

# 3D Charts on AMI

This document explains the usage of each field in a 3D chart. The fields are categorized into 3 sections: formulas, axis, styles. The order of the explanation in this document is based on the diagram below.

The screenshot shows the 'EDIT 3D SERIES' dialog box with the following fields and sections:

- Formulas (indicated by a bracket on the left):**
  - View Underlying Data
  - View Prepared Data
  - Data Model: Country:Country
  - Type: Scatter (selected), Surface
- Axis (indicated by a bracket on the left):**
  - OPTIONS**
    - Where: +
    - Group By: +
    - Order By: +
  - AXIS**
    - X: +
    - Y: +
    - Z: +
- Formulas (indicated by a bracket on the left):**
  - LABELS**
    - User Selectable: +
    - Description: +
    - Hover Over: +
  - MARKERS**
    - Shape: +
    - Color: No Color
    - Width(px): +
    - Height(px): +
    - Depth(px): +
  - MARKER POSITION OVERRIDE**
    - Top: +
    - Bottom: +
    - Left: +
    - Right: +
    - Front: +
    - Back: +
  - LINES**
    - Line Color: No Color
    - Line Size(px): +

Buttons at the bottom: Apply, Update, Cancel

Below is all styles:

### 3D PLOT STYLE ✕

Inherit From: My Style ▼ +

#### GENERAL

**Background Color** Inherited

**Selection Color** Inherited

**Label Color** Inherited

**Control Buttons Color** Inherited

**Control Buttons** Inherited Show Hide

#### SCROLL BAR COLORS

**X Color** Inherited

**Y Color** Inherited

**Z Color** Inherited


**Zoom Color** Inherited

**FOV Color** Inherited

**X Position Color** Inherited

**Y Position Color** Inherited

**Partition Colors** +

**Gradient Colors** 

#### SCROLLBAR OPTIONS

**Width**  —————

**Grip Color** Inherited

**Track Color** Inherited

Button Color

Icons Color

Border Color

### VISUALIZATION TITLE

Font

Font Size   13

Alignment

Title Color

### VISUALIZATION PADDING

Left

Right

Top

Bottom

Top-Left Radius (px)

Top-Right Radius (px)

Bottom-Left Radius (px)

Bottom-Right Radius (px)

Color

### VISUALIZATION SHADOW

Horizontal

Vertical

Size

Color Inherited

### VISUALIZATION BORDER

Size   9

Color #ff0000



# Formulas

## 1. View Underlying data

shows the data where the visualization is going to be based on. Example view below.

