captured signals for ease of analysis through features like sensor equalization, zeroing, smoothing and hum removal that are made possible using signal processing technology.
- Automatic Statistical Calculation: It comes with automatic display of statistical parameters such as maximum, minimum, average, values as well as frequency.
- Time Measurement: It offers convenient and precise measurements of time intervals.



The Addestation software interface presented above shows the signals of incoming and reflected pulses which facilitate determination of the speed of sound.



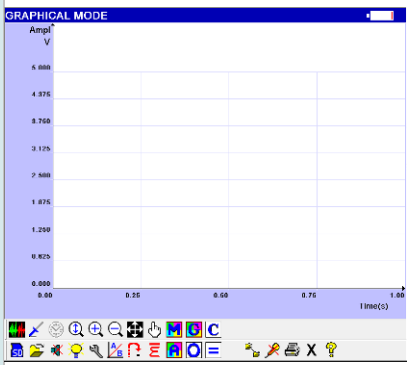
The Addestation software interface presented above shows the data obtained using two temperature sensors upon carrying out a heat conduction experiment.

Addestation (Emulation) Software [Version 5.0]

The Addestation version 5.0 software, which operates on Windows XP or later, comes with numerous useful features including those as follows:

Features

- Act as emulation Software: The software screen appears to be almost identical to that of the datalogger hardware. In additional The software functionalities are identical to that of the datalogger hardware;
- Data Collection: When the computer is connected to the datalogger, the software is able to capture 12-bit data continuously at a rate of 1,000 samples per second, and display all captured data instantly on the screen;
- Sound Input: It is able to capture 16-bit data continuously at a rate of 44,000 samples per second via the computer's sound card, and display all captured data instantly on the screen;
- Input my own data: It allows user to manually key in own values;
- Signal Generator: It can generate sine waves, pulse, random pulse, pulse train;
- Sound Playback: It facilitates audio playback of collected data;
- Mode of Display: It offers digital view, analogue view as well as graphical and data table format;
- Viewing of Data: To facilitate viewing of data, there are features like zoom-in/out, left/right panning, best Y-scale;
- Open Special: It facilitates merging of data collected at different times for comparison purpose;
- Data Export: All data can be conveniently exported into an Excel format file;
- Timer: It allows users to set the duration of data collection from 1 s to 2 days;
- Data Analysis: It includes differentiation, integration, linear regression, etc.
- Signal Processing: It can improve the quality of captured signals for ease of analysis through features like sensor equalization, zeroing, smoothing;
- Time Measurement: It offers convenient and precise measurements of time intervals.



The Addestation software interface presented above shows the data obtained using two temperature sensors upon carrying out a heat conduction experiment.