# User Guide

EXTECH INSTRUMENTS
A FLIR COMPANY

# Windows™ Data Acquisition Software

# Model 407001A

## *Introduction*

Congratulations on your purchase of the Extech 407001A Data Acquisition Software. The 407001A package includes a powerful software program that allows a PC to acquire readings from select Extech meters (see list in the 'Compatible Meters' section). The readings acquired can be displayed on a PC in a variety of formats (analog, digitally, and graphically).

The measurements can also be saved as a text file for later exporting to spreadsheet, database, or word processing software programs. The data files are saved in .mdb format that can be easily opened in most software programs widely used today including Microsoft EXCEL™ and Microsoft ACCESS™.

The PC acquires a reading the moment the reading is taken by the meter. Readings are saved by the PC at the user-programmed sample rate (2 to 3600 seconds).

## *Hardware Connection*

The Extech meter connects to the PC using one of the two supplied communication cables. Each cable is compatible with a specific group of meters. The Compatible Meters section of this manual identifies the meters that are used with each cable.

## *Software Installation*

**NOTE:** This program may require supporting files that are not installed on your PC or files that are more recent then those on your PC. If an error message appears during installation, an update may be necessary; go to the Microsoft web site (*www.microsoft.com*) and install the *Windows Critical Updates* and *Service Pack Updates* pertinent to your operating system.

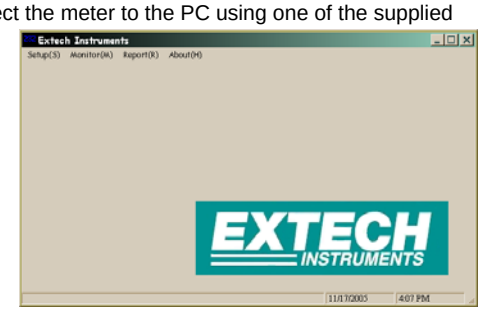
1. Insert the supplied software disk in the computer's CD-ROM drive.
2. Run the SETUP program included on the supplied software disk.
3. When prompted, select a directory location for the program files.

*PC Operating System compatibility: Windows™ 95 / 98 / 2000 / NT / XP*

Note: Also supplied on the disk is the SW- DL2005 program. This program is used to download stored data from the 407860 Vibration meter.

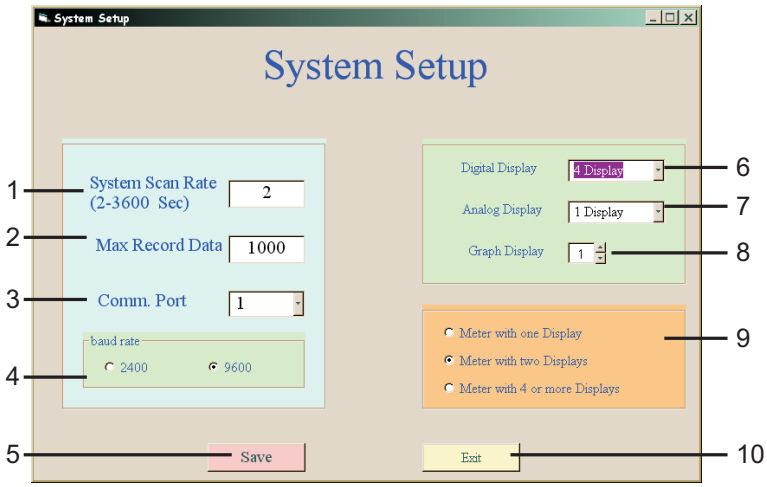
## *Running the Software*

1. Once the software is installed, connect the meter to the PC using one of the supplied cables (see the Compatible Meters section to determine which cable to use).
2. Turn the meter on.
3. Open the software by clicking the program icon in the programs list from the Windows START menu.
4. When the software is opened, the screen shown at right will appear.
5. The opening screen contains four (4) menu bar selections: SETUP, MONITOR, REPORT, and ABOUT. Each selection is detailed in the following paragraphs.




### SETUP Menu Selection

There are three (3) selections under the SETUP menu: SYSTEM SETUP (see illustration below), CREATE NEW DATA FILE (open new file in which to store readings), and EXIT. When SYSTEM SETUP is selected, the following screen appears.

