Reference Manual
BioTrak
Datalink and Gas Detection
Database Software for Windows

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⚠WARNING

BIOSYSTEMS GAS DETECTORS HAVE BEEN DESIGNED FOR THE DETECTION OF DEFICIENCIES OF OXYGEN, ACCUMULATIONS OF FLAMMABLE GASES AND VAPORS AND ACCUMULATIONS OF TOXIC VAPORS.

IN ORDER TO ASSURE THAT THE USER IS PROPERLY WARNED OF POTENTIALLY DANGEROUS ATMOSPHERIC CONDITIONS, IT IS ESSENTIAL THAT THE INSTRUCTIONS IN THE REFERENCE MANUAL FOR THE SPECIFIC GAS DETECTOR BE READ, FULLY UNDERSTOOD, AND FOLLOWED.

AVERTISSEMENT: LIRE ATTENTIVEMENT LES INSTRUCTIONS AVANT DE METTRE EN MARCHE.

BioTrak Reference Manual
Version 2.60
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by
Biosystems
Middletown, Connecticut 06457

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Table of Contents

INTRODUCTION 4

1. INSTALLING BIOTRAK DOWNLOAD SOFTWARE 5

1.1 PC REQUIREMENTS 5
1.2 INSTALLING BIOTRAK ON WINDOWS™ 95, 98, 2000, XP OR NT 5

2. USING BIOTRAK DATALINK SOFTWARE 6

2.1 SERIAL PORT CONNECTION 6
2.2 INFRARED PORT CONNECTION 7
2.2.1 Infrared Port Activation 7
2.3 MAIN MENU OPTIONS 7

3. FILE MENU 8

3.1 GENERAL 8
3.2 FILE / OPEN 8
3.3 FILE / OPTIONS 8
3.3.1 Detection Options 8
3.3.2 Printing Options 8
3.3.3 Data Export Options 9
3.3.4 Toxi/Oxy Ultra Options 9
3.3.5 Language Options 9
3.3.6 Auto Download Options 9
3.3.7 Infrared 9
3.3.8 ToxiPro/Ltd 10
3.4 FILE / EXIT 10

4. SOFTWARE USE / INSTRUMENTS MENU 10

4.1 CONNECTING THE PHD5, PHD ULTRA, TOXI/OXY ULTRA TO THE PC 10
4.2 AUTO DOWNLOAD (FOR PHD5, PHD ULTRA AND TOXI ULTRA) 11
4.3 CONNECTING THE CANNONBALL3, MULTIPRO, MULTIVISION, PHD LITE, TOXIPRO/LTD AND TOXIVISION EX 12
4.4 DOWNLOAD 12
4.4.1 Session Summary File Menu 13
4.4.1.1 File / Save the Data File 13
4.4.1.2 File / Options 13
4.4.1.3 File / Graph options 13
4.4.2 Lower Control Bar 14
4.4.2.1 Details Button 14
4.4.2.2 Alarms 15
4.4.2.3 Graphs 15
4.4.2.4 Data Table Button 16
4.4.2.5 Viewing Alarm Legend 17
4.5 CONFIGURATION 17
4.5.1 Configuration / Alarm Tab 17
4.5.2 Configuration / Datalogger Tab 18
4.5.3 Configuration / Features Tab 18
4.5.4 Configuration / Auto Calibration Tab 18
4.5.5 Configuration / Calibration History Tab 19
4.5.6 Configuration / User/Locations Tab 19

4.5.7 Configuration Controls 19
4.6 CLEAR DATALOGGER MEMORY 20
4.7 SETTING INSTRUMENT DATE AND TIME 20
5. COMPUTER AND HELP MENUS 20
5.1 COMPUTER MENU 20
5.2 HELP MENU 21
5.2.1 BioTrak Help File 21
5.2.2 Help Contents and Index 21
5.2.3 Internet Support 21
5.2.4 About BioTrak 21
BIOSYSTEMS STANDARD WARRANTY GAS DETECTION PRODUCTS 23

Introduction

Biosystems Datalink Kits consist of a copy of Biosystems' BioTrak Software for the Biosystems Family of Gas Detectors and a software instruction manual.

A computer interface cable is also included for connection of the PhD5 and PhD Ultra to a serial port on the user's IBM compatible computer. The Toxi Ultra serial cable is built into its data dock. The PhD Lite, Cannonball3 and MultiVision interfaces require an infrared transceiver. This transceiver can be purchased from Biosystems or a third party vendor. Most of portable computers manufactured today have an infrared transceiver. BioTrak is capable of running in **Windows 95, 98, 2000, XP and NT**.

BioTrak is menu driven for easy use. The software allows your Biosystems gas detector and your computer to communicate. It serves two basic functions: retrieving stored information from the gas detector and using the computer to "configure" the gas detector.

Optional instrument setups are created by "filling out" configuration forms displayed by the software. Most functions (such as downloading stored information from the instrument to your PC) are automatic or as easy as pushing a button. The software is designed to help you along.

Once the session information has been "downloaded" to the computer, it may be used for a variety of purposes. Data may be displayed and reviewed in detail through the Session Summary form, or used to automatically generate reports, tables, and time history graphs.

It is also possible to export data session records to formatted text for import into other software applications. Another option is to simply retain downloaded records as computer files to provide a permanent record of your gas detection-monitoring program.

The best way to learn the software is to use it!

1. Installing BioTrak Download Software

1.1 PC Requirements

The minimum PC requirements for BioTrak are as follows:

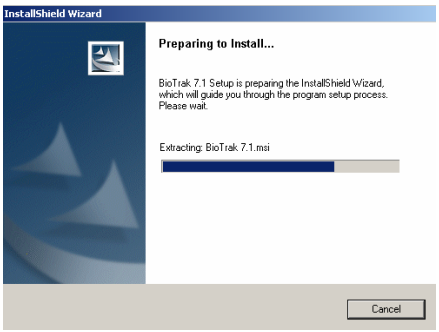
- Pentium Processor 366mHz or better or equivalent.
- 32MB RAM.
- Windows 95/98/2000/NT4.0 (w/Service Pack 5 or higher)/XP
- 30MB hard drive disk space.

Note: Windows XP or Windows 2000 with Service Pack 3 is required for instruments that communicate via infrared (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX).

1.2 Installing BioTrak on Windows™ 95, 98, 2000, XP or NT

To install BioTrak software to a PC using Windows™ 95, 98, 2000, XP or NT:

1. Insert the BioTrak CD into the PC's CD drive. If the installation does not start automatically, click on your CD drive in Windows Explorer. There are subfolders for the English and French installations. Click on the appropriate folder and then click on the "Setup.exe" file to begin the installation.



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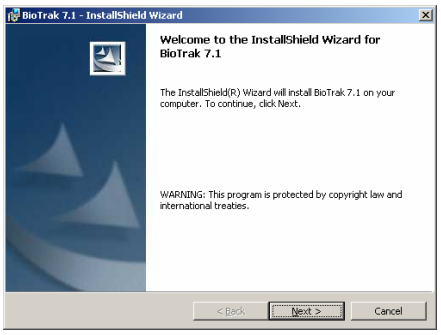
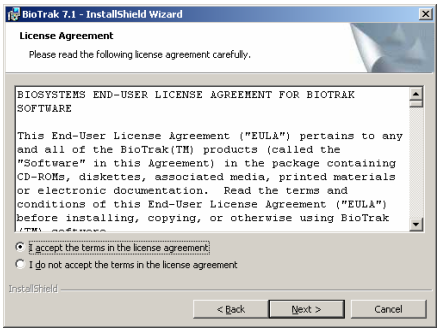
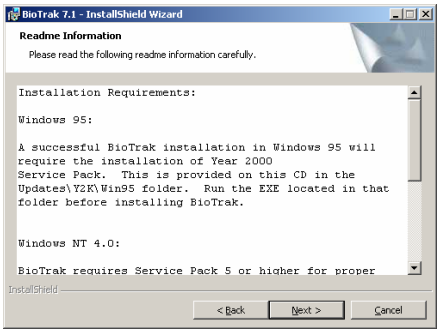


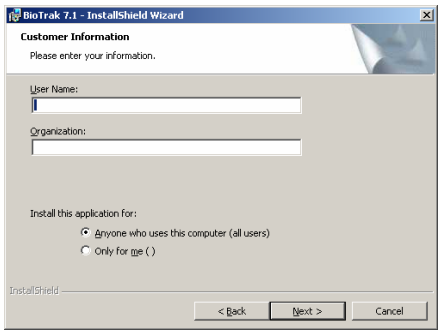
2. Click "Next" at the Welcome screen. The License Agreement screen will be shown.



