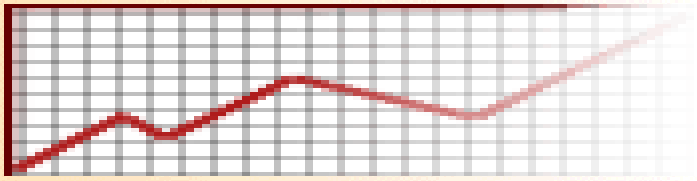
John Zorich

Statistical Application Software



Home Page

About Us

Client List

Seminars

FREE STATISTICAL SOFTWARE is available, below (titles are in large red font)

FREE webinar demonstrations of the software are available upon request --- send requests to JOHNZORICH@YAHOO.COM

We offer powerful MS Excel spreadsheets designed to simplify activities in Mfg., QA, and R&D. Each commercial spreadsheet is formally validated; all of them are "GMP" and "Part 11" compliant.

VALIDATION PROTOCOLS, EXECUTED AND SIGNED BY JOHN ZORICH AS VALIDATION REPORTS, ARE PROVIDED FREE TO COMMERCIAL CUSTOMERS.

WEBINAR TRAINING IN HOW TO USE THE SOFTWARE IS PROVIDED FREE.

Our Validation Protocols/Reports have successfully withstood the scrutiny of auditors from FDA, FDB, TUV, BSI, KEMA/DEKRA, and NSAI.

More than 160 of our validated spreadsheets have been purchased by more than 75 organizations, mostly by American companies governed by FDA regulations. (Click here for list of prices.)

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NORMALITY TESTS & NORMALITY TRANSFORMATIONS

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

Revised 2013 --- A semi-automated method is now provided to help identify within seconds the best value for transformation constants (e.g., the "A" in Sqrt(X+A)).
This program provides easy-to-use ways to determine if your data is normally distributed. If the program indicates that your data is non-normal, it provides 14 different "transformations" to normality for you to consider. The program includes 10 different "tests of normality", including Anderson-Darling's A2*, Cramer-von Mises' W2*, Shapiro-Francia's W' (a large-sample-size extension of the Wilks-Shapiro test), Watson's U2*, Gan-Koehler's K2, Skewness, Kurtosis, Kuiper's V*, Lilliefors' Kolmogorov-Smirnov D*, and Chi-square. Histograms and probability plots (with 95% confidence intervals [a.k.a., "prediction bands"] & correlation coefficients) are automatically generated for all 14 transformations. A formal customizable printable test report is automatically generated, including test results, raw data, and transformed data. **Several literature-reference justifications for normality transformations can be downloaded by mouse-clicking on this sentence.**

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VARIABLES DATA SPC

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

Updated 2012 --- XbarR, XbarS, XmR, & other types of Statistical Process Control Charts are automaticly generated, along with a histogram chart, raw-data-points chart, capability indices, and a preformatted customizable printable report. SPC charts automaticly identify out-of-control points.

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COUNT DATA SPC

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

P and U Statistical Process Control Charts are automaticly generated, along with a pareto chart and a preformatted customizable printable report. SPC charts automaticly identify out-of-control points.

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RELIABILITY STATISTICS BASICS

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

Major new revision, 2013 -- Calculation of component reliability or Normal K-factors or related sample size, as well as stress/strength interference, and non-normal tolerance limits. Calculations are performed automatically, with easy-to-use interfaces and expanded ranges of inputs, compared to

tables typically available in textbooks. WHAT'S NEW IN THIS VERSION is the ability to calculate reliability and sample size directly, in one step, without iteration, on each of the several " K " and related variables-data tolerance worksheets.

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RELIABILITY PLOTTING

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

REVISED 2013 & 2014, TO GREATLY IMPROVE EASE OF USE:

(1) data placed into the "exact" entry table no longer needs to be in numerical order
(2) table of transformation pairings can be displayed in any of 6 different ways
(3) a semi-automated method is now provided that can identify within seconds the best value for transformation constants (e.g., the "A" in Sqrt(X+A) or the "D" in Ln(X+D)).