Code	Name	Continent	Region	SurfaceArea	IndepYear	Population	LifeExpectancy	GNP	GNPOld	LocalName
ABW	Aruba	North America	Caribbean	193.00		103.000	78.40	828.00	793.00	Aruba
AFG	Afghanistan	Asia	Southern and Central Asia	652.090.00	1919	22.720.000	45.90	5.976.00		Afganistan/Afghanistan
AGO	Angola	Africa	Central Africa	1.246.700.00	1975	12.878.000	38.30	6.648.00	7.984.00	Angola
AIA	Anguilla	North America	Caribbean	96.00		8.000	76.10	63.20		Anguilla
ALB	Albania	Europe	Southern Europe	28.746.00	1912	3.401.200	71.60	3.295.00	2.500.00	Shqipëria
AND	Andorra	Europe	Southern Europe	468.00	1.278	78.000	83.50	1.630.00		Andorra
ANT	Netherlands Antilles	North America	Caribbean	800.00		217.000	74.70	1.941.00		Nederlandsse Antillen
ARE	United Arab Emirates	Asia	Middle East	83.600.00	1971	2.441.000	74.10	37.966.00	36.846.00	Al-'Imarat al-'Arabiya al-Muttahida
ARG	Argentina	South America	South America	2.780.400.00	1816	37.032.000	75.10	340.238.00	323.310.00	Argentina
ARM	Armenia	Asia	Middle East	29.800.00	1991	3.520.000	66.40	1.813.00	1.627.00	Hajastan
ASM	American Samoa	Oceania	Polynesia	199.00		68.000	75.10	334.00		Amerika Samoa
ATA	Antarctica	Antarctica	Antarctica	13.120.000.00		0		0.00		
ATF	French Southern territories	Antarctica	Antarctica	7.780.00		0		0.00		Terres australes françaises
ATG	Antigua and Barbuda	North America	Caribbean	442.00	1981	68.000	70.50	612.00	584.00	Antigua and Barbuda
AUS	Australia	Oceania	Australia and New Zealand	7.741.220.00	1901	18.886.000	79.80	351.182.00	392.911.00	Australia
AUT	Austria	Europe	Western Europe	83.859.00	1918	8.091.800	77.70	211.860.00	206.025.00	Osterreich
AZE	Azerbaijan	Asia	Middle East	86.800.00	1991	7.734.000	62.90	4.127.00	4.100.00	Azarbaycan
BDI	Burundi	Africa	Eastern Africa	27.834.00	1962	6.695.000	46.20	903.00	982.00	Burundi/Uburundi
BEL	Belgium	Europe	Western Europe	30.518.00	1830	10.239.000	77.80	249.704.00	243.948.00	Belgie/Belgique
BEN	Benin	Africa	Western Africa	112.622.00	1960	6.097.000	50.20	2.357.00	2.141.00	Bénin
BFA	Burkina Faso	Africa	Western Africa	274.000.00	1960	11.937.000	46.70	2.425.00	2.201.00	Burkina Faso
BGD	Bangladesh	Asia	Southern and Central Asia	143.998.00	1971	129.155.000	60.20	32.852.00	31.966.00	Bangladesh
BGR	Bulgaria	Europe	Eastern Europe	110.994.00	1908	8.190.900	70.90	12.178.00	10.169.00	Belgarija
BHR	Bahrain	Asia	Middle East	694.00	1971	617.000	73.00	6.366.00	6.097.00	Al-Bahrayn
BHS	Bahamas	North America	Caribbean	13.878.00	1973	397.000	71.10	3.527.00	3.347.00	The Bahamas
BIH	Bosnia and Herzegovina	Europe	Southern Europe	51.197.00	1992	3.972.000	71.50	2.841.00		Bosna i Hercegovina
BLR	Belarus	Europe	Eastern Europe	207.600.00	1991	10.236.000	68.00	13.714.00		Belarus
BLZ	Belize	North America	Central America	22.696.00	1981	241.000	70.90	630.00	616.00	Belize
BMU	Bermuda	North America	North America	53.00		65.000	76.90	2.328.00	2.190.00	Bermuda
BOL	Bolivia	South America	South America	1.088.581.00	1825	8.329.000	63.70	8.571.00	7.967.00	Bolivia
BRA	Brazil	South America	South America	8.547.403.00	1822	170.115.000	62.90	776.739.00	804.108.00	Brasil
BRB	Barbados	North America	Caribbean	430.00	1966	270.000	73.00	2.223.00	2.186.00	Barbados
BRN	Brunei	Asia	Southeast Asia	5.765.00	1984	328.000	73.60	11.705.00	12.460.00	Brunei Darussalam
BTN	Bhutan	Asia	Southern and Central Asia	47.000.00	1910	2.124.000	52.40	372.00	383.00	Druk-Yul
BVT	Bouvet Island	Antarctica	Antarctica	59.00		0		0.00		Bouvetøya
BWA	Botswana	Africa	Southern Africa	581.730.00	1966	1.622.000	39.30	4.834.00	4.935.00	Botswana
CAF	Central African Republic	Africa	Central Africa	622.984.00	1960	3.615.000	44.00	1.054.00	993.00	Centrafrique/Bé-Afrika
CAN	Canada	North America	North America	9.970.610.00	1867	31.147.000	79.40	598.962.00	625.626.00	Canada

## 2. View Prepared data

shows the underlying data as well as properties of the marker. Properties include:

- Marker Shape
- Marker Color
- Marker Width
- Marker Height
- Marker Depth
- Axis (coordinates) X/Y/Z

Example view below.