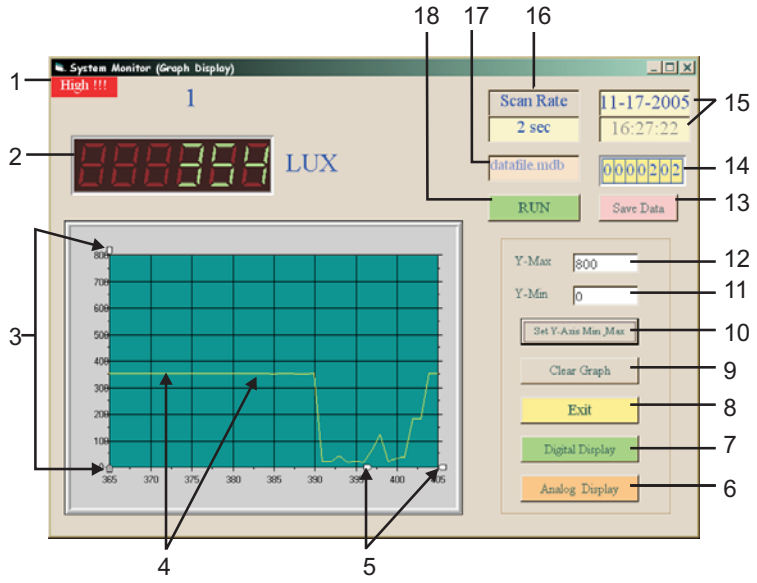



1. Select the rate at which readings are to be recorded (from 2 to 3600 seconds).
2. Number of readings that will be recorded before program automatically stops.
3. Computer COM port to which meter is connected.
4. PC communication baud rate
5. Save changes
6. Digital Display format
7. Analog display format
8. Graph display format
9. Type of Meter that is connected to PC
10. Exit this screen

**MONITOR Menu Selection**

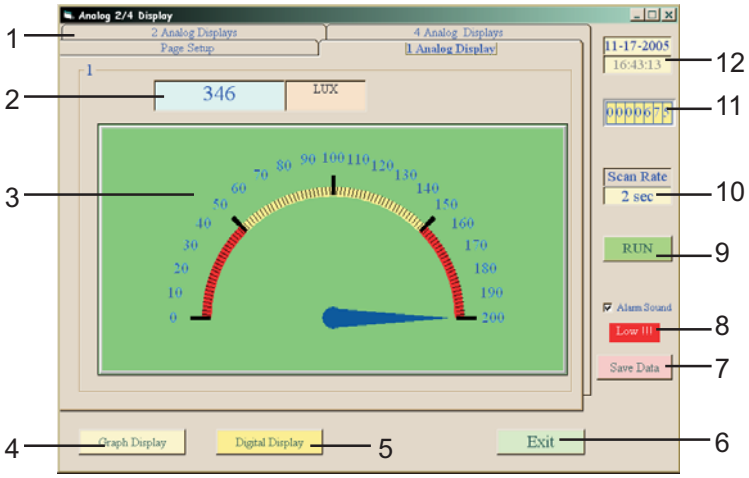
There are three (3) selections under the MONITOR menu: GRAPH, ANALOG, and DIGITAL. Each of these display types is detailed below.

