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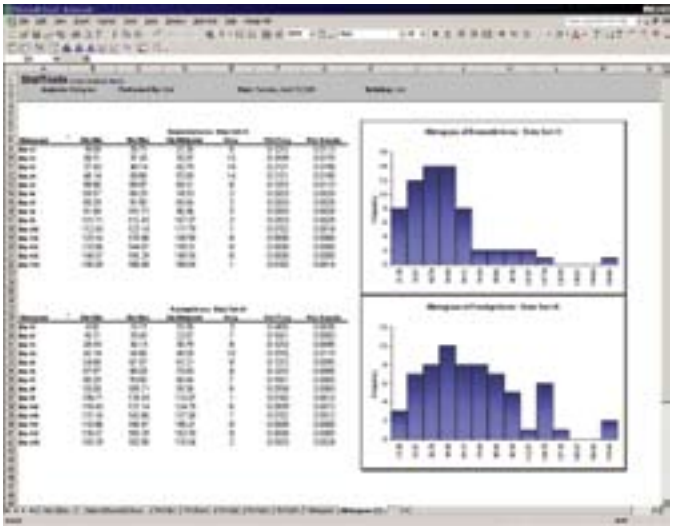
StatTools

advanced statistical analysis for spreadsheets

If you know Excel, you can use StatTools. Palisade's StatTools is a Microsoft Excel add-in that replaces Excel statistics functions with an accurate, proven toolset. You'll get expert statistics where you need them. Combine StatTools and Excel to save time, effort, and money!

"StatTools makes me a better analyst. I can provide more analysis, in a shorter time than I could before. I find it easier to use than setting up an Excel analysis. Also, StatTools has the standard statistical tests already set up."

– Richard Cotman
Computer Sciences Raytheon



StatTools graphs and reports allow full customisation and are portable to other applications.

Making Statistics Accessible

StatTools gives the industry-standard data analysis tool - Microsoft Excel - a new, powerful statistics toolset! StatTools is a Microsoft Excel statistics add-in, so you analyse data in Excel and work in the familiar Microsoft Office environment. StatTools brings you the best of two worlds: Microsoft Office ease-of-use, and robust statistical power. Plus, StatTools is developed by Palisade Corporation, the world leader in analytical solutions that add-in to Microsoft Excel.

Robust Statistics Inside Excel

StatTools replaces Excel's built-in statistics with its own calculations. The accuracy of Excel's built-in statistics calculations has often been questioned, so StatTools doesn't use them! Even Excel's worksheet statistics functions - such as STDEV() - are replaced by new, robust StatTools versions - such as StatStdDev(). StatTools calculations meet the highest tests for accuracy, with performance optimised through the use of C++ .DLLs, not macro calculations.

Work Where You're Comfortable

If you know Excel, you'll know StatTools! StatTools works just as Excel does, with toolbars, menus and custom worksheet functions, all inside of Excel. Unlike stand-alone statistics software, you'll get up to speed quickly – and cheaply – by not having to learn a new interface. With StatTools, you work where you are comfortable - in Excel. Your data and variables are in Excel spreadsheets. With StatTools, you don't have to sacrifice any of Excel's flexibility or features to perform powerful statistical analysis.

The Analyses You Need

StatTools covers the most commonly-used statistical procedures, and offers unprecedented capabilities for adding new, custom analyses. Over 30 wide-ranging statistical procedures (plus many built-in data utilities) include descriptive statistics, normality tests, group comparisons, correlation, regression analysis, quality control, forecasts and more. Add to this a library of custom procedures (written by experts in the field) and you've got a comprehensive and customisable statistics toolset, right inside Excel!

StatTools features live, "hot-linked" statistics calculations! Change a value in your dataset and your statistics report automatically updates. There is no need to manually re-run your analyses. StatTools uses a powerful set of custom worksheet functions to ensure that the statistics displayed in your reports are always up-to-date with your current data.

"In my work with governmental health agencies, I am frequently asked to train on basic descriptive and inferential statistics, as well as forecasting and quality control analyses. I previously used only Excel to teach such skills, but have now started using StatTools. My clients have responded most enthusiastically. They appreciate the ability to take advantage of their proficiency with Excel while finding it easier to carry out the advanced analyses. They can also share their work more easily and knowledgeably with their stat-phobic colleagues, who are often the ones who have to make the operational decisions based on these analyses."

– Dr. Anthony Broskowski, President
Pareto Solutions

StatT

your comprehensive

The Best in Data Management

StatTools provides a comprehensive dataset and variable manager right in Excel, just as you would expect from a stand-alone statistics package. You can define any number of datasets, each with the variables you want to analyse, directly from your data in Excel. StatTools intelligently assesses your blocks of data, suggesting variable names and data locations for you. Your datasets and variables can reside in different workbooks and worksheets, allowing you to organise your data as you see fit. You run statistical analyses that refer to your variables, instead of re-selecting your data over and over again in Excel. And StatTools variables aren't limited in size to a single column of data in an Excel worksheet. You can define a variable that spans multiple worksheets, allowing up to 65,535 X 255 cells, or over 16 million cases for a variable in StatTools Professional.

