Infrared Spectroscopy

Features and Benefits

- Create simple workflows for improved productivity and consistency

- Touchscreen, Tablet or PC operation – for both lab at sample measurements

- Combines data collection, system testing and analysis - ideal for non-specialized operators

- Reveal underlying results patterns and trends, with unique visualization options to help improve process understanding

- Create easy to use dedicated analyzers with full FT-IR and NIR capability and maximize your return on investment

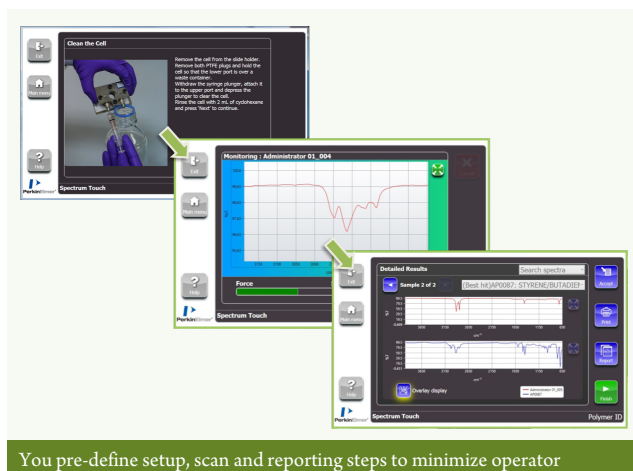# Spectrum Touch Software

Introduction

Using predefined operating procedures in IR and NIR analyses can help fulfill regulatory compliance requirements, decrease error rate and enable better communication of effective analysis with stakeholders, instilling more confidence in the results. However, implementation of software operating procedures can be a challenge with IR and NIR spectrometers using current instrument control and analysis software. Spectrum™ Touch is designed to meet this challenge by enabling simple software operating protocols, faster implementation and more reproducible results. In addition, unique IR results visualizations with the TIBCO Spotfire® software accelerate improved results understanding and help shortcut the route to future product and process improvement.

PerkinElmer®

For the Better

Create Simple, Clear IR Touch Apps to Increase Your Productivity

Spectrum Touch is the powerful new interface to PerkinElmer IR spectrometers to allow easy and fast creation of routine operating protocols involving scanning, analysis and presentation of your results and information. Working with Touch allows you to greatly simplify the operation of your IR instrument, making results more reproducible and lowering the likelihood of operator error. Improving operator error rate is a major concern in QA/QC and analytical laboratories because of the expenses incurred in investigating the cause of the problem. It is estimated that approximately 50% of out-of-specification (OOS) issues can be attributed to either sample preparation steps or operator error. These can be reduced by supplying concise, clear visual instruction at the time of sample presentation and during analysis, together with automating instrument setups and system suitability testing prior to data collection. With Touch workflows you can:

• Setup instrument operation and analysis to comply with local requirements, in your local language

• Improve consistency of measurement by ensuring consistent data collection, system test, and data analysis parameters day in, day out.

• Reduce costly unnecessary out of specification (OOS) investigations due to operator error

• Improve productivity by controlling access, decision points and setups whilst lowering the training requirements for non-specialised operators.

The results are improved analytical efficiency and total lower cost of ownership for your infrared analysis system.

You pre-define setup, scan and reporting steps to minimize operator

Designed for Touchscreen, Tablet PC or PC Use for Easier, More Natural Operation

With the increase in personal use of tablet PCs, Spectrum Touch[2] provides a simpler transition for operators switching to portable PC controllers for infrared analyzers. Designed to fully exploit the benefits of mobile-friendly operating systems like Windows® 8, Spectrum Touch is the modern

window to the powerful and acclaimed Spectrum™ 10 IR data collection and analysis engine – but designed from the ground up for touchscreen operation – whilst providing easier use on traditional PC platforms as well.

You can quickly create protocols including scanning, analysis and reporting and customise the screens the operator sees – including local language SOPs, graphics and video instructions as integral parts of the screens. This provides a simpler, faster route to results than using conventional spectroscopy software. By adding this capability to your existing FT-IR or NIR system you can significantly improve your return on investment compared with purchasing a separate dedicated analyzer system. Touch allows you to effectively create dedicated analyzers on Spectrum Two, Frontier and many legacy PerkinElmer FT-IR spectrometers.[1]
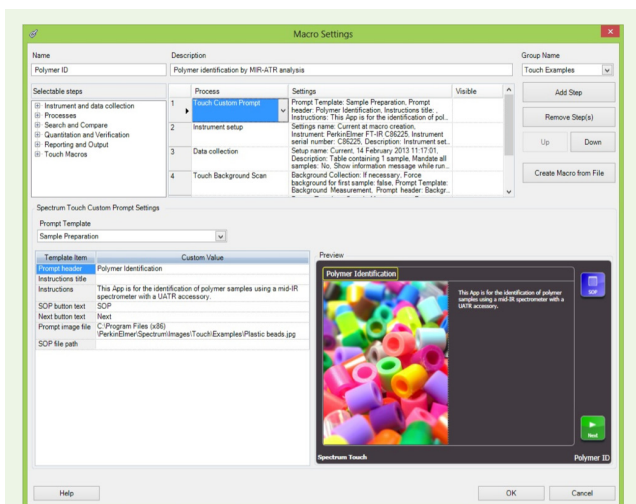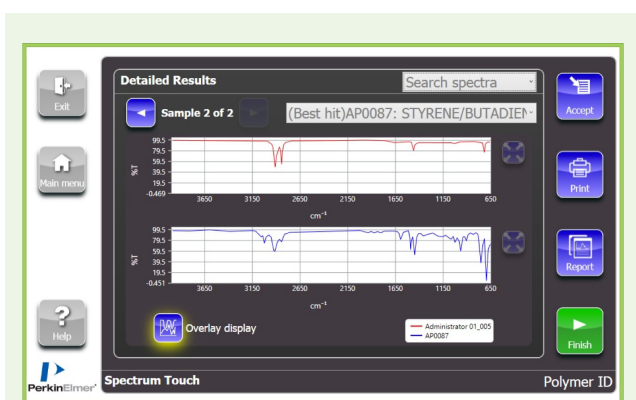