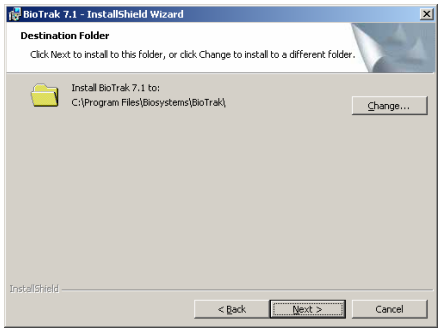
3. Read the License Agreement. If you agree to the terms set forth in the agreement, click "I accept the terms in the license agreement" followed by "Next". Failure to accept the terms of the license agreement will cause the installation to terminate. The Installation Requirements will then be shown.



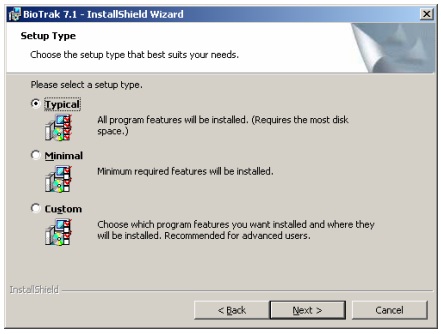
4. Click "Next". The Customer Information screen will then be shown.



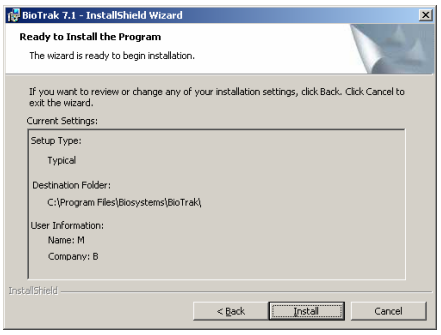
5. Fill in the User Name and Organization and decide whether the BioTrak program should be available to all users or only you. Then click "Next". The destination folder screen will then be shown.



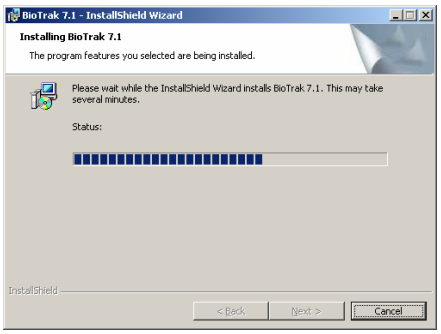
6. Click "Next" to install BioTrak into the default location at the "C:\ Program Files \ BIOSYSTEMS \ BioTrak" folder. If you wish to store the database in a different directory use the "Change" button and select a different destination. Then click "Next". The Setup Type screen will be shown.

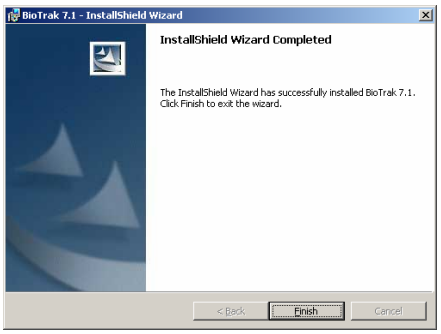


7. Biosystems recommends selecting the "Typical" installation. Individuals with more experience with the BioTrak program may choose the Custom or Minimal installation. Once the selection is made, click "Next"



8. Click "Install".





9. Click "Finish". BioTrak has now been installed.

2. Using BioTrak Datalink Software

BioTrak Datalink Software allows a PC to communicate with a datalogger-equipped Biosystems gas detector. The connection between the PC and the gas detector is either by datadock and serial interface cable (PhD5, PhD Ultra and Toxi/Oxy Ultra) or by Infrared port (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd, ToxiVision EX).

2.1 Serial Port Connection

Instruments that connect to the PC through a datadock via serial interface cable include the PhD5, PhD Ultra and Toxi/Oxy Ultra. The serial interface cable should be connected from a powered

datadock to the PC's parallel port. BioTrak's Auto-Detect function recognizes an instrument in the datadock once the software is launched.

2.2 Infrared Port Connection

Instruments that connect to the PC via Infrared (IrDA) port include the Cannonball3, MultiPro, MultiVision*, PhD Lite, ToxiPro/Ltd and ToxiVision EX.

Many new PC's include an IrDA port as standard equipment. If your PC does not include an IrDA port, an outboard Infrared transceiver can be purchased from Biosystems or a third party vendor to create an infrared port.

Note: If you must purchase an IrDA transceiver, Biosystems recommends the JetEye PC IrDA Serial Adapter by Extended Systems (model number ESI-09680-7401), which can be purchased directly through Extended Systems or through Biosystems.

Note that the MultiVision must have a fully enabled datalogger to be able to communicate with the PC via IrDA.

2.2.1 Infrared Port Activation

BioTrak will activate the IrDA port automatically when an instrument that requires an IrDA interface is selected from the ***Instruments*** menu. The following icon(s) will be displayed on the Windows™ taskbar in the lower right corner of the screen. A single IrDA icon indicates that the IrDA port is functioning but is currently not reading anything.

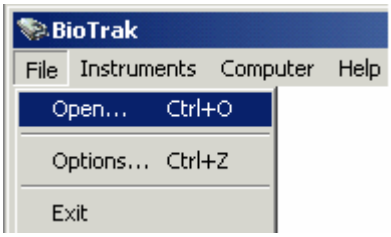
To establish the Infrared link with the instrument, the detector must be placed in communications mode as described in its operating or reference manual. Once the instrument is in communications mode, place it in front of the computer's infrared port. Once the instrument's IrDA signature is recognized by the PC, the following will appear on Windows™ taskbar (the icon on the right represents the instrument):

The two icons will flash to indicate that data is being transferred.

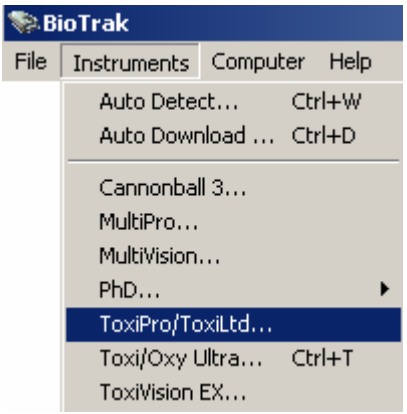
2.3 Main Menu Options

The BioTrak software's Main menu lists four items: ***File***, ***Instrument***, ***Computer***, and ***Help***.

The ***File*** menu is used to open previously saved session data files, to set program options and to exit the program.



The ***Instruments*** menu is used to detect supported Biosystems gas detectors that are recognized by the PC, automatically download instrument data, and to directly select an instrument type.



To perform tasks such as instrument configuration, downloading session data, clearing the datalogger memory, and setting the instrument's internal clock, you must first establish communication with the instrument using the ***Instruments*** menu.

The ***Computer*** menu allows detection and selection of the default communication port(s) used when the instrument type is selected using the instrument menu or ***Auto Detect*** or ***Auto Download*** functions are used.

Note: The first time BioTrak is executed the Com/Infrared ports will

be detected automatically. The default port will be the first available port.

Menu options are covered at length in the subsequent chapters of this manual.

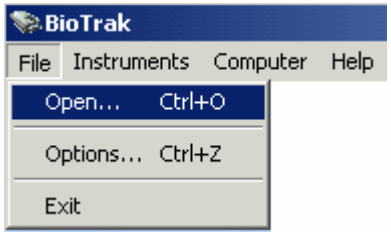
3. File Menu

3.1 General

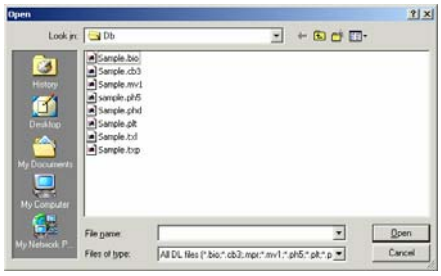
The "File" menu is used to open existing datalogger files, to set BioTrak's general program options, and to exit the program.

3.2 File / Open

The "***Open***" item from the ***File*** Menu is used to open existing session data files.



BioTrak will automatically open to the C:/ Program Files / BIOSYSTEMS / BioTrak / Db Folder unless another location was chosen during software installation.



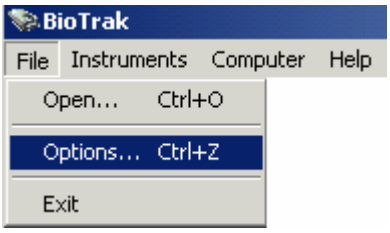
The ***Open Dialog*** box will default to list all available datalogger files in the current directory. The ***File Dialog*** box allows you to change directories to look for files in other locations.