The Best of Excel

Microsoft Excel's ease of use and interface have been a popular choice among academics and businesses for many years. As an Excel add-in, StatTools takes full advantage of Excel's flexibility, especially in the following areas.

Reporting

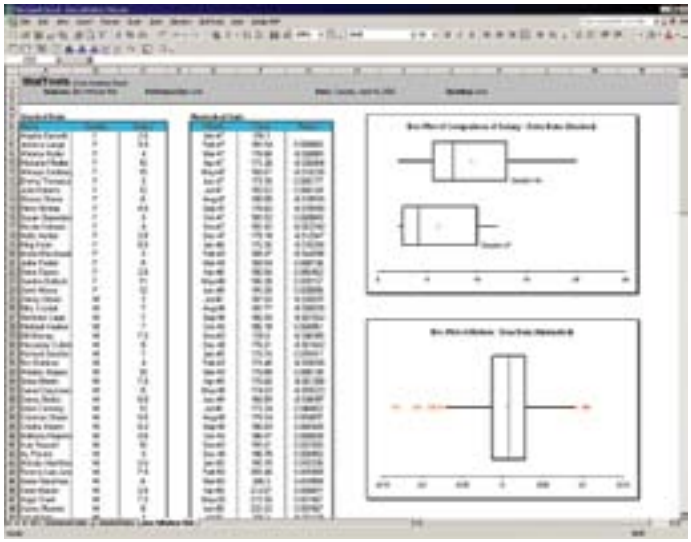
Excel is great for reports and graphs, and StatTools makes the most of this when creating your statistics reports. StatTools uses Excel-format graphs, which can be easily customised with new colours, fonts and added text. Report titles, number formats and text can be changed as you do in Excel. You can even take your reports from Excel into other applications.

Data Access

StatTools takes advantage of Excel's ability to import data from a variety of sources. Databases, text files, word processors – wherever your data resides, if you can read it into Excel, you can use it with StatTools!

File Sharing

StatTools saves all its results and data in Excel workbooks, so you can send your StatTools results and data to anyone with Excel! Users do not need StatTools installed to read StatTools results.



StatTools provides detailed reports and graphs on analysis results, directly in Excel!

StatTools Professional

StatTools Professional includes a complete, object-oriented programming interface. Custom statistical procedures may be added using Excel's built-in VBA programming language. Utilise StatTools's built-in data management, charting and reporting tools. Your custom procedures can even be displayed on the StatTools menu for easy access.

StatTools Professional adds great value even if you're not going to write your own statistical procedures. Use custom procedures that are written by others, right from the standard StatTools menu. The library of new, custom procedures that are built with StatTools is constantly being expanded by experts in the field. Simply copy a workbook with a new procedure into your StatTools directory and it instantly shows up on the StatTools menu. Run it and you'll see all the standard StatTools analyses, combined with the new statistical analysis you need!

The Professional version also lets you define variables that span multiple worksheets, allowing up to 65,535 X 255 cells, or over 16

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"I applaud StatTools' powerful statistical analysis. The mathematics in Excel leave something to be desired. Long ago I re-wrote Excel's statistical functions as add-in macros due to the lack of precision within Excel. After testing a few of my favorite hand-written algorithms (Tinv, NormSdist, Normdist, Norminv, Binomdist, to name a few) against the ones you've included with the package, our numbers agree to the last digit! At last, someone takes the initiative! Thank you!"

– Gregory E. Cenker, Southern California Edison

"StatTools will be very useful for my work, as I don't really have a good, easy to use stats program."

– Dr. Robin McKellar, Agriculture and Agri-Food Canada

Tools

and customisable statistics toolset, right inside Excel

million cases for a single variable! The Standard version allows 10,000 data points for a single variable.

StatTools Professional also includes the Nonparametric Analysis Pack for making statistical inferences with little data.

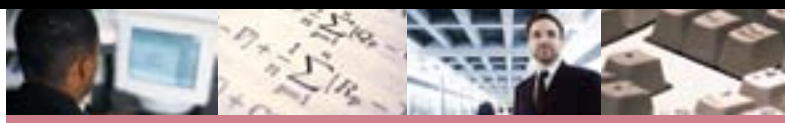
StatTools – Built on a History of the Best in Add-in Technology

StatTools was developed from the widely-used StatPro add-in developed by Dr. S. Christian Albright, Professor of Decision Sciences at the Kelley School of Business at Indiana University. This earlier version has been used by over 40,000 MBA and undergraduate students, in a variety of textbooks from Duxbury Press. The Palisade version of StatTools is provided to this academic market by Duxbury, offering students a commercial statistics product they can learn and later utilise in their professional careers.

Learning Statistics with StatTools

BY S. CHRISTIAN ALBRIGHT

Included with your StatTools purchase, this book is written to help you get the most out of StatTools in a practical, straightforward manner. Much more than a software manual, this book shows you how to apply statistics to real-world problems you face. Each chapter discusses a set of statistical procedures, grouped as they are in the StatTools menu structure. Example models are also included.



