

FLYMASTER

FLYMASTER DESIGNER



Flymaster Designer User manual
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1 Introduction

The Flymaster Designer is a free application allowing users to design and manage, the screen layout of select Flymaster instruments.

An unlimited number of layouts can be created, each having up to sixteen different display pages. The Flymaster Designer is also used to upload the created layouts to the Flymaster instruments. Layouts can be saved to disk for later use and can easily be shared with other users.

2 Getting the Designer

The designer installation file can be downloaded from Flymaster website (www.flymaster.net). On the web site the application is located in the “Downloads” section of the “Flymaster Live” product page, download “FmDesigner.msi” for Windows operating system, or FmDesigner.dmg for Mac OS X.

Double click on the downloaded file, then follow the installation steps on Windows, or simply drag the app on the mounted dmg to the Applications folder of Mac OS.

3 Overview

The Flymaster Designer application can be divided into 4 distinct areas: Screen, Elements, Toolbars and Thumbnails (see Figure 1).

- **Screen area:** Represents the 240X320 high resolution display of the Flymaster instrument. This is a WYSIWYG (*what you see is what you get*) of the instrument's screen.
- **Elements Toolbox:** This area contains all the available elements that can be used to define the layout. Simply dragging and dropping elements from the Elements Toolbox to the screen adds them to the Screen.

- **Thumbnails area:** This area displays a miniature of all the pages of the layout, referred to as thumbnails. Clicking on a thumbnail selects that page into the Screen area. As elements are added to the screen(s) the thumbnails will automatically be updated.
- **Toolbar:** The “Toolbar” area contains several buttons which act like shortcuts to several functions. Some examples can be the “Format”, “Edit”, or “File”. The same functions can be accessed trough the designer menu options.