PREPARED DATA

Layer Formula Results

239 Layer Formula Results

Axis - X	Axis - Y	Axis - Z	Markers - Shape	Markers - Color	Markers - Width	Markers - Height	Markers - Depth
828.00	103,000	193.00	diamond	#1338be	1	1	1
5,976.00	22,720,000	652,090.00	diamond	#1338be	1	1	1
6,648.00	12,878,000	1,246,700.00	diamond	#1338be	1	1	1
63.20	8,000	96.00	diamond	#1338be	1	1	1
3,205.00	3,401,200	28,748.00	diamond	#1338be	1	1	1
1,630.00	78,000	468.00	diamond	#1338be	1	1	1
1,941.00	217,000	800.00	diamond	#1338be	1	1	1
37,966.00	2,441,000	83,600.00	diamond	#1338be	1	1	1
340,238.00	37,032,000	2,780,400.00	diamond	#1338be	1	1	1
1,813.00	3,520,000	29,800.00	diamond	#1338be	1	1	1
334.00	68,000	199.00	diamond	#1338be	1	1	1
0.00	0	13,120,000.00	diamond	#1338be	1	1	1
0.00	0	7,780.00	diamond	#1338be	1	1	1
612.00	68,000	442.00	diamond	#1338be	1	1	1
351,182.00	18,886,000	7,741,220.00	diamond	#1338be	1	1	1
211,860.00	8,091,800	83,859.00	diamond	#1338be	1	1	1
4,127.00	7,734,000	86,600.00	diamond	#1338be	1	1	1
903.00	6,695,000	27,834.00	diamond	#1338be	1	1	1
249,704.00	10,239,000	30,518.00	diamond	#1338be	1	1	1
2,357.00	6,097,000	112,622.00	diamond	#1338be	1	1	1
2,425.00	11,937,000	274,000.00	diamond	#1338be	1	1	1
32,852.00	129,155,000	143,998.00	diamond	#1338be	1	1	1
12,178.00	8,190,900	110,994.00	diamond	#1338be	1	1	1
6,366.00	617,000	694.00	diamond	#1338be	1	1	1
3,527.00	307,000	13,878.00	diamond	#1338be	1	1	1
2,841.00	3,972,000	51,197.00	diamond	#1338be	1	1	1
13,714.00	10,236,000	207,600.00	diamond	#1338be	1	1	1
630.00	241,000	22,696.00	diamond	#1338be	1	1	1
2,328.00	65,000	53.00	diamond	#1338be	1	1	1
8,571.00	8,329,000	1,098,581.00	diamond	#1338be	1	1	1
776,739.00	170,115,000	8,547,403.00	diamond	#1338be	1	1	1
2,223.00	270,000	430.00	diamond	#1338be	1	1	1
11,705.00	328,000	5,765.00	diamond	#1338be	1	1	1
372.00	2,124,000	47,000.00	diamond	#1338be	1	1	1
0.00	0	59.00	diamond	#1338be	1	1	1
4,834.00	1,622,000	581,730.00	diamond	#1338be	1	1	1

Close

### 3. Data model

shows the name of the datamodel of which the visualization is based on.

### 4. Type

indicates whether the graph is a surface plot or a scatter plot.

OPTIONS	
Where:	<input type="text"/> +
Group By:	<input type="text"/> +
Order By:	<input type="text"/> +

## Options

### 5. Where

Filters the data based on user-defined, semicolon delimited conditions. The graph would only show points which satisfies the boolean argument (e.g. suppose x-axis is "Quantity". Inputting  $\text{Quantity} > 0$  would cause the graph to only show points where  $\text{Quantity} > 0$ ).