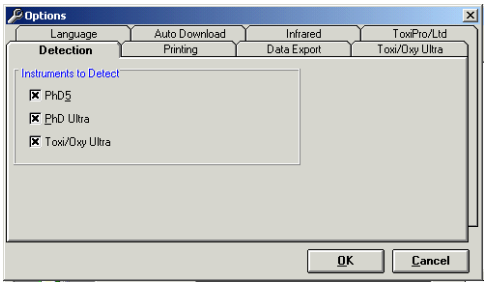
The ***"Files of type"*** drop down list allows the display to customize the display from all available datalogger files to files only from a certain instrument.

Click on a file name in the list and select ***"Open"*** to load the file into the program. The file selected here will be the file to which new data is saved following instrument download.

3.3 File / Options

The "***Options***" item is used to configure the BioTrak program for user preferences. The Options screen includes 8 tabbed pages with controls for everything from language selection to printing preferences. These options are discussed in detail below in sections 3.3.1 through 3.3.8 of this manual.

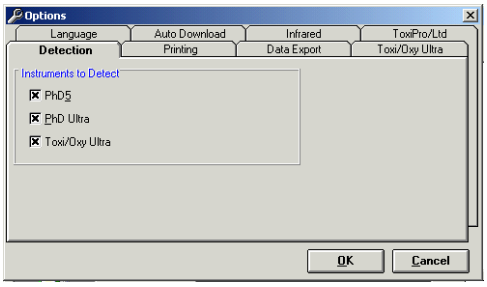




3.3.1 Detection Options

The ***"Detection"*** tab allows the user to define search parameters for the ***"Auto Detection"*** and ***"Auto Download"*** functions (as discussed in section 4.1 and 4.2). Instruments that connect to the PC via serial interface cable and datadock can be automatically detected by the PC. These instruments include the PhD5, PhD Ultra and Toxi/Oxy Ultra (see section 4.3).

Note: Instruments using an IrDA connection with the PC (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX) cannot be *"Auto Detected"*.

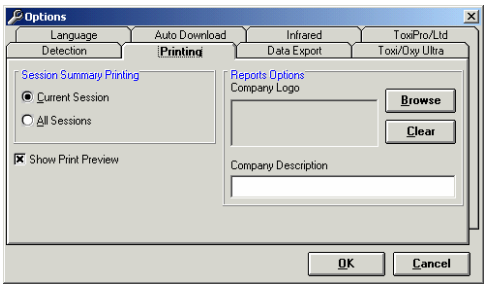


3.3.2 Printing Options

The ***"Printing"*** tab controls BioTrak printing options. The ***"Session Summary Printing"*** options allows the user to select between printing all the

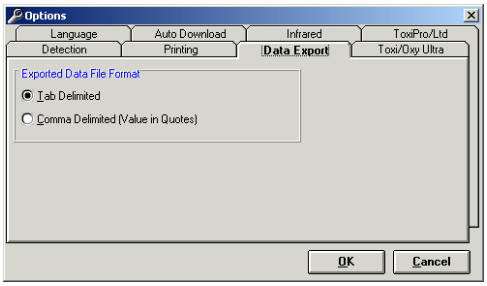
sessions in the database or just the current session.

Select ***"Show Print Preview"*** to preview a report before it is printed. The preview may then be printed or cancelled.



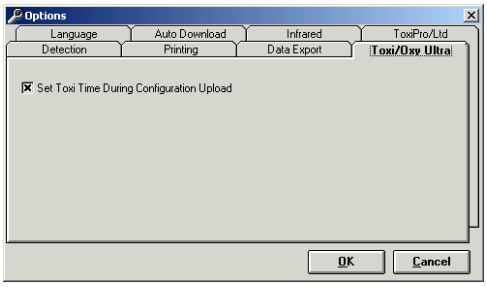
3.3.3 Data Export Options

The ***"Data Export"*** tab allows the user to select the format of the text file created when the session data is exported from the data table. The new text file can easily be imported into spreadsheet or database applications. The files can be exported as “Tab Delimited” or as “Comma Delimited” files.



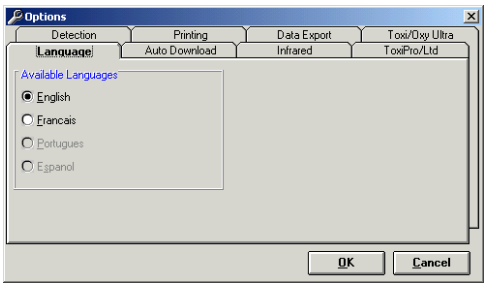
3.3.4 Toxi/Oxy Ultra Options

The ***"Toxi Ultra"*** tab enables you to set the time on the Toxi Ultra when the configuration is uploaded. **Note: The time will always be reset to computer time during a session download.**



3.3.5 Language Options

The ***"Language"*** tab allows the user to select the default language for the BioTrak program. As of the publication of this manual, English and French were the two available languages. After a new language has been selected, "click" the ***"OK"*** button and the program including its Help file will instantly change to the chosen language.



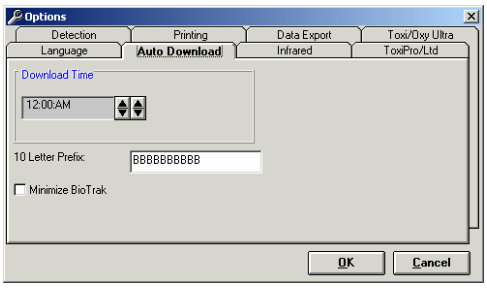
3.3.6 Auto Download Options

The ***"Auto Download"*** tab controls the options for the Auto Download feature.

The ***Download Time*** setting allows the user to set the time for the automatic downloads to begin (typically used to automate the downloading of data files while the instrument is charging overnight in its datadock, which must be connected to the PC by serial cable) To adjust the time setting, use the controls to the right of the time.

The ***"10 Letter Prefix"*** allows the user to enter a prefix for the datalogger file created during the download. The prefix should uniquely identify the instrument or location for future reference. The rest of the filename will consist of date and appropriate extension for the downloaded instrument (see ***Auto Download*** function in section 4.3 for further information).

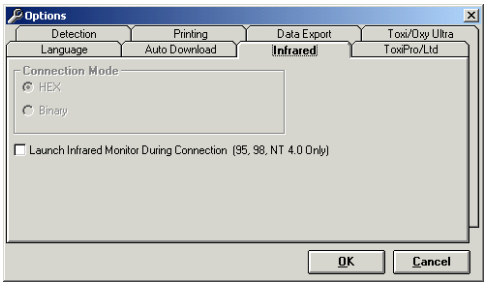
Note: Instruments that connect via IrDA interface (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd, ToxiVision EX) are not supported in the "Auto Download”.



3.3.7 Infrared

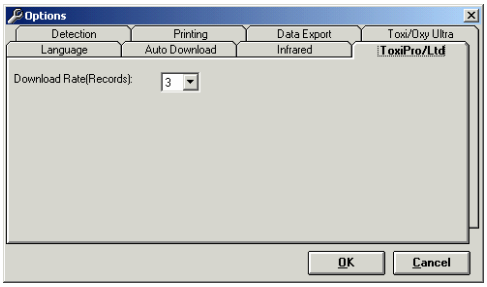
The ***"Infrared"*** tab has a checkbox that controls whether the infrared monitor is

launched automatically during connection.



3.3.8 ToxiPro/Ltd

The ***"ToxiPro/Ltd"*** tab controls the number of records that will be downloaded automatically when the ToxiPro or ToxiLtd is connected to the PC (via IrDA).



3.4 File / Exit

Use the "***Exit***" from the File Menu to exit the BioTrak Datalink software.

4. Software use / Instruments Menu

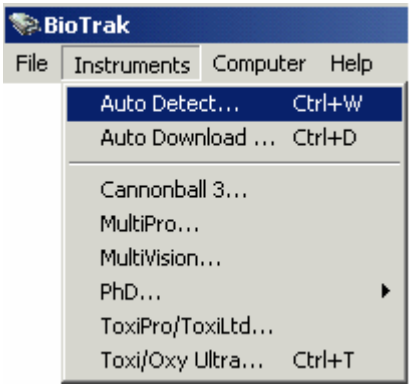
For instructions on connecting instruments that connect via datadock including the PhD5, PhD Ultra and Toxi Ultra, proceed to section 4.1. Autodownload instructions are contained in section 4.2.

