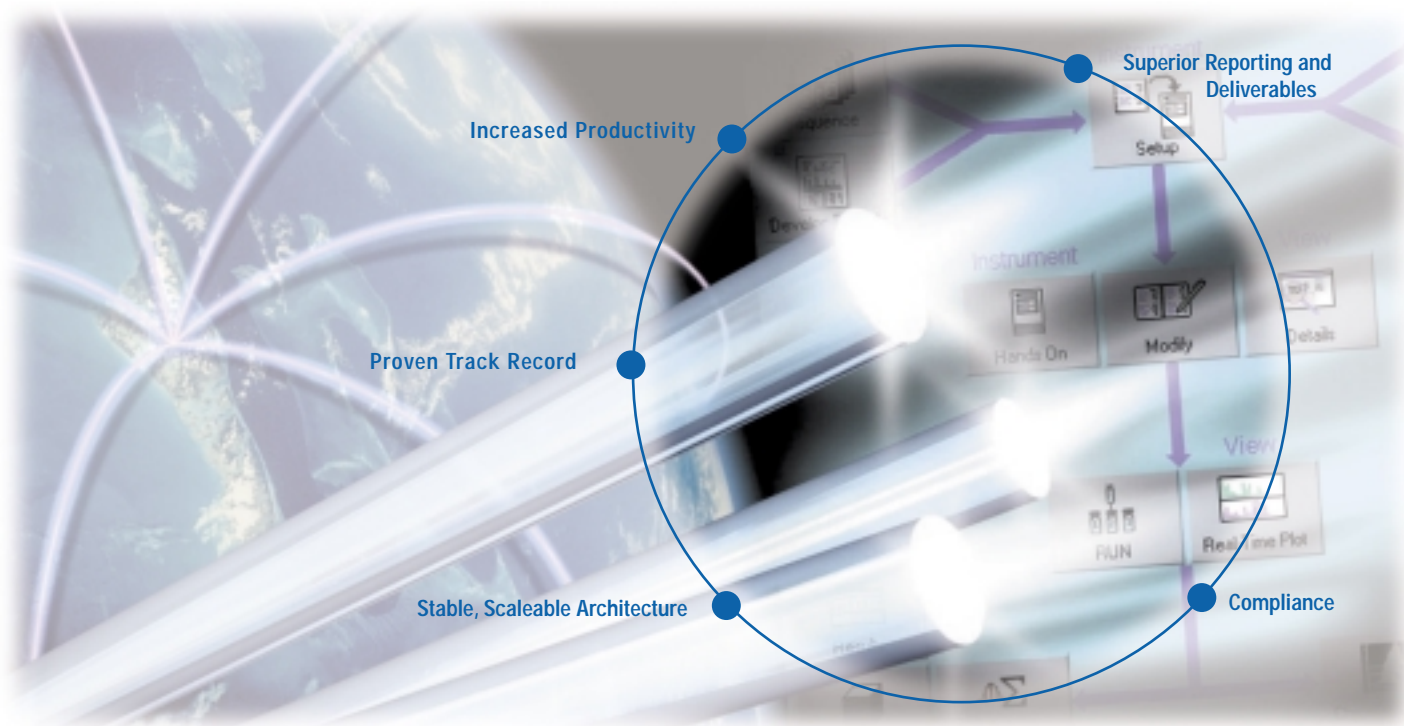


TotalChrom Workstation



an industry **favorite**

...for over a decade

a proven solution
with leading edge productivity



TotalChrom® Workstation is the next stage in the evolution of chromatography software—an exciting, improved version of the Turbochrom™ software application. With support for industry-standard Windows 2000, Windows NT and Windows 98, it offers a computing strategy to manage chromatography data quickly and efficiently.

For regulated environments, TotalChrom Workstation makes compliance with 21 CFR Part 11 regulations easy. The software also includes the TC Publisher™ feature, the most powerful chromatography reporting tool available, to let you automatically generate an endless variety of reports.