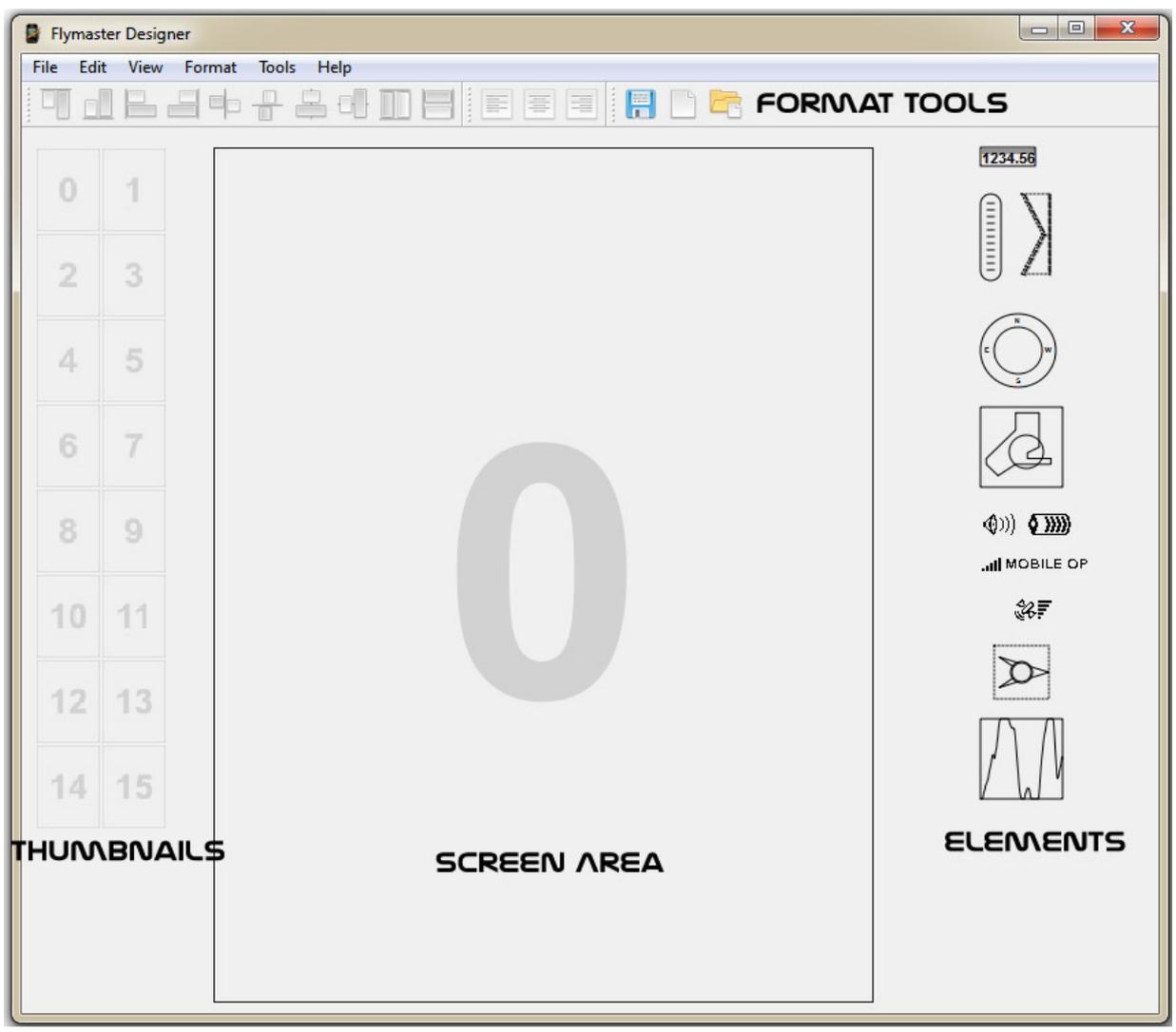


Figure 1- Flymaster Designer Overview

4 Defining the Instrument and Language

The Designer can be used with several Flymaster instruments, like the Live, NAV, or Vario. Before, start using the designer you should define your instrument.

In order to select the right instrument you should select the “Preferences...” option, under the “Edit” menu. By doing it, a dialog box is opened which allows to define trough a droplist the “Device”, and also the “Language”.

5 Creating Layouts

When the designer is started an empty layout is automatically created. At any time the layout can be saved using “Save” option, in the “File” menu bar.

A new Layout can be created using “New” option, in the “File” menu bar.

An existing layout can be opened using the “Open” option, in the “File” menu bar.

ATTENTION!! Sending a layout to the instrument will delete the existing layout on the instrument.

5.1 Understanding layouts

A layout is in essence a set of *elements*. Each element has a set of properties which define what, where and how it is displayed on the instrument. When looking at the instrument's screen a pilot's eye will typically become trained to the positioning of different elements on the screen, so even when the instrument is capable of showing several screens ideally several key elements should remain in the same place. With this in mind the Designer follows a key concept, where elements have a property that defines on which pages it the element is visible, thus an element can be present on several pages having the same characteristics. This concept greatly simplifies and speeds up the design process, and helps create consistent, easy to read layouts.

5.2 Elements

There are two classes of elements, namely: graphic elements and data field elements.

Adding an element to a layout is achieved by simply Draging & Dropping it from the Elements toolbox onto the Screen area. When a new element is dropped onto the screen it's properties dialog box automatically pops up, allowing for immediate adjustments, selecting "Cancel" on the properties dialog at this moment will cancel the element Add. Element properties will vary depending on the element type.

5.2.1 Graphic Elements

Several graphic elements are available, these will vary depending on the target instrument and firmware version.



Figure 2 - Graphic Elements

5.2.2 Data field elements

Data field elements allow to display information generated by the instrument (see Figure 3). Examples are “Altitude”, Speed, or “Current Glide Ratio”.

Data fields can be resized. Resizing a data field element changes the bounding box dimensions, but not the font size. The font size can be changed by setting the “Font” attribute, there are three font size to choose from (Large – Normal – Tiny).

The data displayed and the available fields will vary depending on the instrument model. A full explanation of available data fields can be found in the corresponding instrument manual.

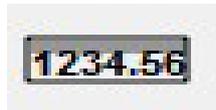


Figure 3 - Data Field Element

5.3 Adding an Element

There are two ways to insert an element in the display area:

- Drag and Drop the element from the toolbox to the screen area.
- Click on the desired element in the Toolbox, the element will be placed on the upper right corner of the screen area.

When the element is added a pop up window will display. This window allows changing element properties, such as field type, size, visibility. Depending on the element type certain properties cannot be changed.

5.4 Deleting an Element

Layout elements can be deleted by selecting it and pushing the “Delete” key, or navigating to the Edit menu and selecting delete. If several elements are selected all the selected elements will be deleted. An element will also be automatically deleted when the visibility property is removed from all pages, i.e an element that is not set to be visible on any page cannot exist, thus is deleted.