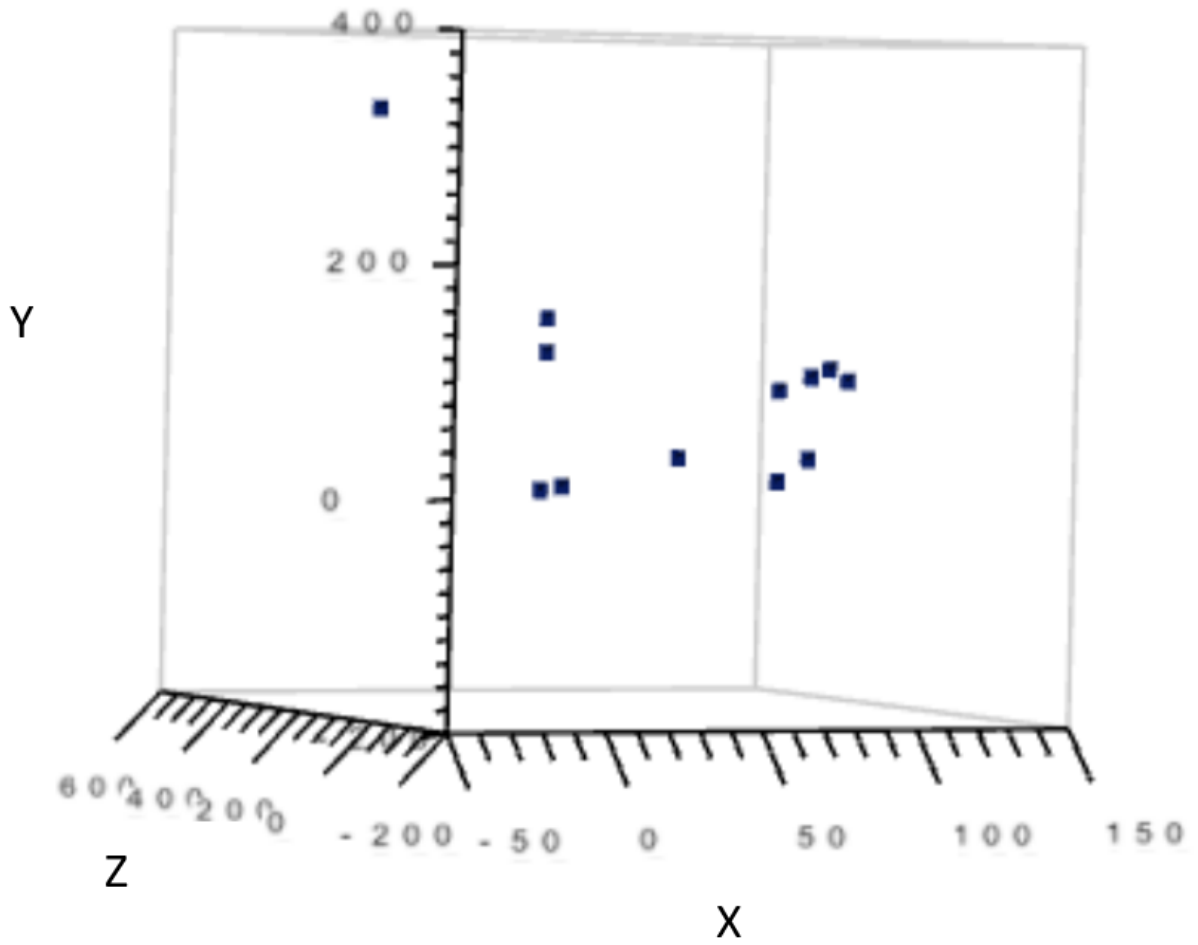
### 6. Group By

Affects the grouping in "View Prepared Data".

### 7. Order By

Affects the ordering in "View Prepared Data".

# Axis



X/Y/Z Axis: required. Indicates what the coordinate values come from. Each axis takes a column's name as input. Column data must be numeric.

AXIS		
X:	<input type="text"/>	<input data-bbox="1307 1402 1339 1444" type="button" value="+"/>
Y:	<input type="text"/>	<input data-bbox="1307 1451 1339 1493" type="button" value="+"/>
Z:	<input type="text"/>	<input data-bbox="1307 1499 1339 1541" type="button" value="+"/>



# Formulas

## Labels

LABELS	
User Selectable:	<input type="checkbox"/> +
Description:	<input type="text"/> +
Hover Over:	<input type="text"/> +

### 8. Description

Indicates what to annotate next to each data point on the chart.

### 9. Hover over

Indicates what to show when hovering over a data point.

