

Analyze XLerator™

Testing and Analysis XLeration

Introduction

Everyday, laboratory technicians spend valuable time looking up procedures for running analyses and entering sample test results into Excel®, LIMS and other database applications. This manual data entry is tedious, time consuming and error prone. Unnecessary time and resources are spent double-checking data entry, tracking down errors and looking for results that didn't get entered.

Automating both the data entry and the processes that generate the data will dramatically improve your laboratory's testing efficiency, accuracy and increase the level of job satisfaction for technicians.

Using the Collect Pro software and Analyze XLerator applications CD, you can automate any analytical procedure that uses RS232 or TCP/IP instruments including ASTM and EPA Standard Methods or custom analysis procedures.

Analysis Automation

Analyze XLerator combines the power of Excel® with an easy to use instrument interface and database communications engine.

- Contains an instrument library of hundreds of pre-configured RS232 instrument interfaces to simplify setup with your instruments
- Includes a library of Excel® templates for ASTM and EPA Standard Methods. If your methods aren't included, we can create them or you can use your existing Excel® templates*
- Ensures your testing procedures are meeting the latest ASTM or EPA Standard Method guidelines
- Utilizes the full data reduction and graphing capabilities of Excel®, the most widely used spreadsheet platform for data analysis
- Supports bi-directional communication with any RS232 and TCP/IP instruments to automate data collection and eliminate manual recording of results
- Controls I/O lines (turn switches, valves, lights, alarms, etc.)
- Combines multiple RS232/Serial devices into a single experiment method template
- Supports bi-directional communication with any ODBC compatible database such as LIMS, Access®, Oracle® or SQL Server®
- Automates alkalinity, pH, ISE analysis, colorimetry, any weighing application, force and stress testing, and much, much more...
- Give your lab a common platform for many analyses that is fully configurable to meet your analysis automation needs



The Power of Analyze XLerator

The following is just a sample list of what Analyze XLerator can do for you. Use any or all of these to create an automation process that meets your specific requirements.

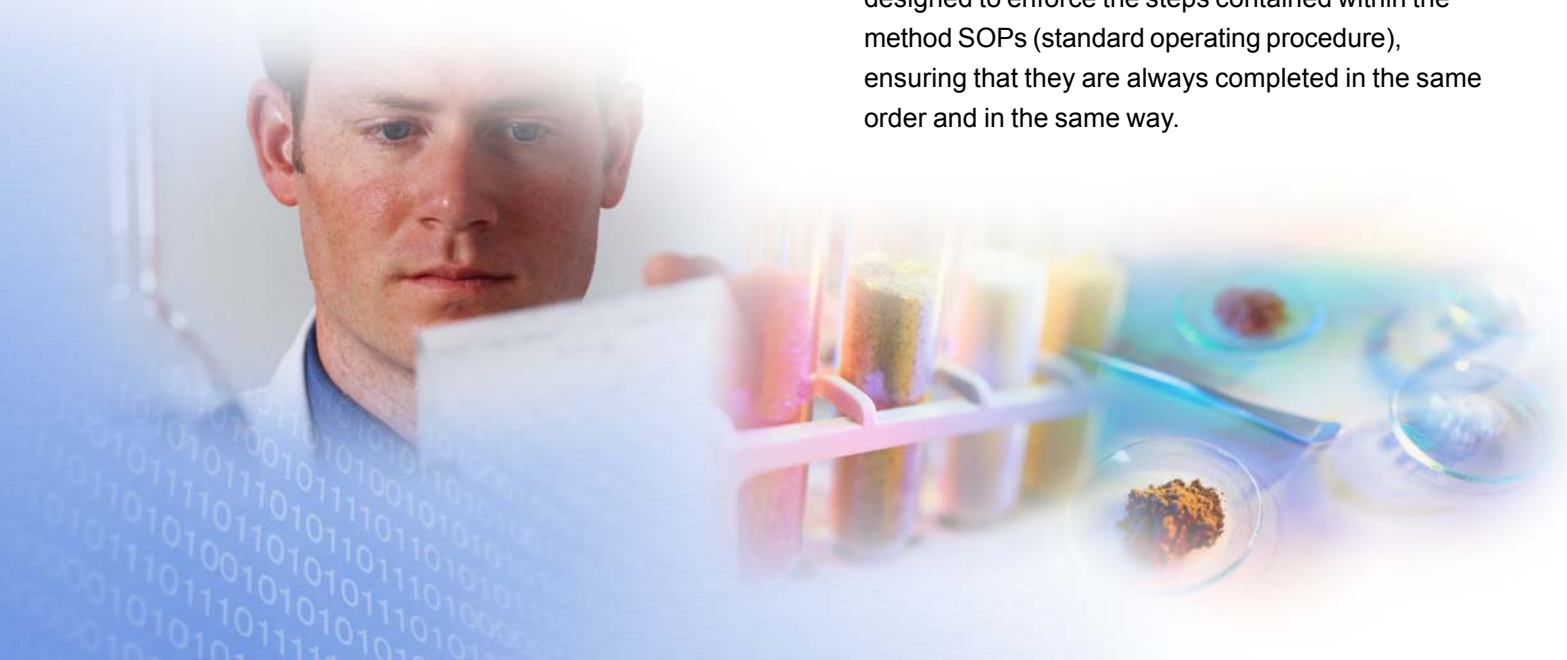
- Request information (i.e. User Name)
- Display messages to the user (i.e. the amount of reagent to be added to a sample)
- Retrieve a worklist of pending samples directly from a database, LIMS, or file
- Print collected data to bar code labels
- Start, stop and control any RS232 or TCP/IP capable device such as spectrophotometers, balances, pH/ISE/EC meters, titrators, force gauges, DO meters, environmental data loggers, etc.
- Combine several instruments to work as an integrated analysis workstation
- Carry out actions at timed intervals
- Automatically check results and trigger equipment to take action
- Collect data from remote locations over the network, Intranet or Internet
- Report Excel® reduced data to any database, printer or file