For instructions on connecting instruments that connect via IrDA port including the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX, proceed to section 4.3.

Once the connection is established, sections 4.4 though 4.7 cover available options.

4.1 Connecting the PhD5, PhD Ultra, Toxi/Oxy Ultra to the PC

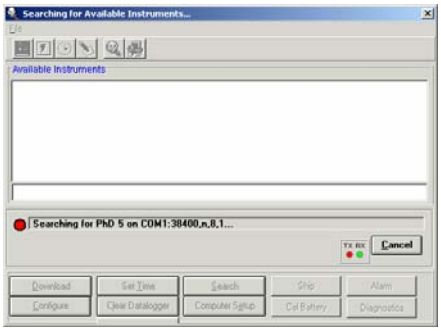
To automatically detect a PhD5, PhD Ultra or Toxi/Oxy Ultra, turn the instrument off and place it in its datadock, which should be connected to the PC via serial interface cable. Then select ***Auto Detect*** option from the Instrument menu.



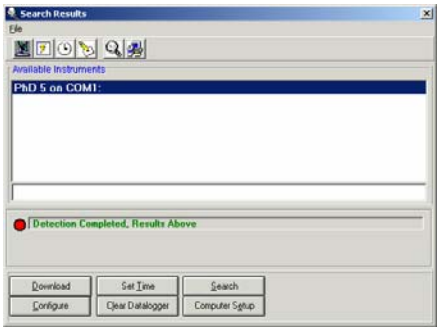
The ***Auto Detect*** feature will automatically detect any supported instruments that are connected to the PC via datadock and serial interface cable, including the PhD 5, PhD Ultra and Toxi/Oxy Ultra.

Instruments that connect to the computer via IrDA port (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd, ToxiVision EX) cannot be auto-detected.

Once ***Auto Detect*** is selected, BioTrak will search for any Biosystems instruments connected to the computer via serial cable and datadock.

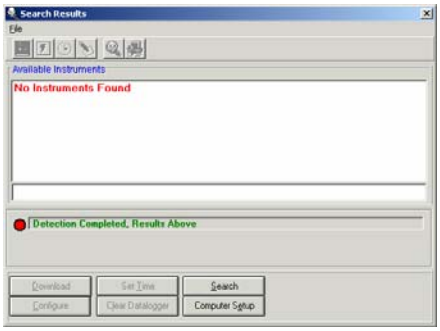


After the PC detects the instrument, a list of available instruments will be displayed in the ***"Available Instrument List".*** If more than one instrument is currently connected to the PC, the first instrument detected becomes the default for your next selected function (downloading session data, configuration, etc.). To change the selected instrument, 'click' on the desired instrument in the list.



Proceed to section 4.3 – 47 for detailed instruction on the available options once the instrument is recognized.

If BioTrak fails to detect any instruments, it will notify you that no instruments have been found.



4.2 Auto Download (for PhD5, PhD Ultra and Toxi Ultra)

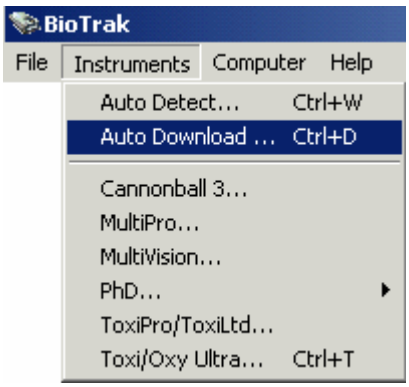
The ***Auto Download*** function allows the user to automatically detect, download, and save the results to a file in a single step.

The ***Auto Download*** feature will automatically detect any supported instruments that are connected to the PC via datadock and serial interface cable, including the PhD 5, Phd Ultra and Toxi/Oxy Ultra.

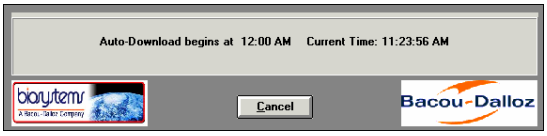
Instruments that connect to the computer via IrDA port (Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd, ToxiVision EX) can not be auto-downloaded.

To use the ***Auto Download*** function, follow these steps:

1. Verify that all the instruments are turned off and in their respective data dock.
2. Check the ***Auto Detection*** tab on "Options" form to verify the correct instruments are selected for the detection.
3. Select ***"Auto Download"*** from the Instrument menu.



Next a form showing the time the ***"Auto Download"*** will begin and the current time will be displayed. The user can select the ***"Cancel"*** at anytime to cancel the ***Auto Download*** sequence.



During the Auto Download, the software will perform the following functions:

Auto Detection – Determines the attached instruments available for download.

Downloads – Downloads each instrument detected in the previous step.

Save Results – Saves each download to the proper file format. The new file names will be uniquely generated to consist of the 10 letter Prefix that was entered in section 3.3.6, along with the current date and file type. For example:

- **10 Letter Prefix:** Manhole12
- **Date**: 11/05/1999
- **Instrument:** PhD5
- **Result**: Manhole12_11_05_1999.ph5

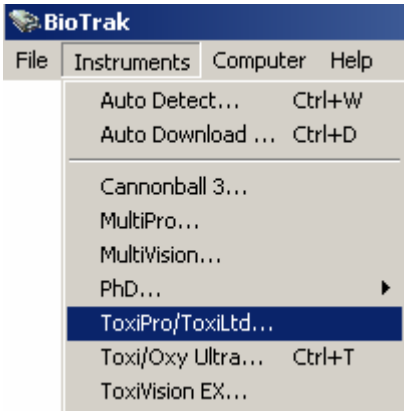
Once the auto download is completed, the user may view the results of the download.

4.3 Connecting the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX

Instruments that connect via IrDA must be selected in the instrument menu to begin the detection process.

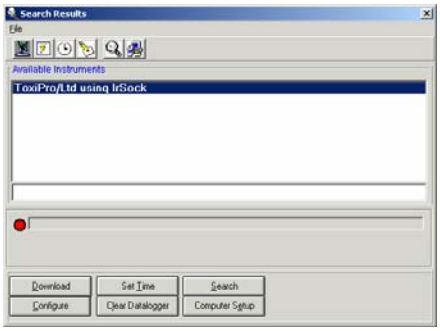
Instruments that connect via datadock (Cannonball3, PhD Ultra, PhD5, Toxi Ultra) may also be detected by selecting the instrument type in the Instrument menu. Since the instruments that connect via datadock are covered in section 4.1, this section will only cover instruments that connect via IrDA.

1. Select the appropriate instrument.

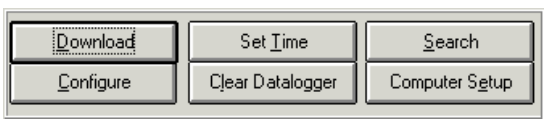


Once the instrument is selected, the PC will automatically enable the PC's IrDA port and begin the connection process.

A red light in the status display bar at the bottom of the window indicates that no connection has been recognized.



The connection will be initiated by the BioTrak program once an operation is selected from the option bar.

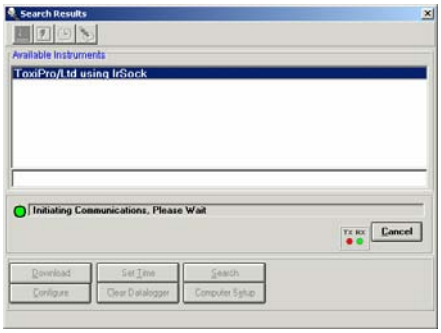


2. Select the appropriate operation. The PC will direct you to align the IrDA port on the instrument with the PC's IrDA port.

3. Follow the instructions given on the screen.

If you are unsure of the location of the detector's IrDA port, see the detector's operating manual.

A green light in the status display bar indicates that an instrument has been detected.

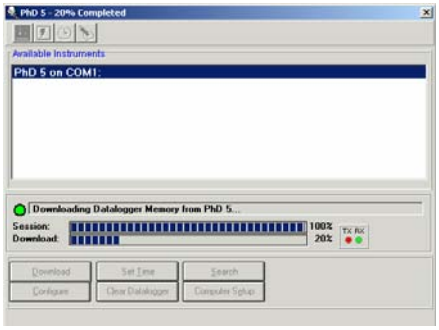


BioTrak will then proceed with the operation specified above. Detailed instructions for the available operations are covered in sections 4.3-4.7 below

4.4 Download

Note: This section assumes that you have initiated the connection between the PC and the instrument as described above in section 4.1 for the PhD5, PhD Ultra and Toxi/Oxy Ultra or as described above in section 4.3 for the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX.

