

Plots

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Description

This section presents the extensive plotting capabilities available in DSix. We will demonstrate how to create plot windows and cover the plot grid and how plots are arranged on a page. We will explore how to fine tune the plot configuration settings in order to achieve a highly-customized display format for your data and we will discuss how to save these customized settings to a template for loading at another time or in another project. We will also introduce macros and how they can be applied to provide automation capabilities.

What you will learn


Upon completion of this section, you will be able to:

- **Create plot windows** that contain a single plot or as many as 18
- **Configure** the way your plots display data including:
 - Line thickness, color, and style
 - Movable legends
 - User-definable axes limits and major/minor grid line styles
- Use **macros** to automatically set plot titles and labels
- **Print** and **Export** your plot windows

Plots

- ✈ The Plot Window and Grid
- ✈ Managing Series
- ✈ Configuring Display Elements
- ✈ Page Title Macros
- ✈ Axis Label Macros
- ✈ Image Export and Printing

The Plot Window and Grid


- Plots within a window are numbered according to a grid.
- The plot in focus is indicated on the status bar and by a background highlight of customizable color. 
- Grid location is used to identify plots in the API.

Plot Grid Numbering	Column 1	Column 2	Column 3
Row 1	1, 1	1, 2	1, 3
Row 2	2, 1	2, 2	2, 3
Row 3	3, 1	3, 2	3, 3
Row 4	4, 1	4, 2	4, 3
Row 5	5, 1	5, 2	5, 3
Row 6	6, 1	6, 2	6, 3


Current Plot: (1, 1)



Managing Series

- Right-click on a plot to open the configuration dialog.
- The “Last Run” database is not a real database but a placeholder to the most recent simulation run.
- Use the Database Swap button to quickly plot the same data from different databases. A small icon for the Database Swap button, showing a green 'X' and a red '+' over a grid.
- Double-click on columns in the Series list to change their values.
- Right-click on a Series in the list to promote, demote, or remove it from the plot.

Configuring Display Elements

- Zoom a plot by left-clicking and selecting a region then clicking the Zoom to Region button. 
- Reset all axis values to automatic by double-clicking inside the plot.
- Use macros to customize axis and page titles.
- Each base legend position maintains its own offsets.
- When outside the plot boundary, a single column legend does not use an X offset and a multi-column legend does not use a Y offset.

Page Title Macros

- *DSixDir* – Resolves to the full path location of the DSix installation.
- *ProjDir* – Resolves to the full path location of the current project.
- *ProjName* – Resolves to the name of the current project.
- *Date* – Resolves to the current date, displayed as MM/DD/YY.
- *Time* – Resolves to the current system time, displayed a

Example:

```
$(ProjDir)\\$(ProjName)\n$(Date), $(Time)
```

Might Display:

```
C:\Projects\MyProject.d6p
```

```
06/14/10, 12:38:00
```

Axis Label Macros

- *File* – Resolves to the name of the series database.
- *XVarName* – Resolves to the name of the series X variable.
- *YVarName* – Resolves to the name of the series Y variable.

Axis label macros can be followed by “srX” where X is 0-based index of the series from which to obtain the macro value.




Example:

$\$(File, sr0): \$(XVarname, sr0)$ vs. $\$(YVarName, sr0)$

Might Display:

DSix Run 1: Time vs. Alt

Image Export and Printing

- Copy an image of the plot window to the system clipboard by pressing the Copy button. 
- Print an image of the plot window by pressing the Print button. 
- Save an image of the plot window by pressing the Export button. 
- Support for GIF, JPG, BMP, PNG and TIFF formats.



Flight Simulation Environment