## Markers

MARKERS	
Shape:	<input type="text"/> +
Color:	No Color ▾
Width(px):	<input type="text"/> +
Height(px):	<input type="text"/> +
Depth(px):	<input type="text"/> +

### 10. Shape

Indicates the shape of each data point on the chart.

### 11. Color

Determines the color of each data point.

### 12. Width/Height/Depth (px)

Determines the size of the data points, in pixels, on the chart.

## Marker Position Override

MARKER POSITION OVERRIDE	
Top:	<input type="text"/> +
Bottom:	<input type="text"/> +
Left:	<input type="text"/> +
Right:	<input type="text"/> +
Front:	<input type="text"/> +
Back:	<input type="text"/> +

### 13. Top/Bottom/Left/Right/Front/Back

Forces each marker to stretch to the specific value, relative to the range of X/Y/Z. Ex: if one of your markers has position  $(x, y, z) = (1, 2, 3)$  and your graph has minimum Y value of -5 and maximum y value of 5, and you set Top as 5, then that marker will now stretch to  $(1, 5, 3)$ . The previous marker position is not erased so a surface is formed, spanning from 2y to 5y. Setting a value outside of the current range will cause the marker line to go outside of the chart. Setting a negative value for Top is equivalent to setting a positive value for Bottom, vice versa. The same rule applies to Left/Right, Front/Back.

## Lines

LINES	
Line Color:	<input type="text" value="No Color"/> ▾
Line Size(px):	<input type="text"/> +

### 14. Line Color

Indicates the line color.

### 15. Line Size (px)

Indicates the line size, in pixel, connecting the data points.

# Styles

Formula X axis Y axis Z axis **Style**

Inherit From: Layout Default ⌵ +

### GENERAL

Background Color Inherited

Selection Color Inherited

Label Color Inherited

Control Buttons Color Inherited

Control Buttons Inherited Show Hide

### SCROLL BAR COLORS

X Color Inherited

Y Color Inherited

Z Color Inherited

Zoom Color Inherited

FOV Color Inherited

⌵

X Position Color

Y Position Color

Partition Colors

Gradient Colors

### SCROLLBAR OPTIONS

Width

Grip Color

Track Color

Button Color

Icons Color

Border Color

### VISUALIZATION TITLE

Font



Font Size

Alignment

Title Color

### VISUALIZATION PADDING

Left

Right

Top

Bottom

Top-Left Radius (px)

Top-Right Radius (px)

Bottom-Left Radius (px)

Bottom-Right Radius (px)