To download the datalogger in the instrument, click on Download in the options bar near the bottom of the window. BioTrak will proceed to establish contact with the instrument and to download the datalogger. A status bar located just above the options bar will show the progress of the download.



Once the download is complete, a session summary will be shown.

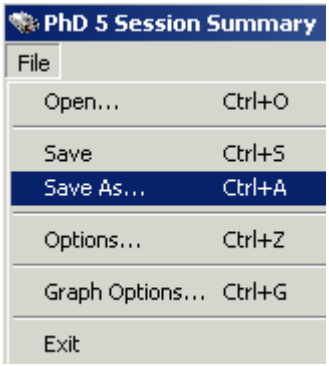
Note: The complexity of the Session Summary screen will vary with the instrument type and specific session information.

4.4.1 Session Summary File Menu

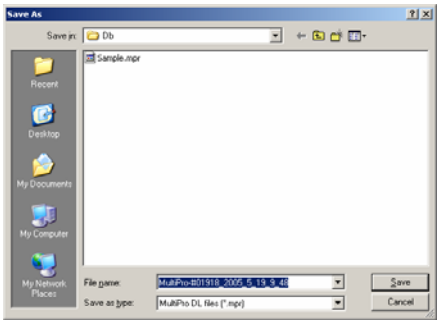
The File Menu in the Session Summary contains a number of options. General controls are located in the File Menu at the top of the screen. Specific data controls are located in the option bar near the bottom of the screen.

4.4.1.1 File / Save the Data File

When data transfer is complete select ***"Save As..."*** from the File Menu to save the *Instrument Summary Information* form to the hard disk.



A Save As Dialog box will be shown.



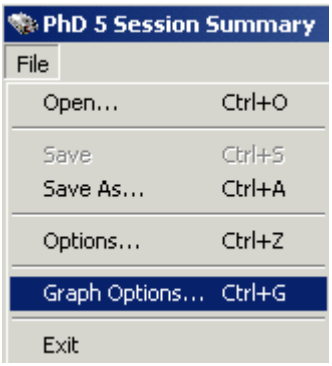
A default file name will appear that comprises the instrument type, serial number, date and time. The default file name is designed to be unique and easy to locate in the future. To use the default file name click on the ***'Save'*** button to save the file. Otherwise, enter a new file name and click the ***'Save'*** button to save the file.

4.4.1.2 File / Options

See section 3.3 above for detailed descriptions of the available options in the File menu.

4.4.1.3 File / Graph options

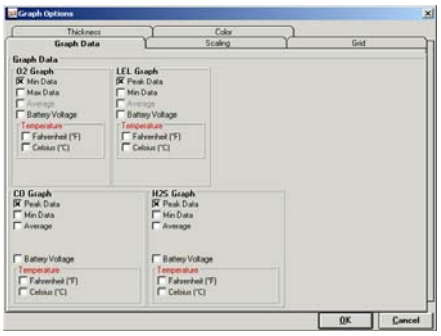
The Graph option in the File Menu contains controls for the graph's appearance including "Graph Data", "Scaling", "Grid", "Thickness" and "Color".



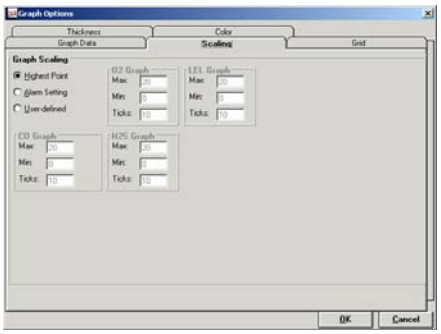
The ***"Graph Data"*** tab allows the user to select the data to be displayed when the "*Graph"* option is selected from the lower control bar (see section 4.4.2.3). Each sensor has specific data that can be "toggled" on and off as needed by the user. The only exception is temperature; the user must select either Fahrenheit or Celsius.

Note: Only one graph type selection can be made at a time. Do not select more than one type of graph per sensor (e.g. for the O2 sensor, do not

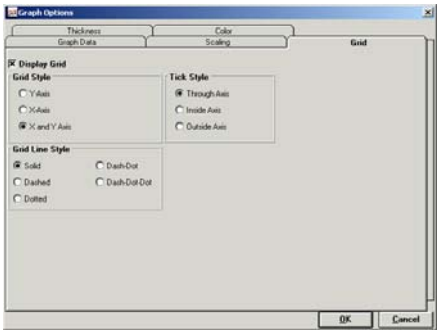
select the Battery Voltage and Max Data at the same time).



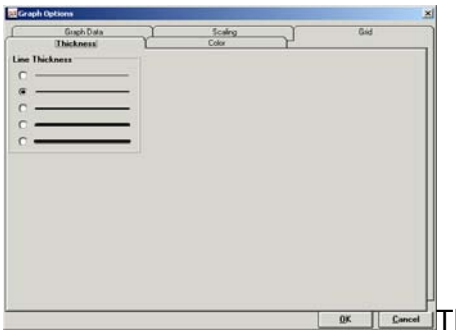
The ***"Scaling"*** tab allows the user to scale the graphs to the *"Highest Point"*, the *"Alarm Setting"* or *"User-defined"*. If *"User-defined"* is selected, the user can set the Max and Min values for the scale and the number of ticks between the Max and Min.



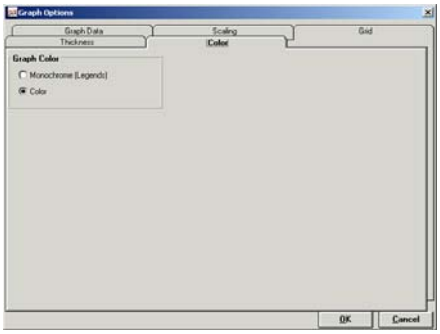
The "***Grid"*** tab defines how the grid on the graph will be displayed. *Display Grid* must be selected first to enable the *Grid Style, Grid Line Style* and *Tick Style* options, each of which have several settings.



The ***"Thickness"*** tab allows you to define the width of the lines used in the graph.



The ***"Color"*** tab defines the graph to be in Color or Monochrome. If Monochrome color is selected, the graph legend will have symbols instead of colored slashes.



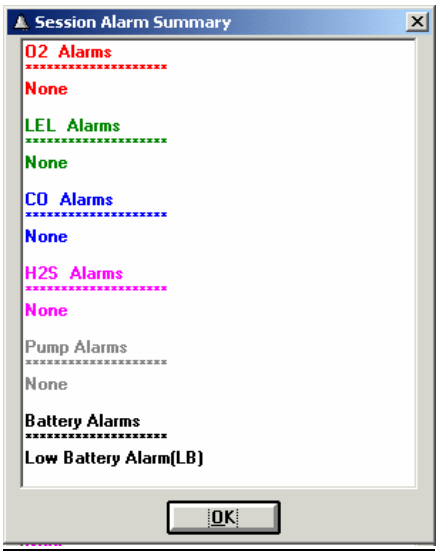
4.4.2 Lower Control Bar

The control bar at the bottom right of the Window includes database controls ***"Next"*** and ***"Previous"*** for scrolling through the record set. It also includes controls for **Alarms**", "**Graphs**", "**Print**", and "**Table**".

The ***"Details"*** button only appears when there has been an alarm condition during the session.

4.4.2.1 Details Button

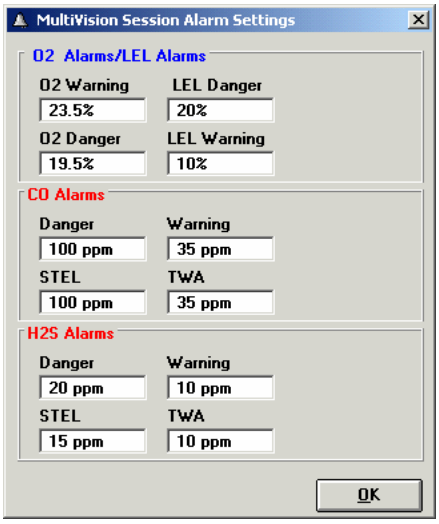
If the instrument went into alarm during the session, the "Details" button will be shown to the left of the "Alarms" and "Print" buttons. Press the detail button to view the details of the session.



In the example below, the low battery alarm was triggered. Press OK to return to the session summary.

4.4.2.2 Alarms

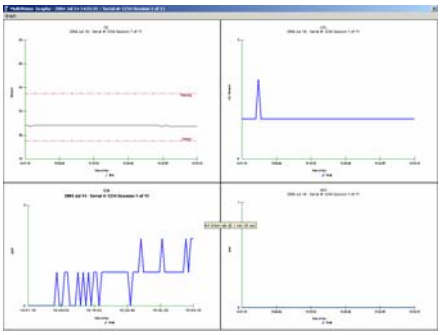
Press the "Alarms" button will to view the alarm settings for the sensors installed during datalogging of the current session.