5.5 Changing Element Size and Position

Elements can also easily be manipulated using the mouse. To move an element: move the mouse cursor over the element (the cursor will display an open hand); pushing the left mouse button will change the cursor to a closed hand; moving the mouse now will move the element. Moving the mouse cursor to the edge of an element will change the cursor to a resize arrow, click and hold the mouse button then move the moving the mouse will resize the element. Resizing an element will not change the font size. That must be done using the element properties.



Figure 4 - Size edition

Size and position can be also be changed by editing the element's properties (see 5.6.2).

5.6 Changing Element Properties

Double clicking an element will display a pop up window, showing the element properties. Depending on the element type different properties may be changed.

Properties are organized in tabbed dialogs. The available tabs are:

- Data Field

- Geometry
- Pages

The Data Field Tab is disabled when editing graphic elements properties.

5.6.1 Data field tab

The Data Field tab is only available on data field elements. There are 6 configurable properties in the Data field tab.

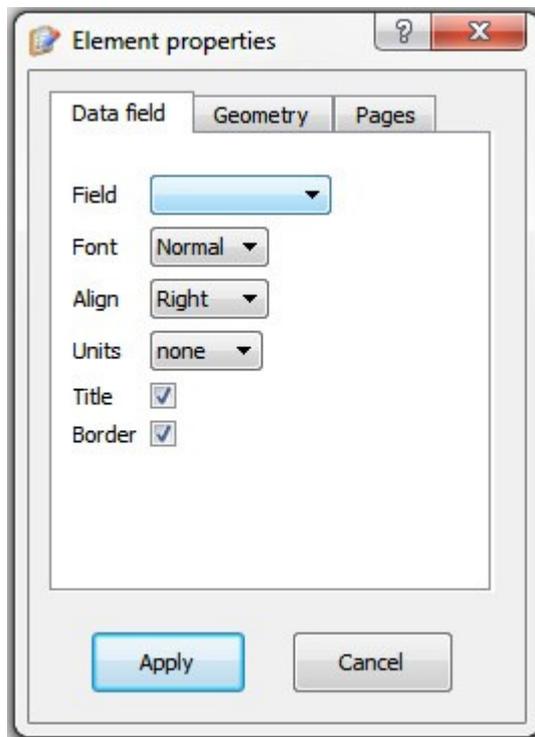


Figure 5- Data Field Tab

Field – Drop down list selects the data shown on the element. The available data depends on the target instrument (refer to the instrument manual for more information).

Font – Drop down list selects the font size. Three font sizes are available: Large, Normal, Tiny. The Large font is only available for numeric data fields, since letters are not defined in this font type.

Align – Drop down list defines text alignment in the data field bounding box. Options available are: left, center, right.

Units – Drop down list selects if and how units should be displayed. If “right” is selected the units will be displayed to the right of the data (ex. 50 km/h).

Title – Check Box defines if a title should be displayed above the data. The title text is always displayed in Tiny font.

Border – Check Box defines if a border should be drawn around the data field bounding box.

5.6.2 Geometry tab

The geometry tab defines the location and size of the element on the screen. All values are in pixels.

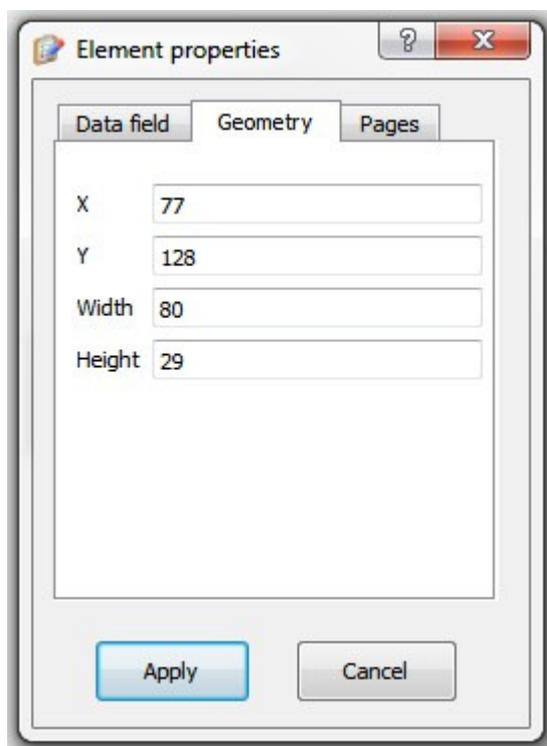


Figure 6- Geometry tab

The X, and Y, are the coordinates in pixels, of the top left vertex of the data field element box. The origin of the coordinate system corresponds to the top-left corner of the instrument screen. The maximum values of X, and Y, are respectively 240, and 320 pixels.

