Special Use Airspace

OpenAirtm Airspace and Terrain description language is an easy to use and publicly available standard for displaying map information.
User can add or modify the data himself, therefore having a full control over what is being displayed on the screen.

For a list of available airspace files see our **airspace directory**.

NEW: WinPilot Version 1.130 and later:
In addition to 'Airspace.txt', now WinPilot also reads a file called 'Terrain.txt'.
Both files can contain all OpenAir commands.
The intention of the 'Terrain.txt' file is to separate terrain description from airspace description.
The restriction of the maximum number of labels created by the AT command has been changed from 3 to unlimited.

There are two new map elements meant for displaying terrain and geographic features (they differ from airspace in that they don't have popup labels attached):

TO {string} ; Declares Terrain Open Polygon; string - name (optional)
TC {string} ; Declares Terrain Closed Polygon; string - name (optional)

This commands make it easy to define things like lakes, roads, borders, etc
For example, to draw a lake using light blue color and a dark blue 1-pixel wide, solid border, that is visible at zoom levels 100km or closer, the following commands can be used:

```
TC Lake Tahoe
SP 0, 1, 0, 0, 255
SB 200,200,255
V Z=100
DP 38:56:00 N 120:02:00 W
DP 38:56:40 N 120:04:00 W
DP 39:00:00 N 120:05:55 W
DP 39:01:45 N 120:07:00 W
DP 39:03:40 N 120:07:00 W
DP 39:05:00 N 120:09:00 W
DP 39:10:30 N 120:07:30 W
DP 39:11:00 N 120:06:00 W
```

...

The three new commands seen above are:
SP - Select Pen - corresponds to Win32 API CreatePen
SB -Select Brush - corresponds to Win32 API CreateSolidBrush
and V Z=number (select a zoom level above which the element will not be displayed)

SP style, width, red, green, blue ; Selects Pen (border) to be used in drawing
PEN STYLES in SP command:
SOLID 0
DASH 1
NULL (transparent=no border displayed) 5

Example: for a 1 pixel wide, dashed, light gray pen use: SP 0,1,192,192,192

SB red, green, blue ; Selects Brush (interior) red, green, blue can range from 0 (least intensity) to 255 (max intensity)

Example: to select white interior of a closed polygon, use: SB 255, 255, 255
To select transparent interior use: SB -1,-1,-1

The SP and SB commands can also be used to alter the default colors of airspace segments.
For example, to change the default color of class C airspace from dark gray to magenta, use: 'SB 180,0,180' in the first class C segment definition, like this:

```
AC C
AN RENO-C
AL SFC
AH 8400 ft
SB 180,0,180 *select MAGENTA as the default for class C
V X=39:29.9 N 119:46.1 W
DC 5
```

For a definition of OpenAir, see the listing below:

******* **OPEN AIR** (tm) TERRAIN and AIRSPACE DESCRIPTION LANGUAGE **********

* Version 1.0
* December 10, 1998
* Updated October 15, 1999
* Send comments to jerryp@winpilot.com
*
*
* AIRSPACE related record types:
* ==========
*
* **AC class** ; class = Airspace Class, see below:
* **R** restricted
* **Q** danger
* **P** prohibited
* **A** Class A
* **B** Class B
* **C** Class C
* **D** Class D
* **GP** glider prohibited
* **CTR** CTR
* **W** Wave Window
*
*
* **AN string** ; string = Airspace Name
* **AH string** ; string = Airspace Ceiling
* **AL string** ; string = Airspace Floor
* **AT coordinate** ; coordinate = Coordinate of where to place a name label on the map (optional)
* ; NOTE: there can be multiple AT records for a single airspace segment
*
*
* TERRAIN related record types (WinPilot version 1.130 and newer):
* ==========
*
* **TO** {string} ; Declares Terrain Open Polygon; string = name (optional)
* **TC** {string} ; Declares Terrain Closed Polygon; string = name (optional)
* **SP style, width, red, green, blue** ; Selects Pen to be used in drawing
* **SB red, green, blue** ; Selects Brush to be used in drawing
*
*

* Record types common to both TERRAIN and AIRSPACE
* ==========
*
* **V x=n** ; Variable assignment.
* ; Currently the following variables are supported:
* ; D={+|-} sets direction for: DA and DB records
* ; '-' means counterclockwise direction; '+' is the default
* ; automatically reset to '+' at the begining of new airspace segment
* ; X=coordinate : sets the center for the following records: DA, DB, and DC
* ; W=number : sets the width of an airway in nm (NYI)
* ; Z=number : sets zoom level at which the element becomes visible (WP version 1.130 and newer)
*
* **DP coordinate** ; add polygon pointC
* **DA radius, angleStart, angleEnd** ; add an arc, angles in degrees, radius in nm (set center using V X=...)
* **DB coordinate1, coordinate2** ; add an arc, from coordinate1 to coordinate2 (set center using V X=...)
* **DC radius** ; draw a circle (center taken from the previous V X=... record, radius in nm
* **DY coordinate** ; add a segment of an airway (NYI)