Our TotalChrom chromatography data system can be configured for use either in a single instrument version or as a complete workstation, capable of collecting data from as many as eight dual channel chromatographs. When configured with a PerkinElmer GC or HPLC, TotalChrom Workstation serves as both an instrument controller and data manager for the overall system. Compatible with most commercial LCs and GCs, TotalChrom Workstation is the best choice for chromatography data handling in demanding multi-user, multi-instrument environments.

TotalChrom Workstation is PerkinElmer's latest version of the industry-standard PC-based chromatography data handling system, formerly known as "Turbochrom." In 2002, TotalChrom was once again recognized by the readers of *Scientific Computing and Instrumentation* magazine as an industry favorite—for the 10th consecutive year.

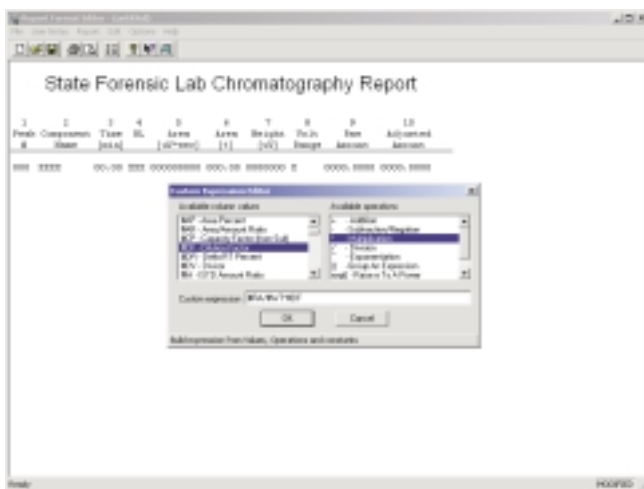


Superior reporting functionality

The standard TotalChrom reporting tool provides various basic report formats, including Area Percent, Normalized Percent, and Internal/External Standard, and allows users to tailor them with customized headers and labels, expressions (mathematical formulas), and footers. Special Summary Report and Suitability Report options allow the injection data to be handled in different ways.

Graphic presentation of the data provides the means to annotate, scale, and display in three-dimensional mode. The TC Publisher program extends reporting beyond the standard reports by providing a custom laboratory report generator using standardized tools. Unique features let you graphically format the exact report you want without extensive training or special commands.

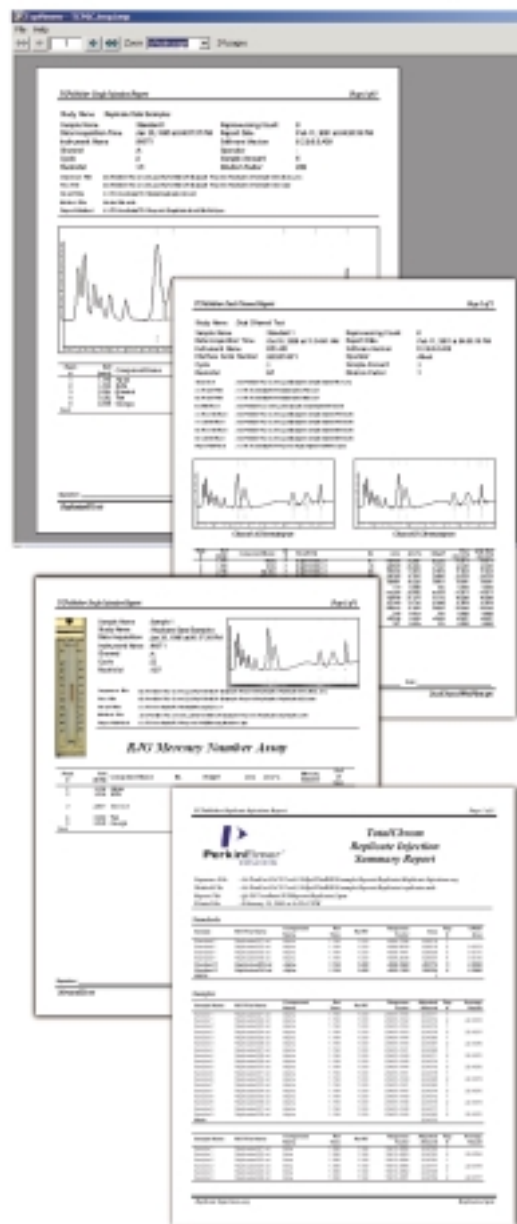
Report templates can include control of the graphic data representation, separate tables for standard and sample data, and "if/then" conditional logic for Pass/Fail tests or Limits Checking. The TC Publisher component lets you perform calculations between peaks and between samples, and automatic statistics for replicate injections, with full control over the output format. For added versatility, a single injection can produce multiple reports. The TC Publisher offering can replace custom applications written for your current system, minimizing upgrade costs and effort.