The Width, and Height, defines the dimensions of the data field element box in pixels.

If an the defined geometry places an element out of the screen, the Designer automatically readjusts the X and Y coordinates.

5.6.3 Pages tab

The “Pages Tab” defines on which pages an element is visible. When the user wants to use the same element, with the same properties, in different pages it can check the corresponding check box in the “pages tab”.

Please note that, an element visible in multiple pages is the same element in all the pages. This means that, moving or changing properties of an element changes it on all the pages that contain it.

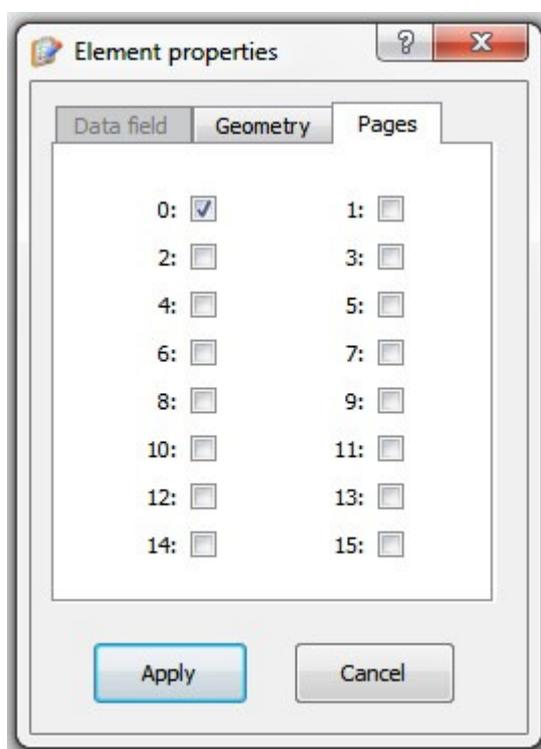


Figure 7- Pages tab

5.7 Alignment tools

The designer provides a set of tools to facilitate the alignment of elements. All the alignment tools are shown under the format menu, and also on a toolbar.



Figure 8- Alignment Toolbar

The alignment tools are only activated (highlighted) when one or more elements are selected.

Multiple elements can be selected by placing the mouse cursor on an area of the screen where no element is present, so that the cursor is an arrow. Click and hold the left mouse button then moving the mouse initiates a selection rectangle. Releasing the mouse will select all the elements that intersect the selection rectangle. Multiple elements can also be selected by holding the “Shift” key and clicking on each element. If a previously selected element is reselected, by a selection rectangle, or if a selected element is reselected, that element will become the reference element. The reference element will be marked violet (see Figure 9).

The reference element will cause alignments to be referenced to it. For example when an element is reference selecting a Left Align will cause the left edge of all selected elements to align with the left edge of the reference element, when no reference element exists in the selection that same left alignment will cause all the selected elements to align their left edges to the left edge of the left most element.

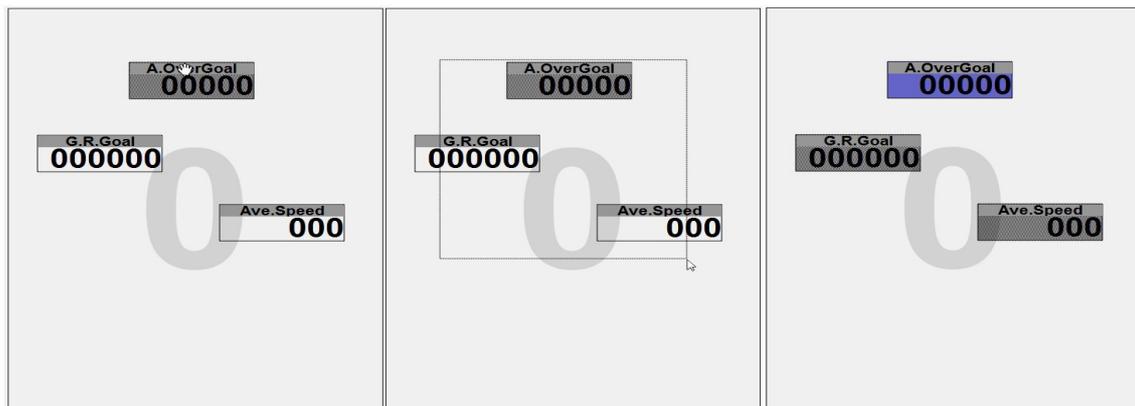


Figure 9- Reference Element

Each alignment tool defines different alignment rules. The thumbnails are self explanatory. See Table 1 for a brief description.