Perfect for tablet or PC operation

Harness the Power of Spectrum 10 Software in Clear, Concise Protocols

Defining even a diverse range of both qualitative and quantitative analyses is rapid and requires no programming skills. From simple peak determination to full spectral database search, quantitative calibrations, soft classification models like SIMCA (Soft Independent Modelling by Class Analogy) and more, the Touch Developer module allows you to create and distribute Spectrum Touch Apps quickly and easily. No need to burden operators with decisions about which algorithms to use for analysis, or how best to manipulate/display data – Touch removes the need for operators to master these techniques by placing these choices at the development stage. The Touch App Developer defines the method, makes the choices and distributes the Touch App. Running Touch Apps is simply following on-screen instructions with minimal decisions for operators.

For example, creating a workflow including data collection using the popular Universal diamond ATR sampling device, sample identity confirmation using the Compare algorithm and reporting is achieved in minutes. The operator screens can be customized with local language or with reference to SOPs while the real-time interactive display of ATR clamp force and

Customize screens for local languages and requirements
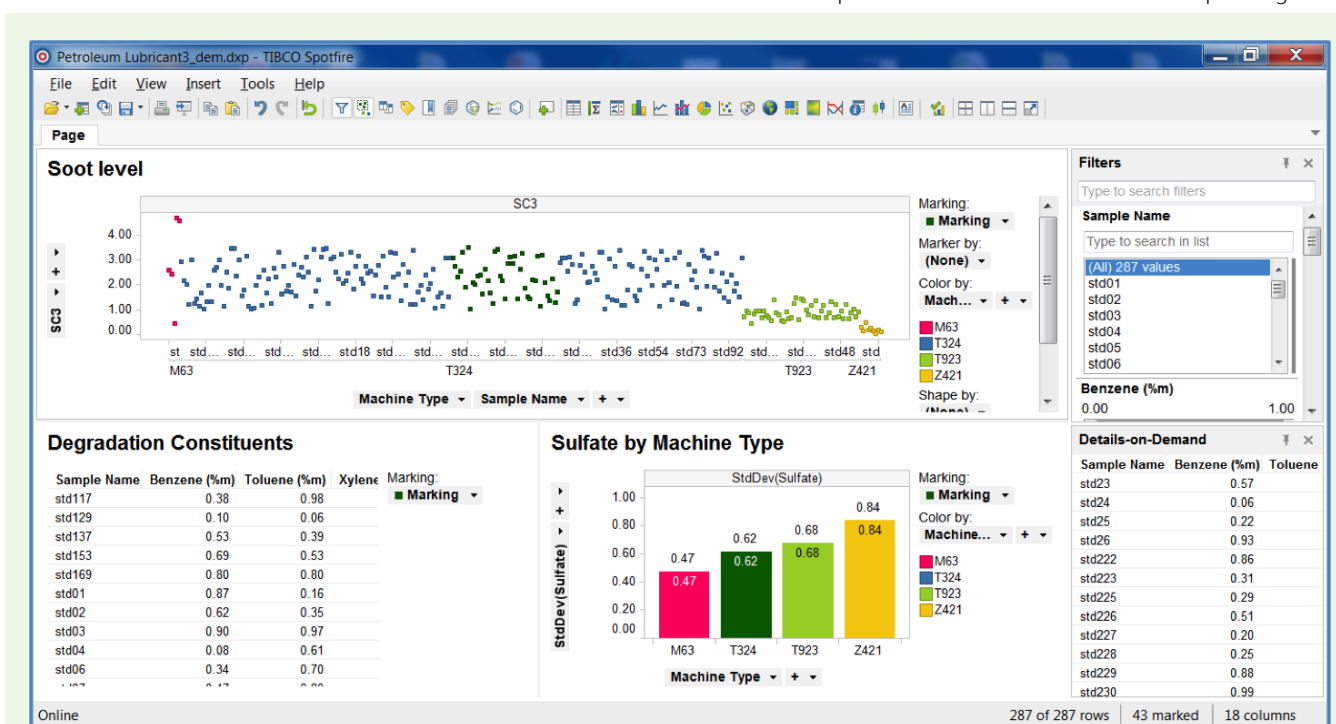

Setup individual sample results display...

spectrum during sample presentation ensures operators get it right for every sample. For more advanced models like SIMCA classification, calibrated models developed using the AssureID software can be imported into Touch Apps to provide apps for simple sample classification.