Graph Display



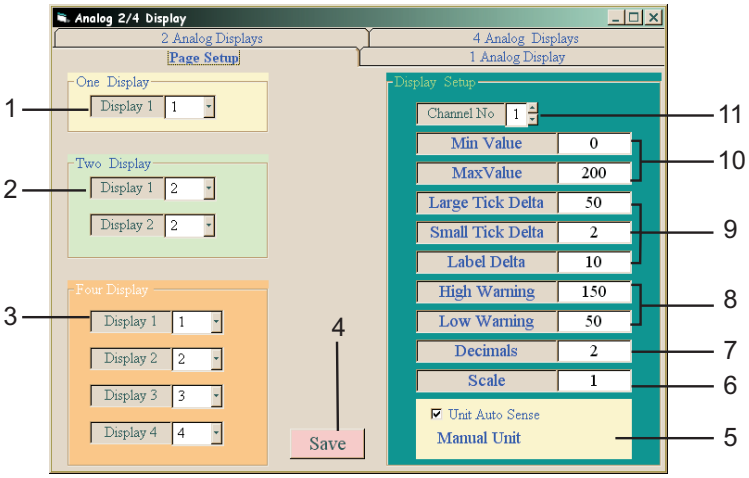

1. High / Low Alarm indicator
2. Current meter reading
3. Vertical axis bars (drag to change meter reading resolution)
4. Meter readings
5. Horizontal axis bars (drag to change Time resolution in seconds)
6. Press to show analog display of readings
7. Press to show list of readings
8. Exit the screen
9. Press to erase the readings shown on the graph
10. Press to set the y graph min/max values to match the values in fields 11 and 12
11. Minimum value of the y axis
12. Maximum value of the y axis
13. Save the data currently listed on the graph to the file that is currently open
14. Record tally. The number represents the current reading number.
15. Date and Time
16. Rate at which readings are recorded
17. Currently opened file name
18. RUN / PAUSE button

Analog Display



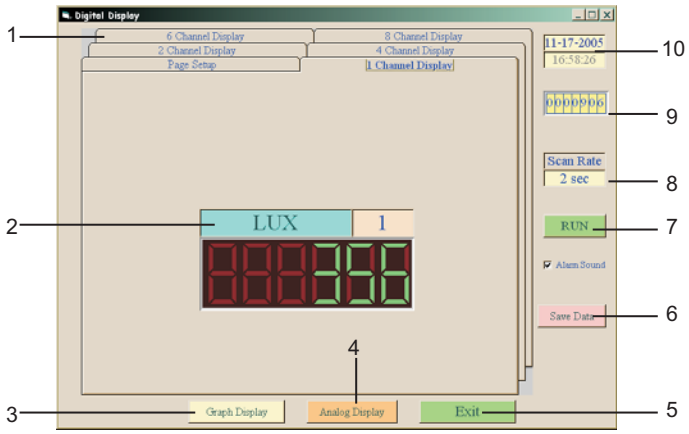

1. Select a display configuration or page setup tab (detailed in next section)
2. Current reading and unit of measure
3. Analog display of reading
4. Change to graph display
5. Change to list of readings display
6. Close the current screen
7. Save the data records to a file
8. High or Low Alarm appears if reading is above/below the high/low values
9. RUN / PAUSE button
10. Rate at which readings are transferred to PC
11. Reading counter
12. Time and Date

Page Setup for Analog Display

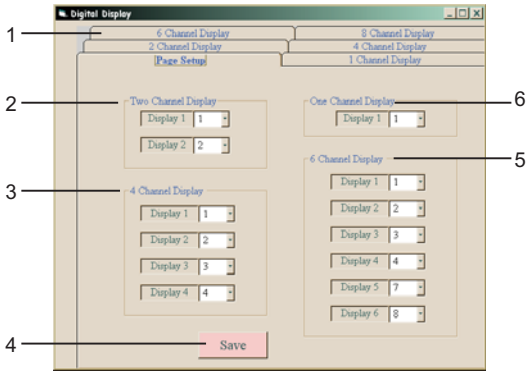



1. Single Display Meter format
2. Dual Display Meter configuration
3. Four Display Meter configuration
4. Save changes
5. Check the box to allow the software program to query the meter for unit of measure
6. Scale the display (for example, 10 would multiply the reading by a factor of 10)
7. Number of decimal places in the reading
8. High and Low Alarm settings
9. Analog readout TICK formatting
10. MIN and MAX display fields
11. Channel selection (some meters have up to eight measurement channels)

Digital Display




1. Select display configuration or page setup tab
2. Current reading and unit of measure
3. Go to Chart (Graph) Display
4. Go to Analog Display
5. Close this screen
6. Save data to currently opened file
7. RUN / PAUSE button
8. Scan rate
9. Reading counter
10. Date and Time fields