4.4.2.3 Graphs

One the most powerful ways of reviewing session data is to examine the data in the form of a time-history graph. Plotting gas-reading values registered during the monitoring session against time generates time-history graphs.

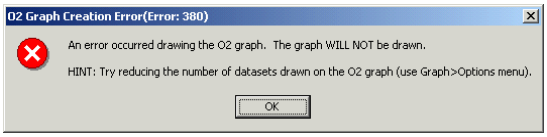
Use the ***"Graphs"*** button to display time history session graphs. A graph will be created for each sensor(s) installed in the instrument during the session.



Each time history graph(s) is identified by sensor type. Each sensor type has distinct options based on the types of alarms that the sensor offers. Graph type options are discussed in section 4.4.1.3.

Note: To add a comment to the graphs, simply move the mouse over the graphs and double-click. A text box will appear where the comment can be added. A comment is limited to 80 characters in length.

If the following error message is shown, return to the ***File / Graph Options*** menu item and deselect one of the graph types. Then click the ***Graphs*** button again.

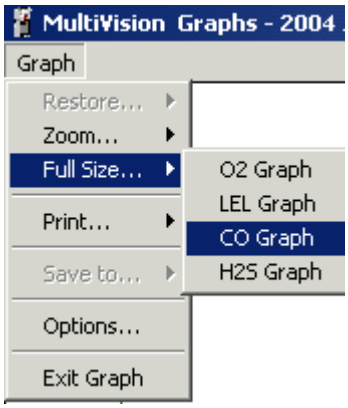


Graph Menu Options

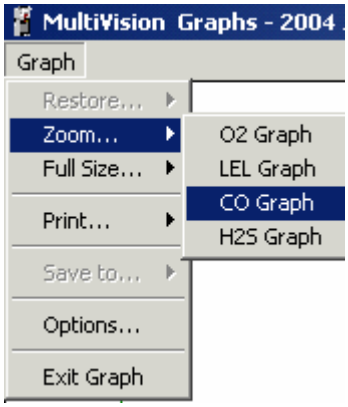
When a graph is being displayed, the Graph Menu option will appear at the top of the graph.

Each graph shows readings registered throughout the entire monitoring session compressed to fit into the available monitor screen space.

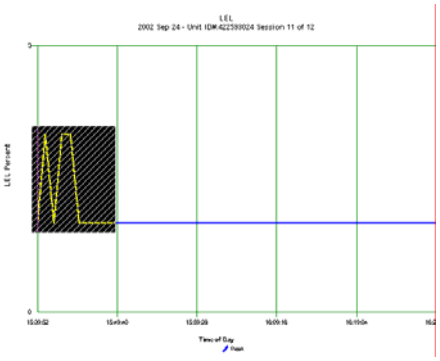
It is possible to enlarge a graph to the full size of the screen by using the "Full Size" item in the ***Graph*** menu and selecting the desired graph.



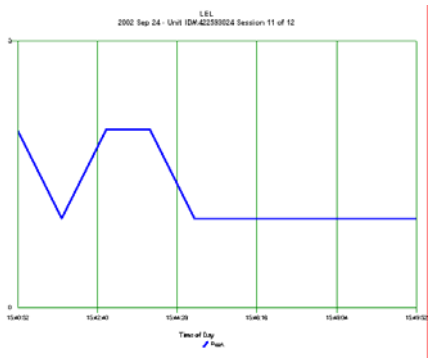
A graph can also be viewed in greater detail by selecting the "Zoom" item from the Graph menu and following these steps:



1. Move the mouse to the area of the graph to "zoom"
2. 'Click' and hold the left button to create a "zoom box"
3. Move the mouse until the "zoom box" surrounds the desired area (see below).



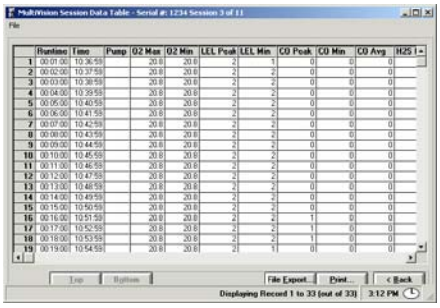
4. After the mouse button is released, the graph will expand to the "zoomed" area. A graph can be zoomed in normal and full size views.



Press "***Restore***" from the File menu and then select the sensor to return the selected graph back to its original size.

4.4.2.4 Data Table Button

Choose the "***Table***" button from the *Session Summary Information* form to view data in the form of a spreadsheet. Each line of the table represents values registered during a specific datalogging interval. The parameters displayed in each line are run time, time of day, oxygen concentration (if applicable), LEL concentration (if applicable) and readings for up to two toxic sensors. Besides showing the peak toxic concentration readings for each datalogging interval, a STEL and TWA value are also logged (when applicable) for each sensor. Each line also includes the battery voltage and instrument temperature for that data point.



The program will load the first 200 available session data points into the data table.

Use the "***Top***" button to move to the top of the list and the "***Bottom***" button to move to end of the list. If the data session is greater than 200 points, use the "***Next 200>>***" button to move down the list 200 points and ***"<<200 Prev***" to move up the list 200 points. The total number of session data points is displayed in the lower right corner of the

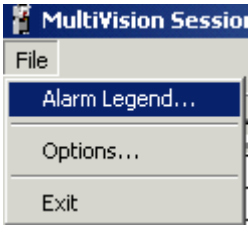
data grid. **Note the column size can be adjusted by moving the cursor into the column header and clicking and dragging the to the left or right of the header.**

The "***Print***" button may be used to send the contents of the current form of information being viewed directly to a printer.

Select "***File Export*** " button to export the data to an ASCII comma delimited file format for use in a spreadsheet program. The format of the data for output is determined in the "Options" menu item found under the menu bar item "File" (see section 3.3).

4.4.2.5 Viewing Alarm Legend

If an alarm condition has occurred in the PhD5, PhD Lite, MultiVision or Cannonball3, it will register in the data table as a symbol. Explanation of each symbol can be found by using the Alarm Legend. Using the ***"File"*** menu and selecting the ***"Alarm Legend"*** item accesses the legend.



↓

4.5 Configuration

Note: This section assumes that connection has been initiated between the PC and the instrument as described above in section 4.1 for the PhD5, PhD Ultra and Toxi Ultra or as described above in section 4.3 for the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX.

Instrument configuration allows to the user to adjust the instrument's internal operating parameters to personal preferences.

Connect the PC to the instrument as described above. For PhD5, PhD Ultra and Toxi Ultra, follow the instructions given in section 4.1.

For Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX, follow the instructions given in section 4.3.

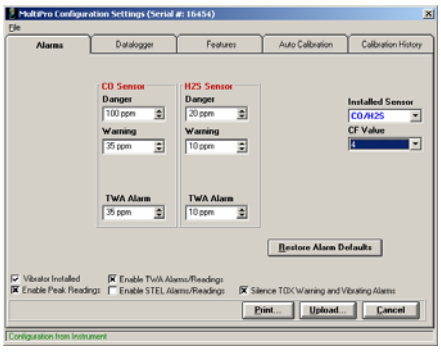
After the download is complete, the "Configuration Settings" window will be shown with the Alarm Settings tab activated.

Note: If the configuration settings are edited, the status box on the bottom of the form will change from "Configuration from Instrument" to *"Configuration modified by User"* and any changes will be displayed in red.

Note: The number and type of configuration screens vary with instrument type. The following section is intended as a sample of the configuration screens. The configuration screens shown on your PC may be slightly different.

4.5.1 Configuration / Alarm Tab

The ***"Alarms"*** tab on the *Configuration Settings* form allows the user to adjust alarm settings for all sensors installed in the unit. Alarms vary by instrument type, but typically include high and low alarms for oxygen sensors, ceiling alarm for LEL sensors and some combination of danger, warning, ceiling, STEL and TWA alarms for each toxic sensor installed into the unit.



Biosystems default gas detection alarms

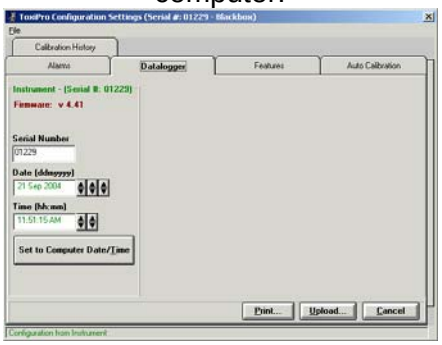
are set very conservatively to minimize the risk of injury. Factory default alarm settings may be restored at any time by pressing the ***"Restore Alarm Defaults"*** button.