Naturally for QA/QC operations, Touch results can also be displayed with conditional formatting and as simple Pass/Fail screens, but for more insightful display of results trends over time, possible inter-relationships and clusterings within reported data, Touch Apps results output can be displayed with TIBCO Spotfire software – providing easy contextual results visualization capabilities previously not possible with IR spectroscopy software.

Gain Deeper Insights into Your Touch App Results with TIBCO Spotfire software Visualization!

Touch Apps results tables are easily configured via the Output step for TIBCO Spotfire software display, to gain deeper insights into your analysis results and provide stunning visualizations of data for easy sharing with colleagues – anywhere. The optional TIBCO Spotfire software module helps users identify potential data patterns and trends to provide new levels of understanding, anticipate future problems and lower risk. For example with a quantitative Touch App, individual calculated component concentrations trends can be displayed instantly to test for cross-correlations, clustering patterns and potential causal relationships; displayed according to preset recipes, or supervisors can mine the Touch results in a multitude of ways – and even perform predictive analytics.

Creation of custom interactive results dashboards is fast and intuitive with TIBCO Spotfire software and an extensive set of online examples and tutorials are available to help configure

...or visualize multiple touch results with TIBCO Spotfire software for deeper insights. Example: oil condition monitoring

TIBCO Spotfire software is an optional package which enables you to visualize IR results, reveal hidden insights in data and collaborate across your organization.
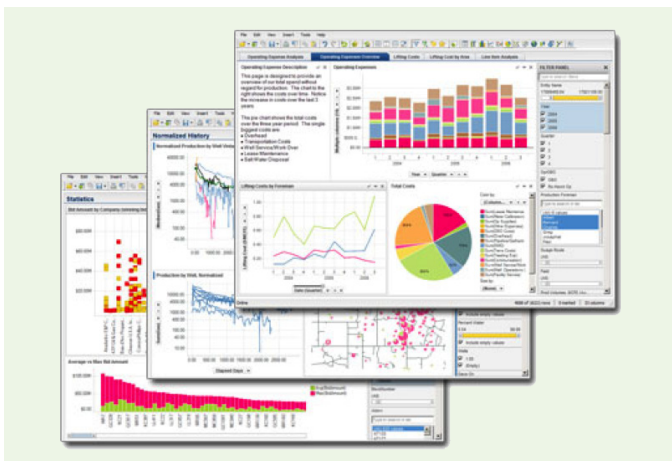
TIBCO Spotfire software can provide:

• Faster, simpler visualization – results can be displayed at any level of detail and trended according to preferred methods

• Improved collaboration and decision making – specific results dashboards can be setup and shared for easy collaboration allowing anyone you choose to explore data, providing a faster route to deeper insights

• Improved understanding of processes and products – a multitude of exploratory data tools can reveal hidden insights into trends, groupings and correlations – and help discover unexpected opportunities or threats

• Universal adaptability across the organization – with Spotfire® it is possible to utilise a single analytics and data discovery platform to empower anyone, anywhere to make insightful decisions

Display and share saved results the way you want using TIBCO Spotfire software visualization

...and Collaborate with your Touch Results Insights

TIBCO Spotfire software makes it incredibly easy for you to share your Touch results dashboards in seconds. With "Enterprise" versions you can even upload the dashboard to the cloud where it is securely stored for either private use, for nominated colleagues or more widespread use. The results are displayed exactly as you see them by your colleagues. Sharing Touch results via the cloud with Spotfire is far more effective than distributing results spreadsheets or reports via email – you maintain control of the data your colleagues are visualizing and they can initially see the data as you see it – then drill down for deeper insights into the same data. Alternatively, if restrictive uploading to public services is in place, Touch results can be saved as TIBCO Spotfire software visualization and shared as internal files and shared via email or via your organization's file server. Double-clicking on the files will automatically load TIBCO Spotfire software with the visualization displayed.

1. Spectrum Touch requires Spectrum 10.4.0 or later to be installed. You can update Spectrum 10 software version 10.4.0 or later with the Touch Developer module and choose from versions of TIBCO Spotfire software for flexible results visualizations depending your required levels of analytics and any database connectivity. All versions of TIBCO Spotfire software are compatible with data generated from Spectrum Touch output steps.

2. Spectrum Touch requires Microsoft Windows® version 7 or 8.

Setup, Scan, Compute, Report, Visualize, Explore — Understand. With Spectrum Touch and TIBCO Spotfire software the distance between setups and insights is just a few clicks and will transform the way you do routine IR analysis!

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