Color

### VISUALIZATION SHADOW

Horizontal

Vertical

Size

Color

### VISUALIZATION BORDER

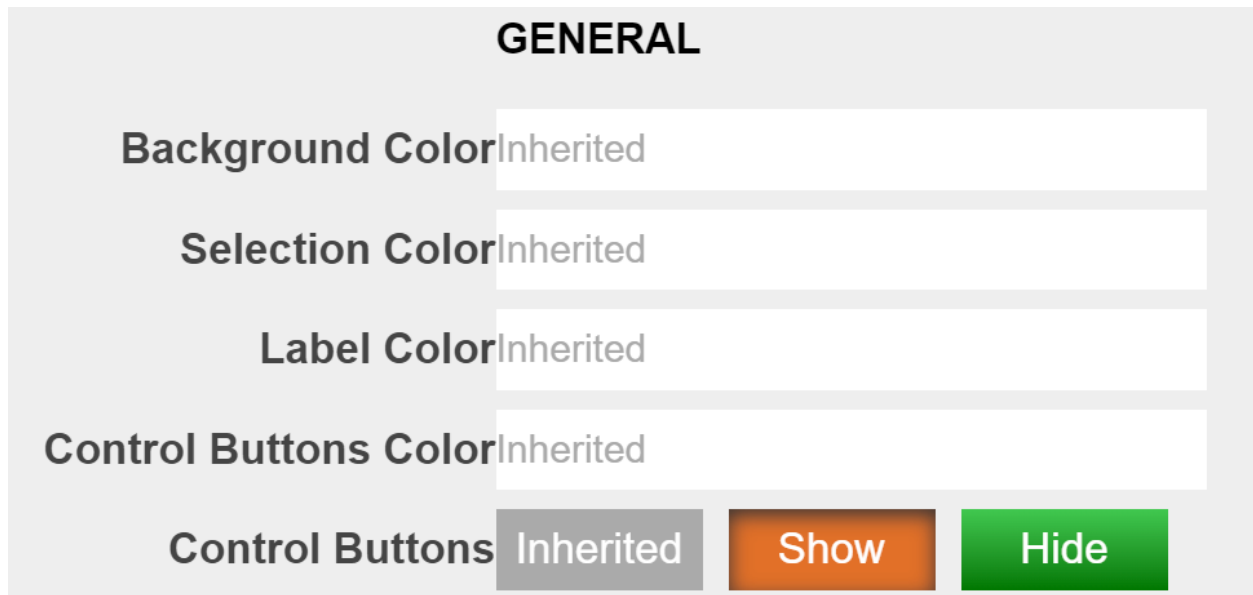
Size

Color

## 1. Inherit From

Can be changed in Style Manager under Dashboard. This applies the selected styles from the Style Manager to the current visualization.

### General



## 2. Background Color

Applies to the background of the visualization.

## 3. Selection Color

Affects the color you see when you select a data point on the chart.

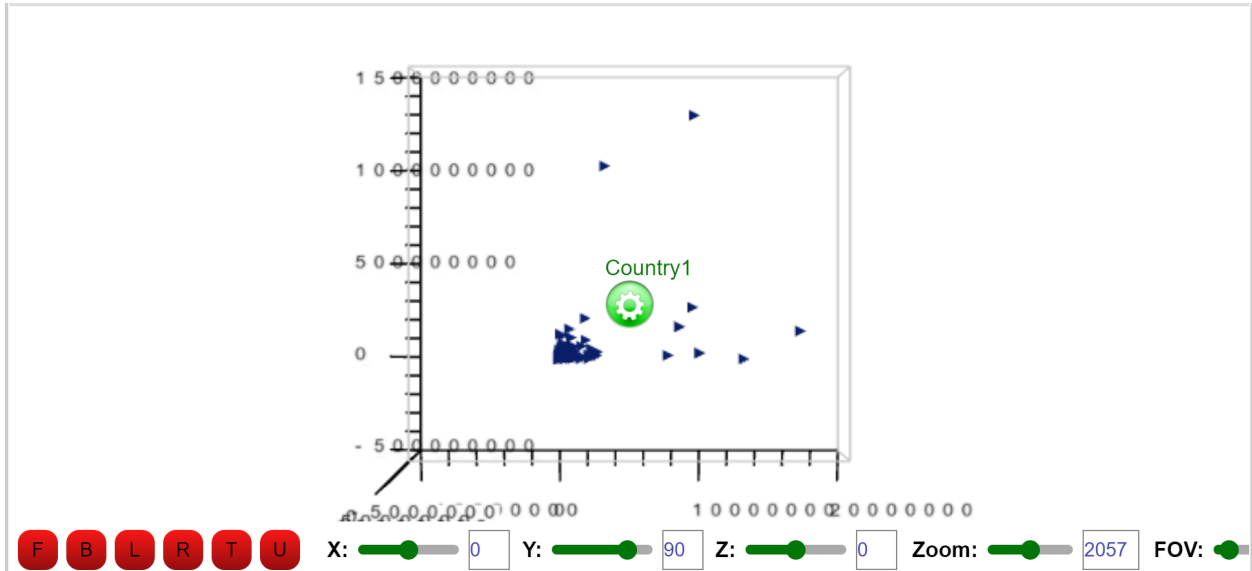
## 4. Label Color

Affects the color of the labels on the bottom of the visualization. In the screenshot below I have changed the color of the labels to red.



## 5. Control Buttons Color

Affects the color of the buttons on the bottom left of the visualization as seen below.



## Scroll Bar Colors

**SCROLL BAR COLORS**

<b>X Color</b>	Inherited
<b>Y Color</b>	Inherited
<b>Z Color</b>	Inherited
<b>Zoom Color</b>	Inherited
<b>FOV Color</b>	Inherited
<b>X Position Color</b>	Inherited
<b>Y Position Color</b>	Inherited
<b>Partition Colors</b>	+
<b>Gradient Colors</b>	

The colors here all refer to various scroll bars on the bottom of visualization, labeled “X”, “Y”, “Z”, “Zoom”, “FOV” and such.