* SAMPLE OpenAir(tm) File (for Minden, NV):

* Reno Class C
AC C
AN RENO-C
AL SFC
AH 8400 ft
V X=39:29.9 N 119:46.1 W
DC 5

* Reno Class C
AC C
AN RENO
AL 7200 ft
AH 8400 ft
* this item will have 3 labels
AT 39:36.8 N 119:46.1W

AT 39:22.8 N 119:45.1W
AT 39:29.9 N 119:36.1W
V X=39:29.9 N 119:46.1W
DA 10,270,290
DA 7,290,320
DA 10,320,200
V D=-
DA 5,200,270

AC C
AN BEALE AFB
AL SFC
AH 4100 ft
V X=39:08.2 N 121:26.2 W
DC 5

AC C
AN BEALE AFB
AL 2600ft
AH 4100 ft
AT 39:10.2 N 121:17.2 W
DA 10,9,130
V D=-
DA 5,130,9

AC C
AN BEALE AFB
AL 1600ft
AH 4100 ft
AT 39:06.2 N 121:35.5 W
DA 10,130,9
V D=-5
DA 5,9,130

AC C
AN SACRAMENTO/MCCLEAN
AL 1600 ft
AH 4100 ft
V X=38:41.7 N 121:35.4 W

```
DA 10,164,40
V X=38:40.0 N 121:24.0 W
DA 10,344,219

********** RESTRICTED **********


AC R
AN R 4812 4804
AL 0
AH FL 180
V X=39:13:00 N 118:13:00 W
DA 5,0,178
V D=-
V X=39:10:20 N 118:37:00 W
DA 5,175,355

AC R
AN R-4803 S
AL 0
AH FL180
V X=39:20:00 N 118:52:00 W
DA 3,27,270
DP 39:35:00 N 118:59:20 W
DP 39:36:00 N 118:53:30 W

AC R
AN R-4806 W
AL 0
AH UNLIM
DP 36:41:00 N 115:56:10 W    c29
DP 37:06:00 N 115:56:10 W    c30
DP 37:06:00 N 115:35:00 W    c31
DP 37:16:55 N 115:35:00 W    c32

DP 37:16:55 N 115:18:10 W    c34
DP 36:38:08 N 115:18:10 W    c35
DP 36:25:40 N 115:18:10 W    c36
DP 36:25:40 N 115:23:20 W    c37
DP 36:35:00 N 115:37:00 W    c38
DP 36:35:00 N 115:53:00 W    c39
```

DP 36:35:45 N 115:56:10 W c40

AC R
AN R-4806 E
AL 100 Agl
AH UNLIM
DP 37:16:55 N 115:18:10 W c34
DP 36:38:08 N 115:18:10 W c35

DP 36:47:40 N 115:07:00 W c41
DP 37:11:45 N 115:07:00 W c42
DP 37:16:55 N 115:11:00 W c43

AC R
AN R-4807 A
AL 0
AH UNLIM (Mon-Fri)
AT 37:28:00 N 116:36:00 W
DP 37:53:00 N 117:06:00 W
DP 37:53:00 N 116:55:30 W c1
DP 37:47:00 N 116:55:30 W c2
DP 37:33:00 N 116:43:20 W c3
DP 37:33:00 N 116:26:20 W c4
DP 37:53:00 N 116:26:20 W c5
DP 37:53:00 N 116:11:00 W
DP 37:42:00 N 116:11:00 W
DP 37:42:00 N 115:53:00 W c6
DP 37:33:00 N 115:53:00 W c7
DP 37:33:00 N 115:48:00 W c8
DP 37:28:00 N 115:48:00 W c9
DP 37:28:00 N 116:00:00 W c10
DP 37:16:00 N 116:00:00 W c11
DP 37:16:00 N 116:11:10 W c12
DP 37:20:00 N 116:11:00 W c13
DP 37:23:00 N 116:17:15 W c14
DP 37:23:00 N 116:22:15 W c15
DP 37:21:00 N 116:27:00 W c16
DP 37:21:00 N 116:34:10 W c17
DP 37:16:00 N 116:31:00 W c18

