

Working with Nevron Chart Scale Breaks – Using Axis Scale Breaks



Introduction

Creating a chart that is informative to the user is a challenging task. Being focused on the data visualization Nevron Chart for .NET sets the standards in data visualization technology by supporting a variety of features allowing you to create informative and readable charts. One such feature is the complete support for axis scale breaks.

Features

Axis scale breaks are most commonly used in the following cases:

- When you have to display data that varies greatly in magnitude.
- When you need to reduce the effect that several large values (peaks in data) have on the scaling of the rest of data.
- When you want to skip data that is of no interest in order to focus on the rest of the data.

Nevron Chart fully supports scale breaks on all types of axes (horizontal, vertical, depth, reversed, date time etc.) in both 2D and 3D mode and allows you to have complete control over the scale break position and style. This topic will outline the options you have to introduce a scale break by examining a simple chart showing occupational noise report with a peak in data:

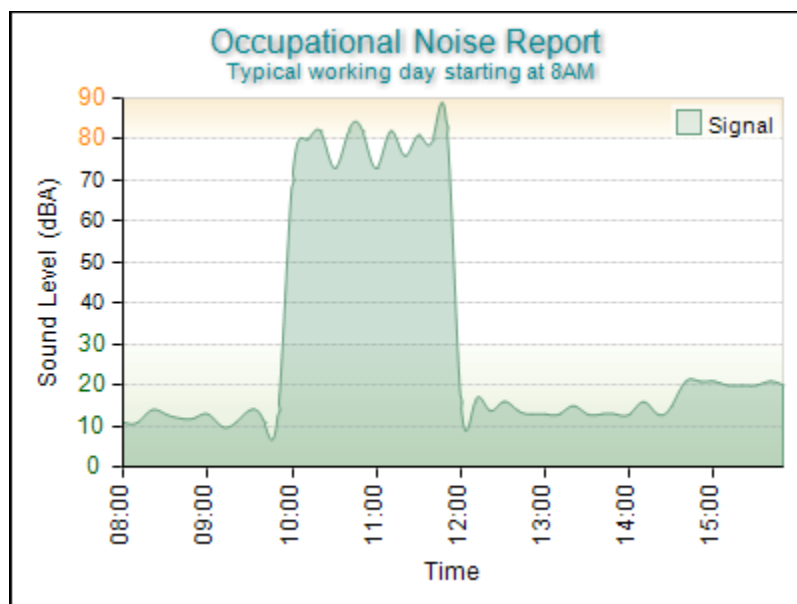


Figure 1: Occupational Noise Report without scale breaks

As shown on the above picture the noise levels raise dramatically between 10 to 12 o'clock creating a peak in data. The effect is to visually marginalize the other smaller peaks in the sound level, thus reducing the ability of the user of the chart to analyze these smaller peaks. In cases like this one you may consider to introduce a scale break on the y axis in order to increase the chart readability. The following chart shows how an automatic scale break will effectively increase the visual space available for the data:

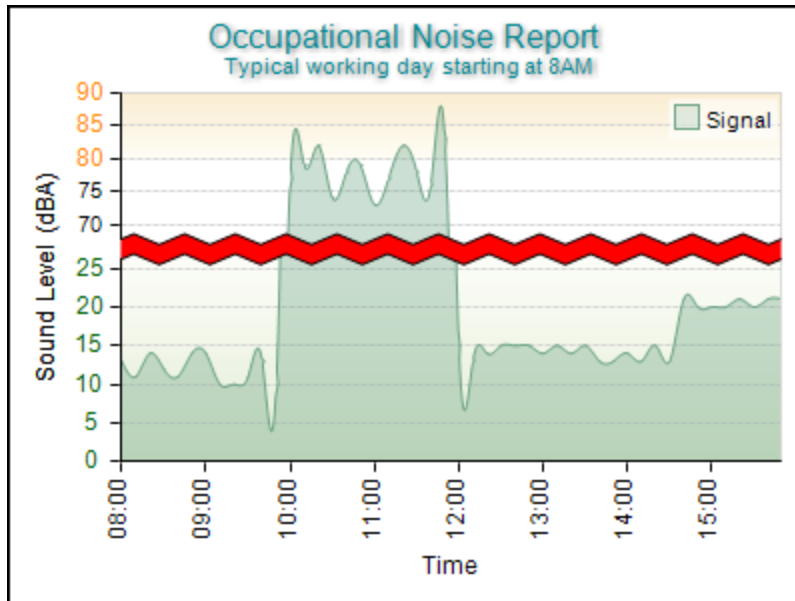


Figure 2: Occupational Noise Report without scale breaks

This is achieved through the following code:

```
[C#]
NAxis primaryY = (NAxis)chart.Axis(StandardAxis.PrimaryY);
NStandardScaleConfigurator noiseScale =
primaryY.ScaleConfigurator as NStandardScaleConfigurator;

NAutoScaleBreak autoScaleBreak = new NAutoScaleBreak();
noiseScale.ScaleBreaks.Add(autoScaleBreak);
```

```
[VB.NET]
Dim primaryY As NAxis = chart.Axis(StandardAxis.PrimaryY)
Dim noiseScale As NStandardScaleConfigurator =
CType(primaryY.ScaleConfigurator, NStandardScaleConfigurator)

Dim autoScaleBreak As NAutoScaleBreak = New NAutoScaleBreak()
noiseScale.ScaleBreaks.Add(autoScaleBreak)
```

Notice that now the smaller peaks in data are now more visible, but the chart still does not look quite good. In particular the scale break filling and style do not match the visual appearance of the chart, therefore it is a nice idea to introduce wave scale break style with some other filling:

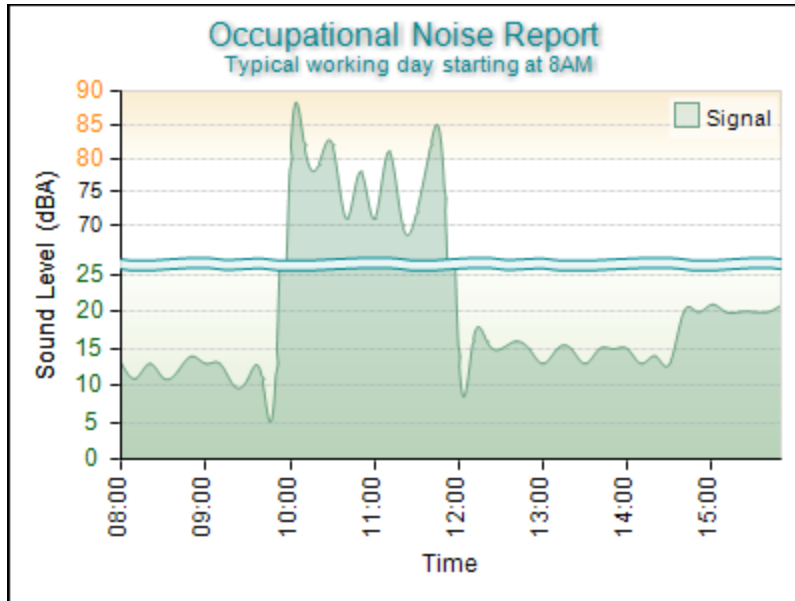


Figure 3: Occupational Noise Report with scale break styled

This is achieved by adding the following code:

[C#]

```
NWaveScaleBreakStyle waveScaleBreakStyle = new NWaveScaleBreakStyle();
waveScaleBreakStyle.FillStyle = new NColorFillStyle(Color.FromArgb(20, 1, 137, 146));
waveScaleBreakStyle.StrokeStyle.Color = Color.FromArgb(1, 137, 146);
waveScaleBreakStyle.Pattern = ScaleBreakPattern.FreeHand;
waveScaleBreakStyle.Length = new NLength(5);
autoScaleBreak.Style = waveScaleBreakStyle;
```

