

## **Box Plots**

Use to display the distribution of continuous variables. They are also useful for comparing distributions.

Quantile

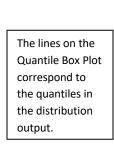
## Box Plots - One Variable

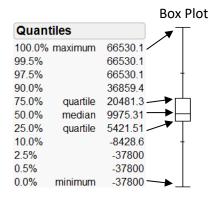
- 1. From an open JMP<sup>®</sup> data table, select **Analyze > Distribution**.
- 2. Click on one or more continuous variables from **Select Columns**, and Click **Y**, **Columns** (continuous variables have blue triangles).
- 3. Click **OK**. An outlier box plot is displayed by default next to the histogram (or above if horizontal layout). To display a quantile box plot, select the option from the **red triangle** for the variable.

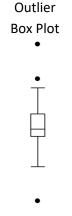
\* profit/emp

20
15
8 10
5
-40000 -20000 0 20000 40000 60000 80000

Companies.jmp (Help > Sample Data Library)





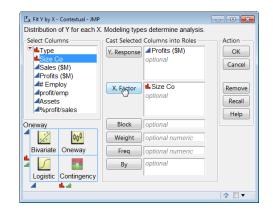


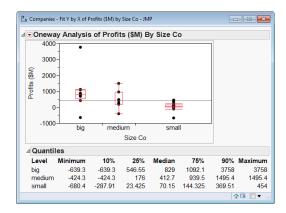
The Outlier Box Plot shows the box, plus:

- IQR = the 3<sup>rd</sup> quartile minus the 1<sup>st</sup> quartile.
- Whiskers drawn to the furthest point within 1.5 x IQR from the hox
- Potential outliers (disconnected points).

## Box Plots – Two Variables

- 1. Select Analyze > Fit Y by X.
- 2. Click on a continuous variable from **Select Columns**, and Click **Y**, **Response**.
- 3. Click on a categorical variable and click X, Factor (categorical variables have red or green bars).
- 4. Click **OK**. The Oneway Analysis output window will display.
- 5. Click on the **red triangle**, and select **Display Options > Box Plots** to display quantile box plots, or select **Quantiles** to display both box plots and quantiles (shown right).





Notes: Box plots for one or more variables can also be generated from **Graph > Graph Builder**. For more information on box plots, see the book **Using JMP Student Edition** (under **Help > Books**).