## Scroll Bar Options

### SCROLLBAR OPTIONS

Width

Grip Color

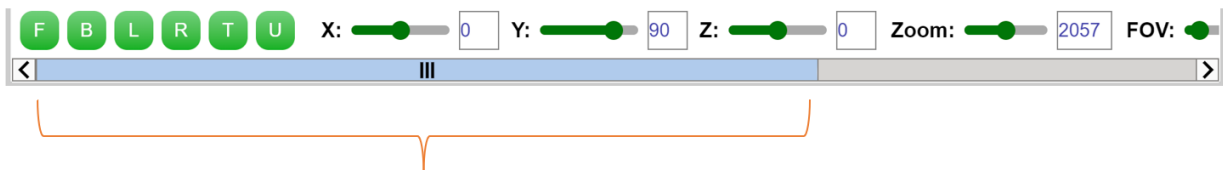
Track Color

Button Color

Icons Color

Border Color

The options here all refer to the *single* scroll bar at the bottom of the visualization.





## Visualization Title

**VISUALIZATION TITLE**

Font

Font Size

Alignment

Title Color

The options here control the title of the visualization. By default there is no title displayed on the chart. Below is an example usage

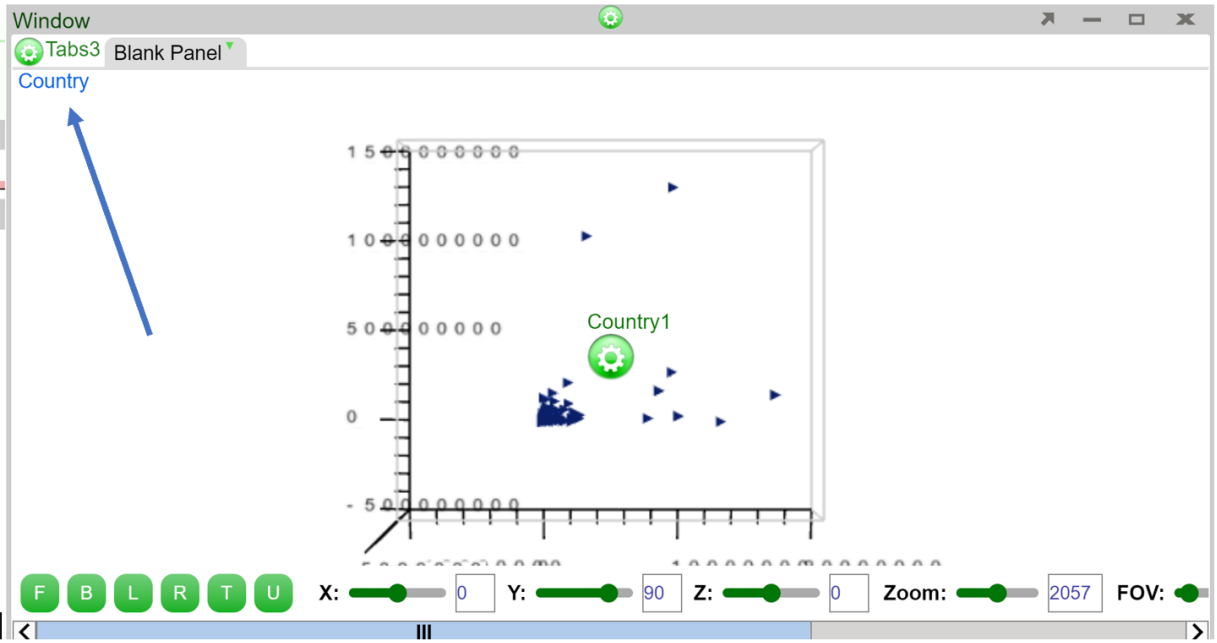
**VISUALIZATION TITLE**

Font

Font Size   13

Alignment

Title Color



## Visualization Padding

**VISUALIZATION PADDING**

Left

Right

Top

Bottom

Top-Left Radius (px)