What happens at run time?

When you start Analyze XLerator, it asks you to select a pre-defined Analysis method. Analyze XLerator then automatically starts Excel® and loads the correct Excel® template. Buttons are automatically added to Excel® to Start, Stop and Pause the analysis. The daily working environment for Analyze XLerator is the Excel® spreadsheet that you are already familiar with, significantly reducing the learning curve over proprietary software.

When you are ready to start your analysis, simply press one of the buttons and Analyze XLerator starts your automated analysis. Since the software interface does not rely on the cursor location for placing data, you can now work with other programs, including other Excel® workbooks, Word® or Internet Explorer without interfering with your analysis. Being able to enter and leave the running analysis at any time allows you to multi-task with other assignments or projects.

Your automated analysis can be transparent and run in the background or it can be very interactive. It can require the user to perform activities such as entering information, making selections, turning on instruments, approving results, etc. For example, a prompt may ask the user for the number of samples or the target pH that the test should reach. This information is then used to control the automation. The automated steps in the procedure can be designed to enforce the steps contained within the method SOPs (standard operating procedure), ensuring that they are always completed in the same order and in the same way.



How it Works

At the heart of Analyze XLerator is a powerful *Process Controller* that carries out a sequence of user-defined steps. *Processes* and steps collectively form a complete representation of your testing procedure.

Each Analysis method is represented at run time by buttons on a floating toolbar atop the Excel® template for that test procedure. Every button is its own *Process* configured of a series of *steps* and each step is carried out in turn — one after the other.

Processing steps are simple to set up, but can carry out complex operations. For example, in a programming environment sending a command to an instrument can take many lines of code to open the serial port, send the command, receive the response, parse the data, save the results, handle errors with the instrument, etc. However, with Analyze XLerator, you add just one simple step to do all of this. You select the instrument plus the desired command from a drop down list. The rest is done automatically for you.

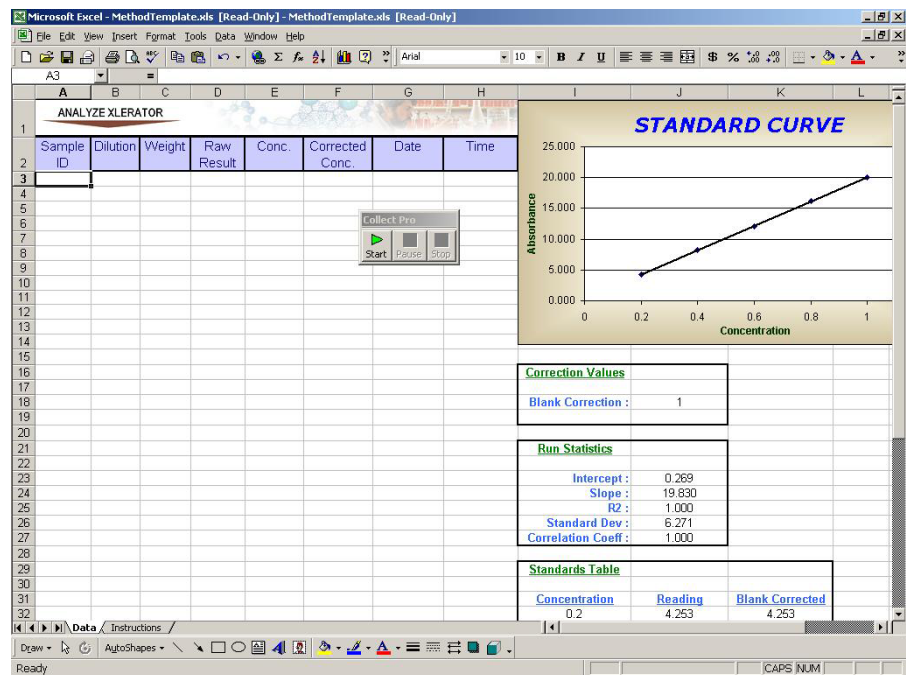
For each *Process* that is defined, Analyze XLerator adds a new button to the Excel® toolbar. When you select the button in Excel®, Analyze XLerator runs through the steps and carries out all of the automation that has been specified for that method. Additional buttons are automatically added to stop or pause the analysis.