Standard reports can be easily and conveniently customized by arranging parameters in any desired order. Custom expressions allow creation of mathematical formulas to calculate results. Component-specific constants may be included in custom expression.

TotalChrom Workstation offers superior reporting and deliverables

The TC Publisher tool is simply the world's best chromatography reporting package. It ensures that the final stages of chromatographic analysis, report generation and distribution are quick, easy, and complete. It is the ultimate in flexible reporting tools, allowing you to print the reports, forward them by e-mail, or send an electronic data packet to another software application.



Use the full power of TC Publisher to create special TotalChrom results reports and plots. Batch summaries of the data with statistical calculations built in are quickly created by the special summary module. Automatic calculations for mean, standard deviation, and percent RSD are provided.

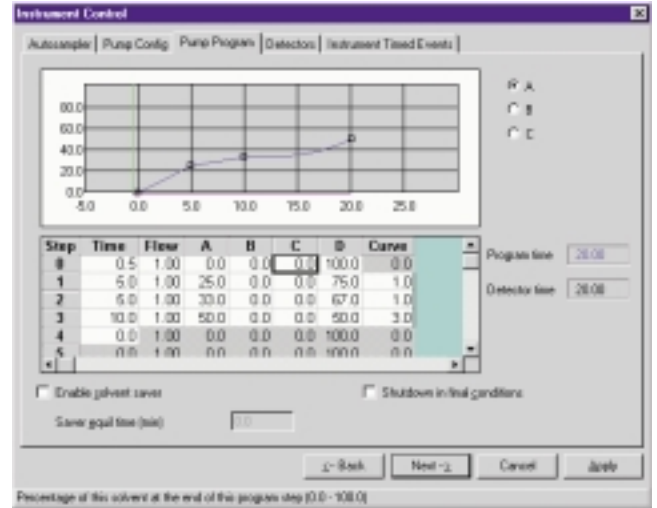
power

to handle challenging chromatography

The faster and easier you generate results, the more productive you are. TotalChrom Workstation handles peak detection, integration, and analysis with the most sophisticated algorithms, refined through years of experience in chromatography. Even when pushing the limits of detection, TotalChrom's sophisticated routines minimize the impact of noise on results.

Easily build complete methods

TotalChrom Workstation makes building methods easy. It takes full advantage of familiar Microsoft standards, including Multiple Document Interface (MDI), tabbed dialogs, toolbars, and resizable panes. Instrument control parameters, such as oven temperature and pressure ramps for GC, or solvent gradients for LC, are displayed as both graphic profiles and numeric grids for rapid visualization of your experiment.



TotalChrom uses Microsoft Windows standard interfaces and extensive graphics, making it very easy to learn and use.

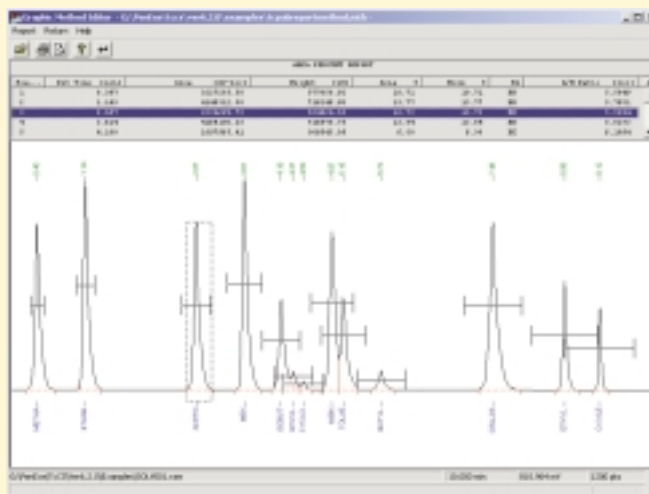
The spreadsheet interface of the Sequence Editor minimizes set-up time. Standard spreadsheet features, familiar to many users, such as changing column widths, hide/unhide columns, cut and paste rows, changing fonts and adding a note comment and flag for sequence rows are available. The interface uses a tab card format to display different views and to create personalized viewing formats