Note: The MultiPro's Alarms Tab contains the CF Value for the CO/H2S sensor. If the MultiPro is equipped a CO/H2S sensor that is part number 54-49-24, the CF Value shown in the configuration screen must match the value shown on the sensor. To change the value, enter it in the input box below CF Value and press the "Upload" button. If the MultiPro is equipped with a CO/H2S sensor that is part number 54-49-14, then the CF Value shown in the configuration screen must equal "0".

4.5.2 Configuration / Datalogger Tab

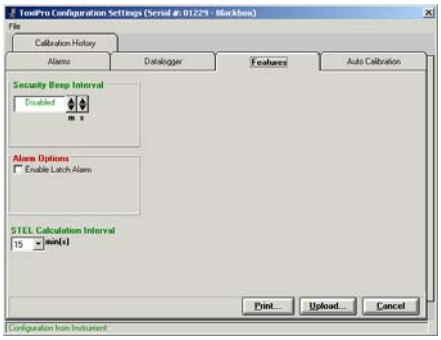
The ***"Datalogger"*** tab on the *Configuration Settings* form allows the user to adjust the datalogger interval, and to set the instrument date and time. The instrument's firmware version and OTP versions are shown if available.

Use the ***"Set to Computer Date/Time"*** button to set the instrument's date and time to the current date/time on the computer.



4.5.3 Configuration / Features Tab

The ***"Features"*** tab on the *Configuration Settings* form is used to change settings for the Current Operating Mode, Alarm Latch, OK Mode Alarm Latch, Security Beep, and Decimal Point Display for each Toxic sensor. For more information on the operation and setting for the above instrument features, please consult the instrument's operation manual.

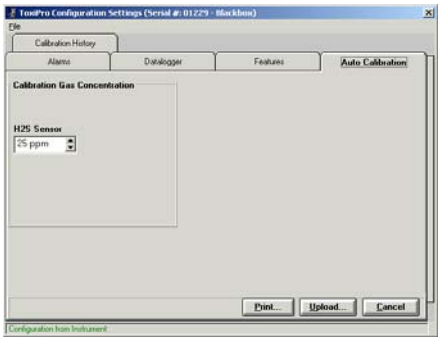


4.5.4 Configuration / Auto Calibration Tab

The ***"Auto Calibration"*** tab on the Configuration Settings form is used to alter the concentration values for calibration gas used in the automatic calibration sequence. Each installed sensor is listed with the expected gas concentration. Using the spin buttons located to the right of each box changes the calibration gas value.

Once these new settings are uploaded to the instrument, calibration gas at a level that corresponds to the new setting must be used in the calibration of the gas detector.

⚠WARNING Calibration values shown in the calibration value table must match those appearing on the calibration gas cylinder(s) that will be used to calibrate the instrument. Non-matching calibration gas and calibration gas value settings will lead to inaccurate and potentially dangerous readings.



If one of the sensors is a "*CO Plus*" sensor you will have the additional choice of indicating whether the sensor is to be calibrated to carbon monoxide or hydrogen sulfide. An option box is provided to indicate your choice. Please note that if a change is made to the type

of gas used to calibrate your CO Plus sensor, the alarm settings will automatically be altered to reflect the new hazard.

You can also change the reading of the combustible sensor from LEL to CH_4. Doing this allows you to view combustible gas in percent by volume for an area versus viewing the percent of the lower explosive limit.

Note: Older instruments may not offer this option, but it may be available if instrument software is updated. Call Biosystems for details.

Instruments equipped with the non-specific chlorine sensor will have the option to change the readout between chlorine (Cl_2) and chlorine dioxide (ClO_2). See your instruments owner's manual for a detailed explanation of this feature.

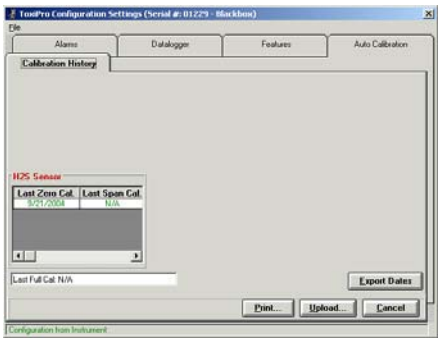
Note: Once this change is made and saved all chlorine sensor readings will register as ClO_2 until it is changed back to Cl_2.

The "**Defaults**" button will reset the Calibration Gas Concentration values to the factory defaults for each installed sensor.

4.5.5 Configuration / Calibration History Tab

The "*Calibration History*" tab on the *Configuration Settings* form will display the last 8 fresh air and span calibration dates for each sensor.

A *'double-click'* on any of the calibration dates will display the exact time of the calibration.



4.5.6 Configuration / User/Locations Tab

After selecting the ***"User/ Locations"*** tab on the *Configuration Settings* form, a list for current User ID and Locations stored in the instrument will be shown. The user can modify each list by selection the ***"Edit"*** or ***"New"*** buttons. The ***"Edit"*** button will edit the current selected item in the list. The ***"New"*** button will create a new entry in the list in the next available position in the list. **Note: If the User or Locations lists are full the *"New"* button will be disabled.**

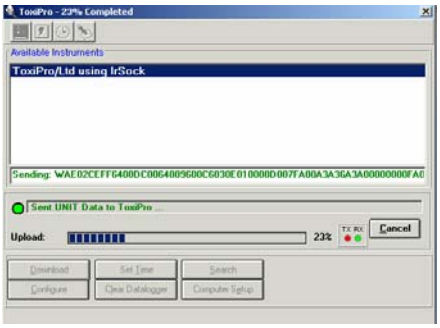
Once these lists are uploaded into the instrument memory, they can be selected and used to "tag" a monitoring session with user and location information at any time while the instrument is being used in the field.

Note: In the PhD Ultra, the selected User and Location will be used the next time the PhD Ultra is logging a session. In the Cannonball3, PhD5 and PhD Lite, the current User ID and Location must be set in the instrument each time the instrument is turned on.

4.5.7 Configuration Controls

When you have finished editing the instrument's configuration, press the ***"Upload"*** button to upload the new configuration.

During the upload, a progress bar will display the percentage of upload and the Status Line will display the current action.



Note: For instruments that connect by IrDA, the connection may need to be reestablished prior to upload. If this is the case, a message will be shown on the PC screen with further directions.

After the upload is completed, BioTrak will return to *'Available Instruments'* form.

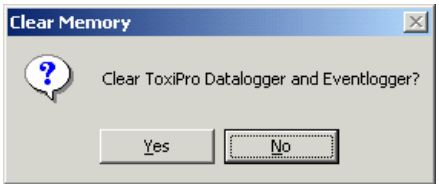
To cancel changes made to the configuration, press the ***"Cancel"*** button. The software will return to *'Available Instruments'* form and put the instrument into 'Sleep Mode'.

To print the instrument configuration settings, use the ***"Print"*** option button. A printer dialog box will appear:

4.6 Clear Datalogger Memory

Note: This section assumes that you have initiated the connection between the PC and the instrument as described above in section 4.1 for the PhD5, PhD Ultra and Toxi Ultra or as described above in section 4.2 for the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX.

1. Click on the ***"Clear Datalogger"*** button. Follow the instructions given on the screen for completing the connection between the instrument and the PC.
2. Once the connection is established, the following box will appear to verify that you want to clear the datalogger memory.



If you select ***"No"*** then you will be returned to the ***'Search Results'*** form. If you select ***"Yes"***, then all recorded session data currently in instrument memory will be cleared.

Make sure that any session information, which will be needed, is safely downloaded and stored prior to clearing the instrument memory.

CAUTION: Once session data is cleared, it is permanently lost and may not be retrieved from the instrument in the future!

Note: This procedure only clears data recorded during monitoring sessions. The Configuration settings, such as Alarm Settings are not affected by this procedure.

4.7 Setting Instrument Date and Time

Note: This section assumes that you have initiated the connection between the PC and the instrument as described above in section 4.1 for the PhD5, PhD Ultra and Toxi Ultra or as described above in section 4.2 for the Cannonball3, MultiPro, MultiVision, PhD Lite, ToxiPro/Ltd and ToxiVision EX.