Instrument Library

One of the difficulties of interfacing instruments is understanding the data formats and command structures used by the instruments. Analyze XLerator has simplified this for you by providing hundreds of pre-defined instruments in an instrument library. An easy to setup communications and parsing engine can be used to add new devices if one of your instruments is not shown. Once an instrument is in the library, all you have to do is select it from a drop down list and the rest is done for you.

Labtronics adds new instruments to the library on a regular basis and makes this library available from our web site, free of charge. Download the new library at any time — <http://www.labtronics.com/support#library>.

If your instrument is not in the library, you can add it yourself, or contact us and we will gladly help you add it and include it with the next release of the library. Any RS232 or TCP/IP instrument can be added.



Remote Instruments

Analyze XLerator is generally used for controlling instruments that are connected directly to the computer running the program. However, Analyze XLerator is also 'network friendly' and can communicate using the network communication protocol, TCP/IP. This allows the program to collect data and control instruments anywhere on the network, even over the Internet.

Some examples of remote applications include:

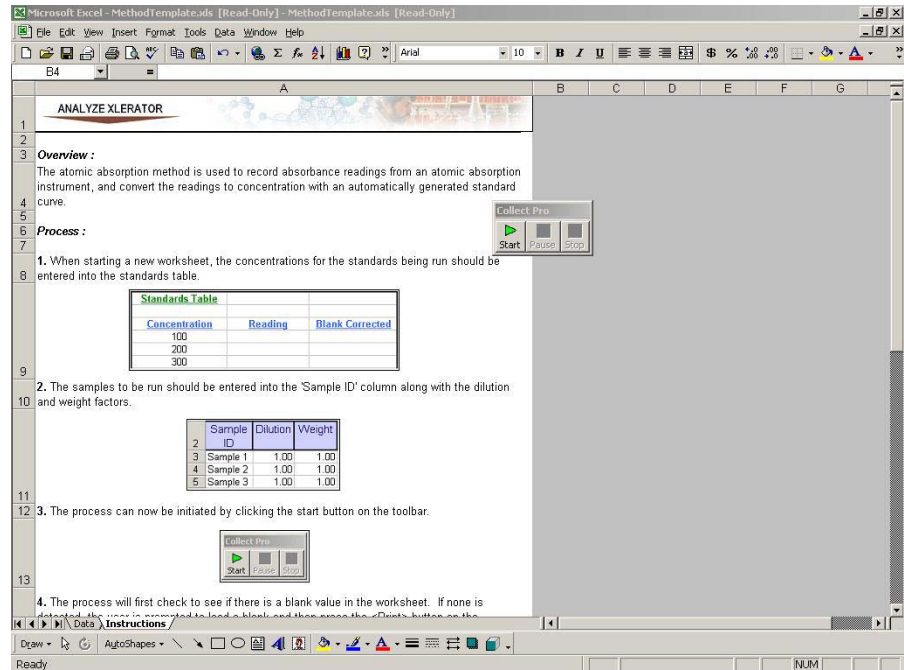
- Taking readings every 10 minutes from all of the fridges and freezers in the building
- Checking the temperature and sending a warning email, if limits are exceeded
- Monitoring the TOC values from an on-line analyzer, from a remote computer
- Starting and monitoring an experiment at a remote location

Using accessory hardware, any RS232 instrument can be connected directly to the network without requiring the presence of a computer. This instrument can then be monitored and controlled by Analyze XLerator from any location on the network. **Contact your Labtronics representative for more details.**

Professional Services

For added functionality such as customized methods, LIMS interfacing and automating sophisticated tasks, take advantage of Labtronics professional services expertise. Our team can work with you on your XLerator automation projects.

Contact Labtronics for a free assessment to meet your needs today.



Each method configured by Labtronics can also include a worksheet in the method template as a quick run-time instructions look-up.

Applications and System Requirements

- Windows® NT / 2000 / XP
- 128 MB RAM
- PII processor or better
- 20 MB hard drive space for installation
- Excel® 2000 or 2003

[Download the Analyze XLerator Order Form from the Labtronics web site.](#)

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