Visually optimize methods

Optimize data handling methods in seconds using the Graphic Method Editor (GME) to set integration parameters and add component names to known peaks and groups. GME allows the selection of portions of raw data to measure noise and area threshold values. Then, the TotalChrom software calculates the optimum peak detection settings.

Because views of raw and bunched data are available, even the most difficult data is analyzed easily. GME displays a preview of the analysis report and header information on the same screen as the chromatogram, eliminating the need to use multiple programs. No other system provides this much power to build software methods from the viewed chromatogram.

- Set integration timed events graphically, exactly where you want them
- Pick and name component peaks, reference peaks, and internal/external standards
- Set and adjust retention time windows
- Arrange peaks together by timed or named groups



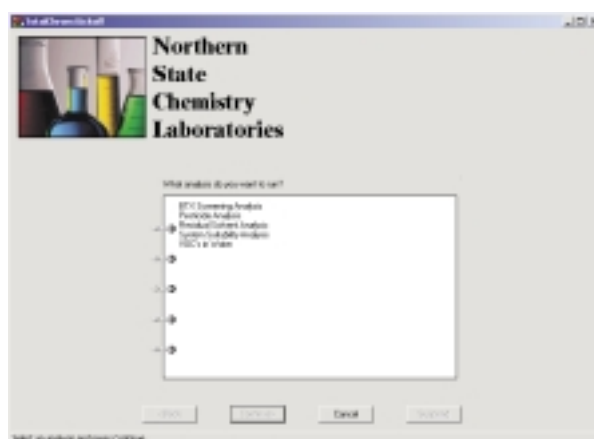
Quickly build analysis sequences

TotalChrom WorkStation Sequence Editor uses a template to quickly and conveniently load a complex list of injections into the editor's spreadsheet. Templates facilitate single entry of parameters common to all rows in the spreadsheet, saving time and eliminating errors from repetitive entry of common values. PerkinElmer's exclusive "Smart Fill" feature in the Sequence Editor enables the automatic filling of sequence rows with sequential parameters within a given column using auto-incrementing numeric patterns.

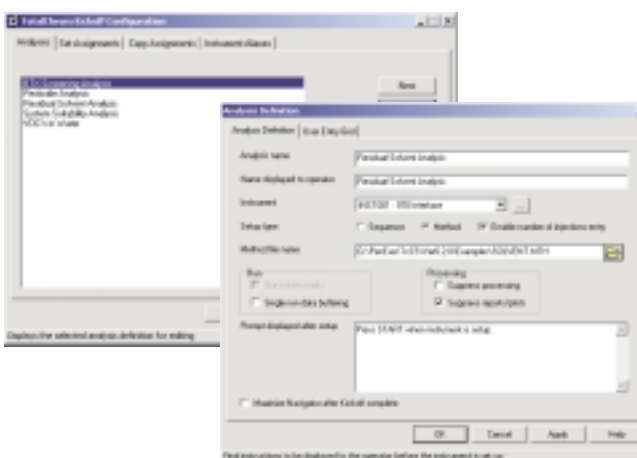
Simplify operations with Kickoff Program

Running a data system should not be so complicated and so involved that you can't perform routine analyses simply and quickly. Our exclusive Kickoff Program guides users through a Microsoft™ wizard-style dialog by offering a simple selection from a predefined list of analyses. Users simply logon to Kickoff with a valid password, select their analysis, and TotalChrom Workstation software takes over, automatically controlling instrument initialization, data acquisition, data analysis, and report generation. Nothing is as easy or as fail-safe.