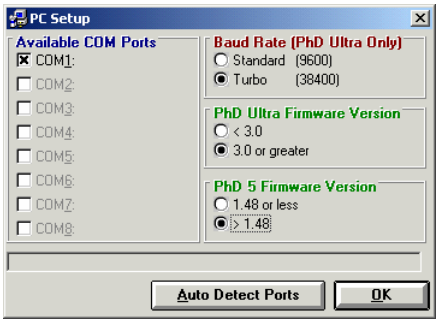
Select the ***"Set Time"*** button. The instrument's Date and Time will be synchronized to the PC clock. After the process is finished, a message box will display the time that has been sent to the instrument.

5. Computer and Help Menus

5.1 Computer Menu

Select the ***"Communication Setup"*** item from the ***Computer*** menu item to display the available serial communications port (COM 1-8) and the communications rate for the PhD Ultra that will be used during data transfer.

The PC Setup screen will be shown.



Use the ***"Auto Detect Ports"*** button to redetect the communication ports.

The ***Baud Rate*** selections are only relevant for the PhD Ultra. The PhD Ultra communicates using the *"Standard"* or *"Turbo"* communication rate. The other instruments use the "Turbo" rate.

Note: This selection is only necessary if the PhD Ultra is being Download/Configured was not detected using the *"Auto Detection"* feature. The *"Auto Detection"* function will automatically determine the rate.

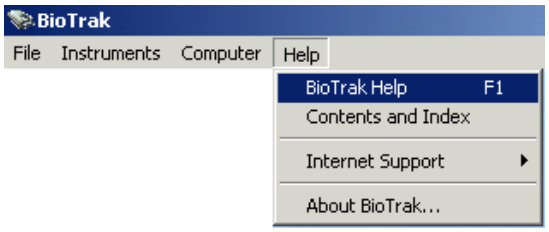
5.2 Help Menu

The Help Menu is designed to provide "on-line" assistance to the user during operation of the BioTrak Download Software.

While using the "on-line" help, the user can search for a topic by entering a key word. Each topic can be sent to the printer for a hard copy and the help can be navigated by using several command buttons to move forward and backward through the list of topics.

5.2.1 BioTrak Help File

To access the BioTrak Help File, select Help followed by BioTrak Help.

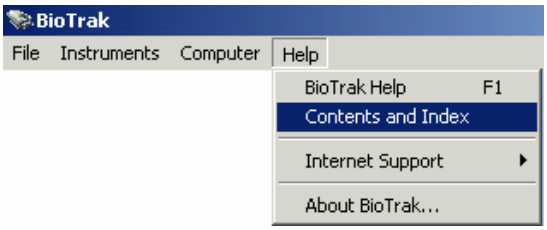


The Help File will then be shown.

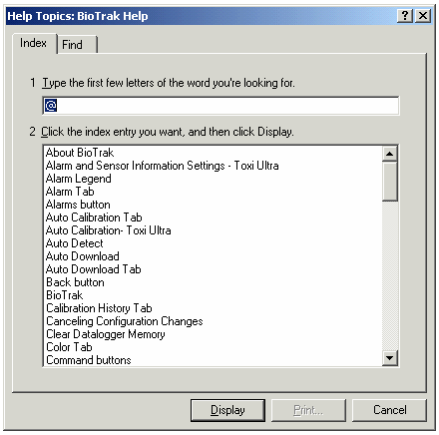
Controls are more or less self-explanatory and are located near the top of the screen. The Help Topics list can be accessed by clicking on the "Help Topics" button just below "File" near the top of the window.

5.2.2 Help Contents and Index

To access the Contents and Index File, select Help followed by BioTrak Help.



Use the ***"Contents and Index"*** menu item to enter a keyword or subject name to find. The list will automatically search for a match to the text that you enter. Once the subject or keyword is found, "double-click" the item and the help file will move to the selected topic.



5.2.3 Internet Support

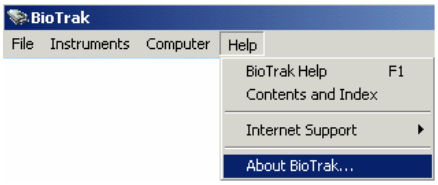
The Internet support option contains automatic links to the Biosystems and Bacou-Dalloz websites.

Biosystems' web address is:

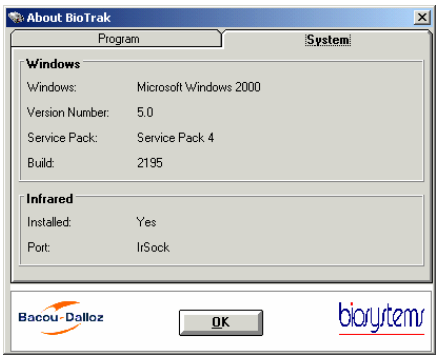
http://www.biosystems.com

5.2.4 About BioTrak

Select the "About BioTrak" item from the ***Help*** menu. The ***"Program"*** tab displays the Software Version, Software Date, and Biosystems' Technical Support phone number, and web site address.



The ***"System"*** tab displays information about the current installed version of Windows and the installation of any infrared devices.



Biosystems Standard Warranty Gas Detection Products

General

Biosystems, LLC (hereafter Biosystems) warrants gas detectors, sensors and accessories manufactured and sold by Biosystems, to be free from defects in materials and workmanship for the periods listed in the tables below.

Damages to any Biosystems products that result from abuse, alteration, power fluctuations including surges and lightning strikes, incorrect voltage settings, incorrect batteries, or repair procedures not made in accordance with the Instrument's Reference Manual are not covered by the Biosystems standard warranty.

The obligation of Biosystems under this warranty is limited to the repair or replacement of components deemed by the Biosystems Instrument Service Department to have been defective under the scope of this standard warranty. To receive consideration for warranty repair or replacement procedures, products must be returned with transportation and shipping charges prepaid to Biosystems at its manufacturing location in Middletown, Connecticut, or to a Biosystems Authorized Warranty Service Center. It is necessary to obtain a return authorization number from Biosystems prior to shipment.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. BIOSYSTEMS WILL NOT BE LIABLE FOR LOSS OR DAMAGE OF ANY KIND CONNECTED TO THE USE OF ITS PRODUCTS OR FAILURE OF ITS PRODUCTS TO FUNCTION OR OPERATE PROPERLY.

Instrument & Accessory Warranty Periods

Product(s)	Warranty Period
PhD[5], PhD Lite, PhD Plus, PhD Ultra, Cannonball*3,* MultiVision, Toxi, Toxi/Oxy Plus, Toxi/Oxy Ultra, ToxiVision, Ex Chek	As long as the instrument is in service
ToxiPro®, MultiPro	2 years from date of purchase
ToxiLtd®	2 years after activation or 2 years after the "Must Be Activated By" date, whichever comes first
Toxi3Ltd®	3 years after activation or 3 years after the "Must Be Activated By" date, whichever comes first
Mighty-Tox	90 days after activation or 90 days after the "Must Be Activated By" date, whichever comes first
Mighty-Tox 2 Prorated credit is given towards repair or purchase of a new unit of the same type.	0 – 6 months of use 100% credit 6 – 12 months of use 75% credit 12 – 18 months of use 50% credit 18 – 24 months of use 25% credit
IQ Systems, Series 3000, Airpanel, Travelpanel, ZoneGuard, Gas✓Chek1 and Gas✓Chek4	One year from the date of purchase
Battery packs and chargers, sampling pumps and other components, which by their design are consumed or depleted during normal operation, or which may require periodic replacement	One year from the date of purchase

Sensor Warranty Periods

Instrument(s)	Sensor Type(s)	Warranty Period
PhD Plus, PhD Ultra, PhD[5], PhD Lite, Cannonball*3*, MultiVision, MultiPro, ToxiVision, ToxiPro®, Ex Chek	O_2, LEL**, CO, CO+, H_2S & Duo-Tox	2 Years
	All Other Sensors	1 Year
Toxi, Toxi/Oxy Plus, Toxi/Oxy Ultra	CO, CO+, H_2S	2 Years
	All Other Sensors	1 Year
All Others	All Sensors	1 Year

**** Damage to combustible gas sensors by acute or chronic exposure to known sensor poisons such as volatile lead (aviation gasoline additive), hydride gases such as phosphine, and volatile silicone gases emitted from silicone caulks/sealants, silicone rubber molded products, laboratory glassware greases, spray lubricants, heat transfer fluids, waxes & polishing compounds (neat or spray aerosols), mold release agents for plastics injection molding operations, waterproofing formulations, vinyl & leather preservatives, and hand lotions which may contain ingredients listed as cyclomethicone, dimethicone and polymethicone (at the discretion of Biosystems Instrument Service department) void Biosystems' Standard Warranty as it applies to the replacement of combustible gas sensors.**