DP 37:08:00 N 116:27:00 W c19
DP 36:55:00 N 116:27:00 W c20
DP 36:55:00 N 116:34:00 W c21
DP 36:51:00 N 116:34:00 W c22
DP 37:26:25 N 117:04:45 W c23
DP 37:32:30 N 117:05:55 W c24
DP 37:53:00 N 117:06:00 W c25

AC R
AN R-4807 B
AL 0
AH UNLIMITED
DP 37:16:00 N 116:11:10 W c12
DP 37:20:00 N 116:11:00 W c13
DP 37:23:00 N 116:17:15 W c14
DP 37:23:00 N 116:22:15 W c15
DP 37:21:00 N 116:27:00 W c16
DP 37:21:00 N 116:34:10 W c17
DP 37:16:00 N 116:31:00 W c18

AC R
AN R-4808 N
AL 0
AH UNLIMITED
DP 37:28:00 N 115:48:00 W c9
DP 37:28:00 N 116:00:00 W c10
DP 37:16:00 N 116:00:00 W c11
DP 37:16:00 N 116:11:10 W c12
DP 37:16:00 N 116:31:00 W c18
DP 37:08:00 N 116:27:00 W c19
DP 36:55:00 N 116:27:00 W c20
DP 36:55:00 N 116:34:00 W c21
DP 36:51:00 N 116:34:00 W c22

DP 36:51:00 N 116:26:45 W c26
DP 36:46:00 N 116:26:45 W c27
DP 36:41:00 N 116:15:00 W c28
DP 36:41:00 N 115:56:10 W c29
DP 37:06:00 N 115:56:10 W c30

DP 37:06:00 N 115:35:00 W c31
DP 37:16:55 N 115:35:00 W c32
DP 37:28:00 N 115:35:00 W c33

AC R
AN R-4808 S
AL 0
AH UNLIMITED
DP 36:46:00 N 116:26:45 W c27
DP 36:41:00 N 116:15:00 W c28
DP 36:41:00 N 116:26:45 W

AC R
AN R-4809
AL 0
AH UNLIMITED
DP 37:53:00 N 116:55:30 W c1
DP 37:47:00 N 116:55:30 W c2
DP 37:33:00 N 116:43:20 W c3
DP 37:33:00 N 116:26:20 W c4
DP 37:53:00 N 116:26:20 W c5

AC R
AN R-4810
AL 0
AH 17000ft
V X=39:10:20 N 118:37:00 W
DA 5,293,215
V X=39:09:00 N 118:42:00 W
DA 3,159,347

AC R
AN R-4811
AL 0
AH 15000ft (Mo-Fri)
V X=38:14:40 N 118:38:40 W
DC 1.5

AC R
AN R-4813
AL 0
AH FL180
V X=39:51:20 N 118:21:00 W
DA 13,165,255
DP 39:51:15 N 118:37:35 W
DP 40:01:20 N 118:15:00 W
DP 40:01:20 N 118:00:55 W
DP 39:58:20 N 118:00:55 W

AC R
AN R-4816S
AL 500 ft agl
AH FL180
DP 39:17:20 N 118:20:30 W
DP 39:18:20 N 117:59:00 W
DP 39:21:00 N 117:55:00 W
DP 39:24:30 N 117:52:00 W
DP 39:26:50 N 117:51:08 W

DP 39:30:00 N 117:49:00 W
DP 39:34:00 N 117:41:20 W
DP 39:34:00 N 118:12:30 W
DP 39:30:00 N 118:15:18 W

AC R
AN R-4816N
AL 1500 ft agl
AH FL180
DP 39:34:00 N 118:12:30 W
DP 39:51:20 N 117:59:55 W
DP 39:51:20 N 117:31:00 W
DP 39:34:00 N 117:40:00 W

********** ALERT **********
AC R
AN A-481

AL 7000ft
AH 17000ft
AT 36:21.0 N 115:22.0 W
DP 36:14.2 N 115:02.0 W
V X=36:14.2 N 115:02.0 W
DA 30,274,307

********** CLASS D **********

AC D
AN NAS-FALLON
AL 0
AH 6400ft
V X=39:25.0 N 118:42.0 W
DC 6

AC D
AN LAKE TAHOE
AL 0
AH 8800ft
V X=38:53.6 N 119:59.7 W
DC 5

********** Wave Windows **********
AC W
AN Minden West
AH Ask on 122.8
AL 18000 ft
DP 39:04:00 N 119:57:00 W
DP 39:04:00 N 119:41:00 W
DP 38:42:00 N 119:38:00 W
DP 38:42:00 N 119:57:00 W