Features → Benefits

Features	Benefits
Proven statistical procedures that replace Excel's statistics	Robust, fast, accurate results
Stay in your spreadsheets	No need to export or format for stand-alone applications
Work in a familiar environment with almost no learning curve	Get up to speed fast
Automate routine tasks	Save time during complex analyses
Create custom statistics procedures with Excel VBA	Easily perform analyses specific to your needs and share with others
Powerful data manager	Handle large datasets up to 16 million cases

Applications

Accounting
Agriculture
Aerospace
Consulting
Consumer Products
Education
Engineering
Environmental
Finance/Securities
Insurance/Reinsurance
Law
Manufacturing
Marketing
Medical
Military/Government
Oil & Gas
Six Sigma/Quality
Transportation

" Palisade did a good job of balancing ease of use with flexibility and robust results. I think StatTools will allow our students to perform better statistical models more easily."

– Dr. Phillip E. Pfeifer
Darden Graduate Business School, University of Virginia

StatTools Analyses

The statistical procedures are grouped into the following natural categories:

Statistical Inference: This group performs the most common statistical inference procedures of confidence intervals and hypothesis tests.

Forecasting: StatTools gives you several methods for forecasting a time series variable. You can also deseasonalise the data first, using the ratio-to-moving-averages method and a multiplicative seasonality model. Then use a forecasting method to forecast your deseasonalised data, and finally "reseasonalise" the forecasts to return to original units.

The outputs include a set of new columns to show the various calculations (for example, the smoothed levels and trends for Holt's method, the seasonal factors from the ratio-to-moving-averages method, and so on), the forecasts, and the forecast errors. Summary measures such as MAE, RMSE and MAPE are also included for tracking the fit of the model to the observed data. Finally, several time series plots are available, including a plot of the original series, a plot of the series with forecasts superimposed, and a plot of the forecast errors. In cases using deseasonalised data, these plots are available for the original and deseasonalised series.

Classification Analysis: StatTools provides both discriminant analysis and logistic regression. Discriminant analysis predicts which of several groups a variable will fall in, and logistic regression is a nonlinear type of regression analysis where the response variable is 0 or 1 for "failure" or "success." You can then estimate the probability of success.

Nonparametric Tests (Professional version only): Nonparametric tests are statistical procedures which can be used to make successful inferences when there is little available data. They are a more robust alternative to many of the widely known parametric hypothesis tests. Nonparametric tests do not always need the parametric assumptions – such as normality – or generalised assumptions regarding the underlying distribution. In most cases, the nonparametric tests are much easier to apply and provide clearer interpretation than traditional parametric tests.

Summary Analyses: This group allows you to calculate several numerical summary measures for single variables or pairs of variables.

Tests for Normality: Because so many statistical procedures assume that a set of data are normally distributed, it is useful to have methods for checking this assumption. StatTools provides three commonly-used checks: Chi-square, Lilliefors, and Q-Q plot.

Regression Analysis: For each of these analyses, the following outputs are given: summary measures of each regression equation run, an ANOVA table for each regression, and a table of estimated regression coefficients and other statistics. In addition, StatTools gives you the option of creating two new variables: the fitted values and residuals. Plus, you can create a number of diagnostic scatterplots.

Summary of StatTools Analyses

Statistical Inference
Sample Size Selection
Confidence Interval Analysis
- One-Sample
- Two-Sample
- Paired-Sample

Hypothesis Tests
- One-Sample
- Two-Sample
- Paired-Sample

ANOVA
- One-way ANOVA
- Two-Way ANOVA

Chi-square Independence Test
Runs Test for Randomness

Nonparametric Tests (Pro only)
Sign Test
Wilcoxon Signed-Rank Test
Mann-Whitney Test

Data Management
Categorical Data
Stacked and Unstacked data types
Variable Transformations
Random Sample Generation
Analysis across multiple datasets and worksheets
Maximum 1024 datasets with 256 variables per dataset
Maximum 16 million data points per variable (StatTools Professional) or 10,000 data points per variable (StatTools Standard)

Summary Analyses and Graphs
One-Variable Summary
Correlation/Covariance
Autocorrelation
Histogram
Scatterplot
Time Series
Boxplot

Forecasting Procedure
Moving Averages
Exponential Smoothing
Seasonality

Classification Analysis
Discriminant Analysis
Logistic Regression

Normality Tests
Chi-square Test
Lilliefors Test
Q-Q Normal Plot

Regression Analysis
Simple
Stepwise
- Forward
- Backward
- Block

Quality Control
X-Bar Charts
R Charts
P Charts
C Charts
U Charts
Pareto Charts

Quality Control Charts: This set of procedures produces control charts that allow you to see whether a process is in statistical control. You can also identify which factors have a greater effect using Pareto Charts. The other procedures take time series data and plot them in control charts. This allows you to see whether the data stay within the control limits on the charts. You can also tell if other nonrandom behaviour is present, such as long runs above or below the centreline. Each of these procedures provides the option of using all the data or only part of the data for constructing the chart. Furthermore, each lets you base the control limits on the given data or on limits from previous data.

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