[VB.NET]

```
Dim waveScaleBreakStyle As NWaveScaleBreakStyle = New NWaveScaleBreakStyle()
waveScaleBreakStyle.FillStyle = New NColorFillStyle(Color.FromArgb(20, 1, 137, 146))
waveScaleBreakStyle.StrokeStyle.Color = Color.FromArgb(1, 137, 146)
waveScaleBreakStyle.Pattern = ScaleBreakPattern.FreeHand
waveScaleBreakStyle.Length = New NLength(5)
autoScaleBreak.Style = waveScaleBreakStyle
```

Finally since the data below the scale break is more it is probably better to place the scale break closer to the top side of the chart. The following chart has a scale break positioned relatively to the amount of data contained in the [0, 25] and [70, 90] ranges. Since the data in the lower range is more it will occupy more space on the primary Y axis:

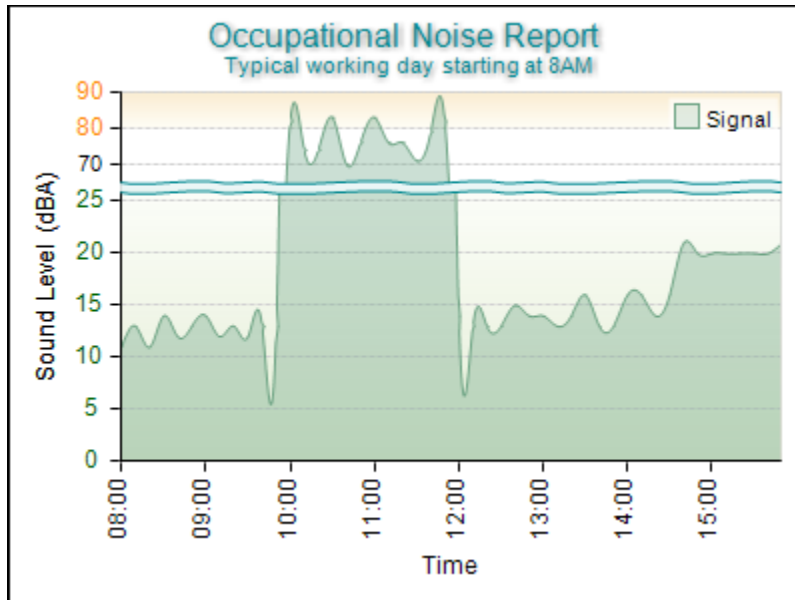


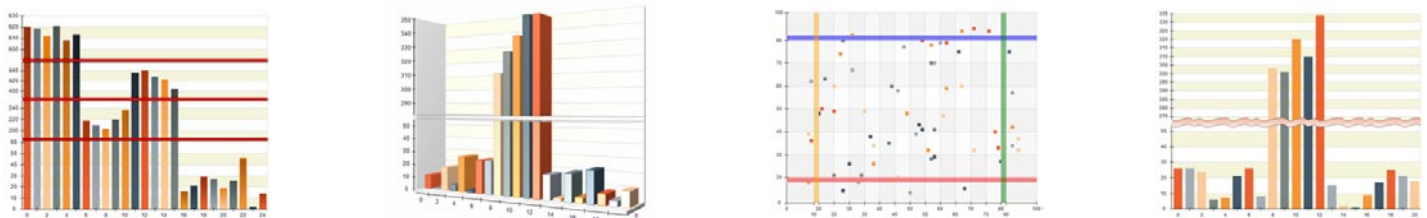
Figure 4: Occupational Noise Report with scale break position

This is done with one line of code:

```
[C#]
autoScaleBreak.Position = new NContentScaleBreakPosition();
```

```
[VB.NET]
autoScaleBreak.Position = New NContentScaleBreakPosition()
```

Working with Nevron Chart Scale Breaks you can add custom scale breaks on the chart primary X and Y axes in 2D or 3D charts.



Conclusion

Nevron Chart for .NET fully supports scale breaks and additionally allows you to customize a variety of options to get the desired result for your charts. Very few charting packages support this level of flexibility when working with scale breaks. More information on scale breaks is available in the Users Guide shipped with the fully functional, not time restricted evaluation of the component available at <http://www.nevron.com>.



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