The lab manager assigns specific users or groups of users access to predefined TotalChrom system methods and sequences. Kickoff is ideal for both routine data collection operations and occasional users, enabling them to quickly set up their analysis and perform data acquisition.



Users easily select an analysis with the Kickoff Program.



Managers use the Analysis Definition to configure the Kickoff system for users. No programming is required.

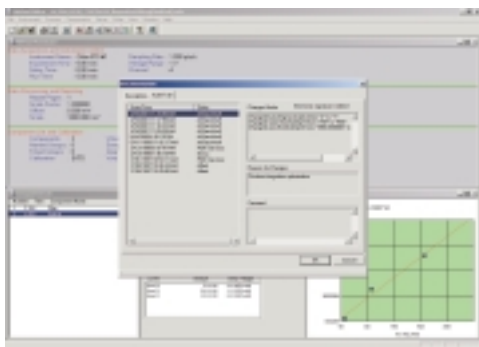
unsurpassed 21 CFR Part 11 compliance for regulated labs

Proven solution

Our chromatography data systems are installed and validated in hundreds of laboratories around the world. We have thousands of TotalChrom Workstation systems and over 30,000 instruments connected and in use.

PerkinElmer brings more than 20 years of experience in GLP/GMP data systems. The new TotalChrom system features Enhanced Security™, a proprietary protocol for United States FDA 21 CFR Part 11 compliance. Audit

trails and electronic signatures during the data acquisition, instrument control and data analysis processes ensure that data integrity is always maintained.



TotalChrom Enhanced Security provides full audit trailing capabilities with electronic signature for regulatory compliance.

System features fully document all methods, sequences, and reports, including instrument run logs, and provide a complete and unambiguous link from the initial experiment to the final results. Special system controls prevent overwriting data and unintended user access to files, programs and report templates.

Special real-time controls provide GLP/GMP safeguards

The unique TotalChrom Workstation "Modify Active" functions allow safe changes to processes while they are occurring. You can edit method and sequence parameters on instruments currently collecting data without fear of inadvertent alteration that can adversely affect results. Settings of runs yet to be collected, for example, can be safely edited using this function

A complete interface validation program

Laboratories under GLP/GMP regulations can use PerkinElmer's exclusive Interface Validation Module (IVM) and associated software to facilitate testing and verification of the NCI and Series 900A Intelligent Interfaces.

Validation assistance

PerkinElmer uses a world-class Software Development Process to ensure reliability. The TotalChrom system is developed and structurally validated following a Certified Quality System, which conforms to GLP, GMP and ISO 9001/TickIT requirements. Our Software Development Life Cycle conforms to the ISO-9000-3, and IEEE guidelines. As part of your validation program, an audit of our development site is available.

Integrate TotalChrom Workstation with your other applications

PerkinElmer knows that to maximize laboratory productivity, TotalChrom Workstation must be integrated with other systems. The TotalChrom system offers a variety of tools for these integration tasks. TC Publisher provides the optimal tool for generating electronic reports than can be sent to other applications.

TC ACCESS allows programs written in Visual Basic or C++ to read TotalChrom data and control and monitor the TotalChrom instruments and processes. Worklists can be sent from Laboratory Information Management or MRP systems and turned into TotalChrom Sequences. If you are using SQL*LIMS, the optional TotalChrom CONNECT product is available to interface the two systems.

Systems for Gas Chromatography

PerkinElmer gas chromatography products improve your lab's productivity. When bundled with TotalChrom and other PerkinElmer software, you get a complete PerkinElmer solution that is integrated, fully tested and supported. We offer the most complete gas chromatography capability, from sample handling to detection to results.

- Clarus™ 500 Gas Chromatograph — proven, rugged, reliable
- Clarus 500 GC-MS — the fastest quadrupole GC-MS
- TurboMatrix Headspace Samplers and Thermal Desorbers — the standard in sample handling systems



Systems for Liquid Chromatography

PerkinElmer LC Plus systems are complete solutions packages that include our liquid chromatography components plus TotalChrom software, a powerful combination with unbeatable price/performance. Some of the LC Plus systems offered are:

- **LC Plus for QA/QC:**
Optimized for the routinely demanding work of QA/QC, this system includes TotalChrom software plus our Pump, Autosampler and UV/Vis detector
- **LC Plus for R&D:**
Optimized for demanding research applications and method development, this system includes TotalChrom software plus our Pump, Autosampler, and a Diode Array Detector



LC Plus configurations are also available for applications such as analysis of polymers, environmental testing, as well as nutritional/food/beverage analysis. In addition, enhance your LC Plus system with your choice of powerful software tools permitting automated method development, system suitability testing, molecular weight determination or component purity/homogeneity.