Tool	Alignment reference defined	No alignment reference defined
	Aligns all the Element(s) regarding the top edge of the reference one.	The same being the top most element the reference.
	Aligns all the Elements regarding the bottom edge of the reference one.	The same being the bottom most element the reference.
	Aligns all the Elements regarding the Left edge of the reference one.	The same being the left most element the reference.
	Aligns all the Elements regarding the right edge of the reference.	The same being the right most element the reference.
	Align the left edge of the non reference element according the axis which includes the right edge of the reference element.	The same being the left most element the reference.
	Align the top edge of the non reference element according the axis which includes the bottom edge of the reference element.	The same being the top most element the reference.
	Aligns all Elements vertical axes according the reference element vertical axis.	The same being the center element the reference.
	Aligns all Elements horizontal axes according the reference element horizontal axis.	The same being the center element the reference.
	Change the height of all Elements to match the height of the reference element.	The same being the highest element the reference.
	Change the width of all Elements to match the width of the reference element.	The same being the widest element the reference.

Table 1 - Alignment Tools

6 Page Properties and “Triggers”

Each of the 16 available pages has its own properties. Double clicking over the desire page will open a dialog box similar to the one of Figure 10.

Using the dialog box the user can set the page name, and disable the page by checking the corresponding box. If a page is disabled then it is ignored when the user is scrolling through pages.

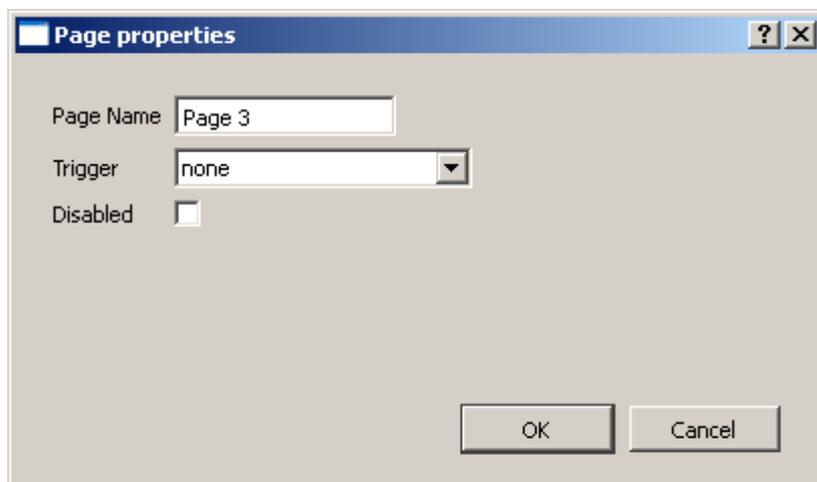


Figure 10- Page Properties Dialog Box

The most important property of a page is its “Trigger”. Pages can be automatic activated during flight by defining a trigger event for the page. In this way, the user can have different pages according different flight contexts, which can be automatically activated (switched) if a certain condition is meet.

One good example is an airspace control page. In a airspace control page the user can have the airspaces map, as also different airspaces related data fields (eg. Distance to CTR). Additionally, the trigger “Airspace Warning” can be set to this page.

During flight the user can have any page active, for example a thermal page. However, if an airspace limit is reached the device will automatic change the page to airspaces one. Each device has its own trigger events. Please check your device user manual in order to know more details about the available trigger events.

7 Managing Layout Files

Layouts can be saved for future use. The Flymaster Designer will remember the name of a previously opened layout, saving will replace it. Using the “Save as” option allow saving under a different name, thus creating a new file.

To open, or save, an layout file just go to “File” menu and select the corresponding

option.

8 Sending a Layout to the Instrument

Sending a layout to the instrument requires it to be switched on and connected to the PC's usb port. The adequate drivers should be already installed (please refer to the instrument's manual).

Select the “Send” to device” in the “File” menu, to initiate the layout.

Please note that uploading a new Layout will replace the previous layout present on the instrument.