Top-Right Radius (px)

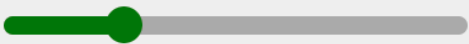
Bottom-Left Radius (px)

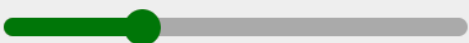
Bottom-Right Radius (px)

Color

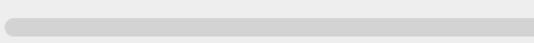
The options here control the padding of the visualization as a whole, the padding will cover the chart if set as a high value. Example usage below:

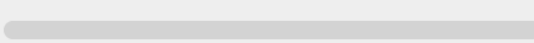
## VISUALIZATION PADDING

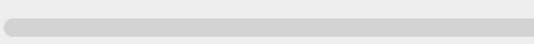
Left   26

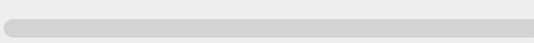
Right   30

Top  

Bottom  

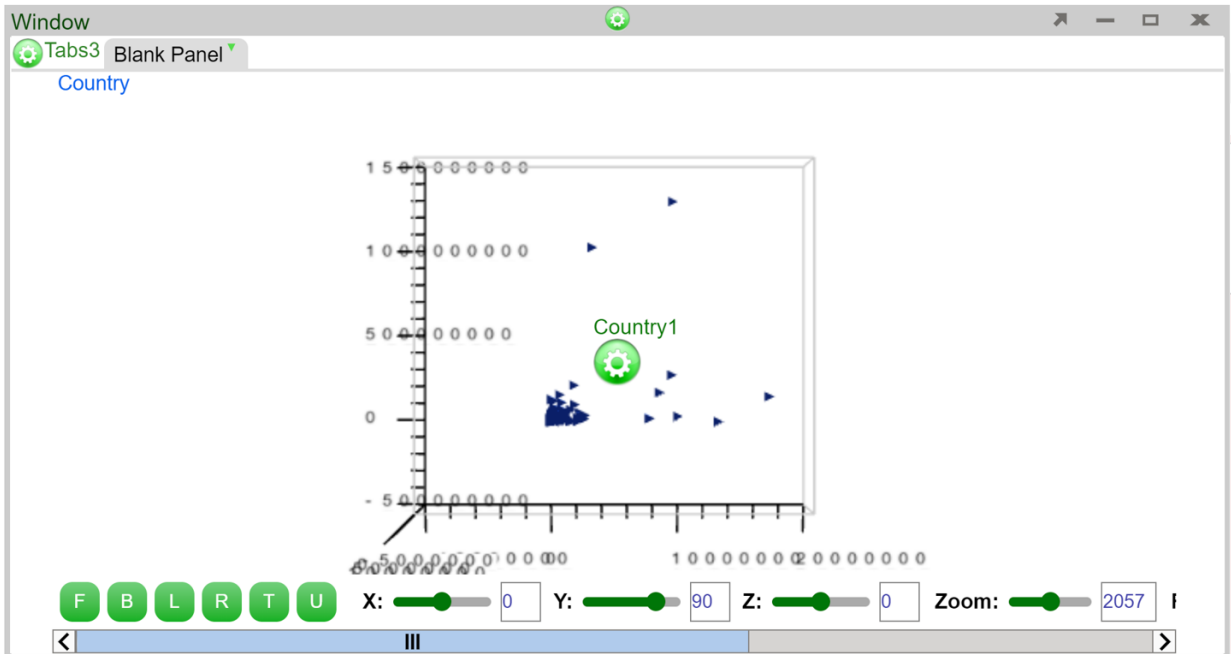
Top-Left Radius (px)  

Top-Right Radius (px)  

Bottom-Left Radius (px)  

Bottom-Right Radius (px)  

Color



## Visualization Border

# VISUALIZATION BORDER

Size

Color Inherited

The bigger the size, the less space there is for the visualization, the bigger the borders. Color controls the border color. Example usage below

# VISUALIZATION BORDER

Size  9

Color #ff0000