PerkinElmer extras

e-ssentials™ Consumables for chromatography

Only PerkinElmer has *e-ssentials* — quality products designed specifically for our complete line of LC and GC systems.

From Elite capillary columns to Brownlee™ HPLC columns, from headspace sample vials to Deuterium lamps, PerkinElmer's comprehensive line of *e-ssentials* products to keep your lab up and running. Ordering quality PerkinElmer consumables is quick and easy, just visit us online at www.perkinelmer.com/essentials.

Worldwide service and support

Our world-class TotalChrom system is supported by PerkinElmer's worldwide service and support organization. These professionals ensure that the TotalChrom system is properly installed and personnel are properly trained. A wide array of system IQ/OQ services and system support and maintenance contracts are available to support your validation.

Sombrilla™ Web-based instrument and data management system

Increase productivity by speeding communication of results with Sombrilla, PerkinElmer's Instrument and Data Management System. The basic configuration works on virtually any type or brand of instrument. It unifies laboratory data storage and transfer using a common Web browser. The first of its kind, the advanced-level Web-Enabler features innovative technology that allows users to go beyond reporting and viewing to actually monitoring instruments — all in a secure, Web-based environment.

LABWORKS® The LIMS of choice

LABWORKS LIMS is a powerful and reliable application for virtually any laboratory setting. LABWORKS offers a complete set of standard features that are suitable for almost any type of laboratory environment. From direct client access, to Web access, to data mining from anywhere in your enterprise, LABWORKS LIMS is a true multi-tier, client/server application designed to function on a variety of industry standard databases.

LABWORKS has successfully integrated with many popular MRP applications and offers seamless interfaces to hundreds of instruments. The LABWORKS-TotalChrom Client/Server interface includes conversion of worklists from LABWORKS into TotalChrom sequences and automatic update of the database with chromatography results.

LABWORKS LIMS products and services, derived from company experience and technical expertise, deliver state-of-the-art LIMS technology to laboratories around the globe. This experience and quality combined with the stability of a world-class organization make LABWORKS the LIMS of choice.

PerkinElmer, Inc.

There is no substitute for experience. For nearly 25 years, well before the proliferation of the personal computer, PerkinElmer has led the way in computerized data systems. Today, our products demonstrate and reflect that legacy—combining proven algorithms and methodologies with the latest in software architecture and innovation in order to adapt to your changing requirements. With over 15,000 workstation installations around the globe—and more than 450 Client/Server enterprise solutions in operation—our TotalChrom software is the latest platform in the continued evolution of the most successful chromatography data system of all time. Add to that PerkinElmer's complete line of HPLC and GC products—all backed by our renowned support network—and it's clear that the best continues to get better.

PerkinElmer is the only company offering a complete suite of gas chromatography tools—from GC and GC-MS and LC systems to productivity—enhancing accessories like autosamplers, headspace samplers and thermal desorption systems. And chromatography data management software provides all the capability you need to effectively analyze, manage, report and store data. In addition to our Gas Chromatography product line, we offer a broad range of solutions in Luminescence, AA, UV-Vis, FT-IR and NIR, HPLC, MALDI-TOF MS, ICP, ICP-MS, Thermal Analysis and LIMS.

There are over 60 years of experience built into every product we make. So, for leading edge R&D and demanding QA/QC, you get the speed, accuracy and reliability you seek—for the productivity you need. Our service and support people are located in 125 countries throughout the world and are factory-trained. Compliance doesn't get any easier than with our Enhanced Security™ software, including 21 CFR Part 11 technical compliance on many products. And online consumables and accessories ordering lets you get your hands on what you need fast.

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