The upload procedure should take a couple of seconds. Once terminated, the changes appear immediately.

9 Uploading Airspaces files to the Instrument

The Designer can also be used to upload Airspaces to certain Flymaster instruments, like for example the Flymaster LIVE.

At the moment the designer is only compatible with the “Open Air” format. Open Air is a standard Airspace, and Terrain description language, publicly available, which is almost a global standard for displaying map information. For more information about the Open Air format see <http://www.winpilot.com/UsersGuide/UserAirspace.asp> .

Open Air airspaces files can be find in several websites, for specific countries, regions, flight areas, etc. In some of these websites the user can even generate the file for a specific area, according to its needs. One good example is <http://www.maddyhome.com/ctr/> .

Once the file with the required airspaces is available, selecting the option “Tools”->”Airspaces” will open a dialog box similar to the one of Figure 11.

Clicking the “Open File” Button will allow the user to pick the desired file, with the airspace information.

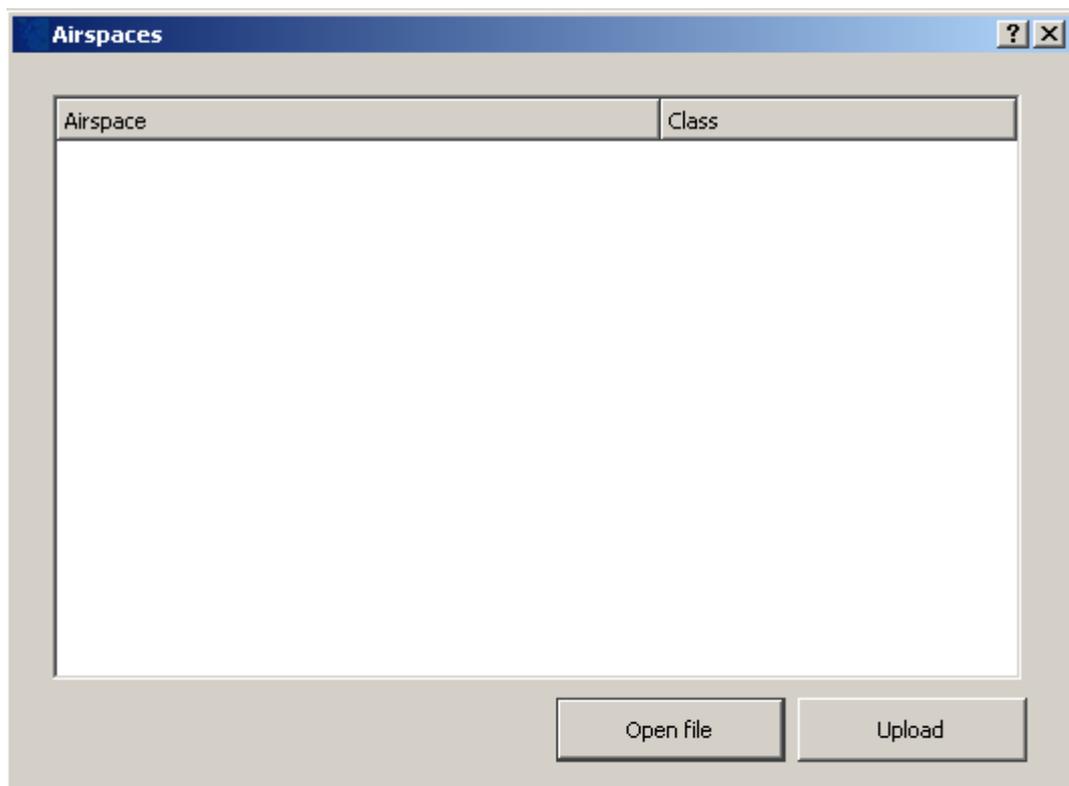


Figure 11- Airspaces Dialog Box

After selecting the file, all the airspaces data is loaded into the dialog box.

As shown in Figure 12, in the dialog box it is possible to see for each airspace, the name, class, and also some geometric information. Additionally, If the mouse cursor is positioned over an airspace a small message box appears with extra airspace information.

By default, all the airspaces available on the file are selected. The user can use the "Check Box" next to each airspace to select, or deselect airspaces. When all the desired airspaces are selected clicking the "Upload" button will upload them to the instrument.

ATTENTION: Each time a new set of airspaces is uploaded to the device, all the previous airspace information is deleted.