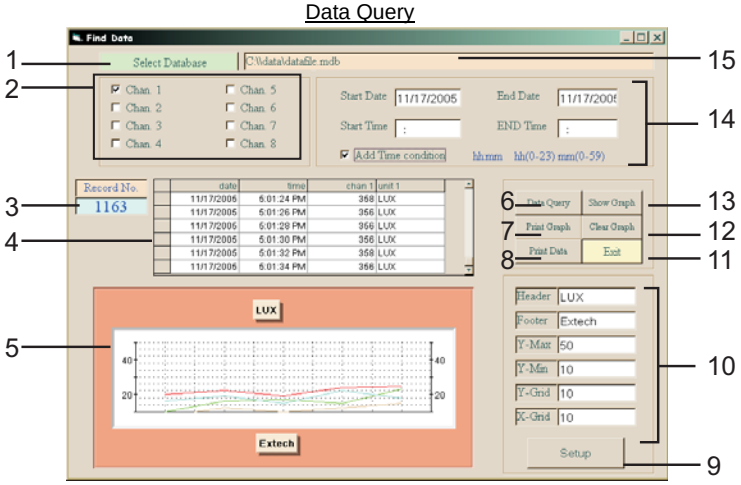



Page Setup for Digital Display screen

1. Select Display configuration or Page Setup
2. Configuration for a Dual Display meter
3. Configuration for a Four Display meter
4. Save changes
5. Configuration for a Six Display meter
6. Configuration for a Single Display meter

**REPORT Menu Selection**

Data Query




The Query screen allows the user to open a data file that has been previously saved. Data can be viewed as a list (item 4) or as a graph (item 5).

1. Click to search for previously saved file
2. Number of measurement channels saved (number of meter displays)
3. Number of records in file
4. Data
5. Graph of data
6. Press to retrieve data from opened file
7. Press to print the displayed graph
8. Print data list
9. Press to activate changes reflected in item 10 ‘graph formatting’
10. Graph format
11. Exit this screen
12. Clear the graph
13. Place data from file onto graph
14. Date and Time for data file
15. Name of opened file

**ABOUT Menu Selection**

The ABOUT menu provides software version information. Keep track of the version number for software update and technical support information.

## *Compatible Meters*

| Model No. | Meter Type | Display | COM Cable |
|---|---|---|---|
| 407026 | Light Meter | Single | UPCB1 |
| 407112 | Vane Anemometer | Dual | UPCB1 |
| 407113 | Vane Anemometer | Dual | UPCB1 |
| 407114 | CFM Thermo-Anemometer | Dual | UPCB1 |
| 407117 | Mini Vane Thermo-Anemometer | Dual | UPCB1 |
| 407119 | Hot Wire CFM Anemometer | Dual | UPCB1 |
| 407119**A** | Hot Wire CFM Anemometer | Dual | **UPCB2** |
| 407123 | Hot Wire Anemometer | Dual | UPCB1 |
| 407227 | pH / mV / Temperature | Dual | UPCB1 |
| 407303 | Conductivity Meter | Dual | UPCB1 |
| 407401 | Dual Thermometer | Dual | UPCB1 |
| 407412 | Thermo-Anemometer / Humidity | Dual | UPCB1 |
| 407412A | Thermo-Anemometer / Humidity | Dual | UPCB1 |
| 407428 | IR Thermometer | Single | UPCB1 |
| 407445 | RH / Temperature Meter | Dual | UPCB1 |
| 407495 | Pressure meter | Single | UPCB1 |
| 407510 | Dissolved Oxygen (DO) Meter | Dual | UPCB1 |
| 407768 | Sound Level Meter | Single | **UPCB2** |
| 407777 | Moisture Meter | Single | UPCB1 |
| 407820 | Torque Meter | Single | UPCB1 |
| 407850 | Vibration Meter | Single | UPCB1 |
| 407860 | Vibration Meter | Single | UPCB1 |
| 407907 | RTD Thermometer | Single | UPCB1 |
| 407910 | Differential Pressure Manometer | Single | UPCB1 |
| 42525A | IR Thermometer | Single | **UPCB2** |
| 461880 | Vibration + Laser Tachometer | Single | **UPCB2** |
| 475055 | Force Gauge | Single | UPCB1 |


**Support line (781) 890-7440**

Technical Support: Extension 200; E-mail: support@extech.com

Repair & Returns: Extension 210; E-mail: repair@extech.com


**Product specifications subject to change without notice**

For the latest version of this User's Guide, Software updates, and other up-to-the-minute product information, visit our website: www.extech.com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