Calculation of component % reliability at a given % confidence, using "Reliability plotting", which is also known as "probability plotting", "rectification", etc. **This may be the only method possible for calculating a reasonable level of reliability when there are either small sample sizes, many replicate data values, unfinished experiments, or data that cannot be transformed into Normality.** Reliability plotting can also be used to confirm data as being "normally distributed" or can be used to identify what transformation to Normality is needed. Some of the other distributions that can be explored include: Fatigue Life, Weibull, Largest Extreme Value, Exponential, Laplace, Logistic, Cauchy, Students, etc. Pre-formatted customizable reports are automatically created.
Mouse click the following link to read more about **RELIABILITY PLOTTING.**

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POWER CURVES FOR T-TESTS

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

Four types of power curves are provided (as opposed to the one type provided in most other commercial stat-packages): Power vs. Sample Size, Power vs. Hypothesized Difference, Power vs. Alpha, and Power vs. Population Standard Deviation. Simple user interface.

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STATISTICAL ANALYSIS OF GAGES

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

Powerful tools for quantifying measurement uncertainty. Methods include Gage R&R (up to 3

persons, 3 gages, 3 replicates, and 10 parts), Gage Correlation (up to 3 gages), Gage Bias, Gage Linearity, Spec/Inaccuracy Ratios, and Guardbanding. An essential tool for setting product spec limits that take into consideration the uncertainty in the measurement process. Automatically generated customizable reports.

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MDD-PLUS C=0 SAMPLING PLANS

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

File provides sampling plans that were described in Annex IV, Section 6, of the version of the MDD that had been in place up thru 2009 (i.e., a valid plan, but one that is no longer mandatory). This program outputs the smallest sample size that has no more than a 5% chance of passing QC (as required by that version of the MDD). Automatically created OC curve and SampleSize vs. LotSize curve. For lot sizes up to 10,000.

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C=0 ATTRIBUTE SAMPLING PLANS

(Mouse click this underlined link, to start downloading the DEMO version of this program.)

File outputs include two different types of OC curves, and the AOQL for the chosen plan. Instead of relying on a sample-size table, this program calculates the exact absolutely smallest sample size that gives the desired protection level for a given exact size lot. For lot sizes up to 1000, only.

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FREE WORKING SOFTWARE (FULLY FUNCTIONAL, NOT DEMO)

SELF-MADE SAMPLING PLANS

Mouse click this underlined link, to start downloading this program.)

Examine OC curves for your own custom sampling plans. Use either binomial or hypergeometric calculations. Now be able to explain the "valid statistical rationale" of sampling plans you already use.

SEQUENTIAL SAMPLING PLAN ANALYSIS

(Mouse click this underlined link, to start downloading this program.)

Provides an analysis and planning tool for sample sizes in situations where lots undergo sequential

inspections (e.g., 1st by Manufacturing, 2nd by QC, and finally by QA).

COMPLAINT RATE ANALYSIS

(Mouse click this underlined link, to start downloading this program.)

Provides a way to objectively decide if the complaint rate currently observed for your product is significantly larger than the historical complaint rate for that product.

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FREE, STATISTICS-RELATED ARTICLES (see below) by John Zorich (mouse-click title to download):

Reasonable Confidence Limits for Binomial Proportions (published in 2010, in MD&DI Magazine)
This article introduces a new type of confidence interval for proportions (that is, percentages);
the new interval is called a "Reasonable Confidence Interval".

The Pre-history of Probability (seminar given in 2000, to the Silicon Valley ASQ Statistics Group)

Literature Reference Justifications for Transformations to Normality (list assembled 2012)

Reliability Plotting Explained (this provides a step-by-step instruction for this valuable tool)

Correlation Coefficient Explained (this provides practical insight into a confusing topic)

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