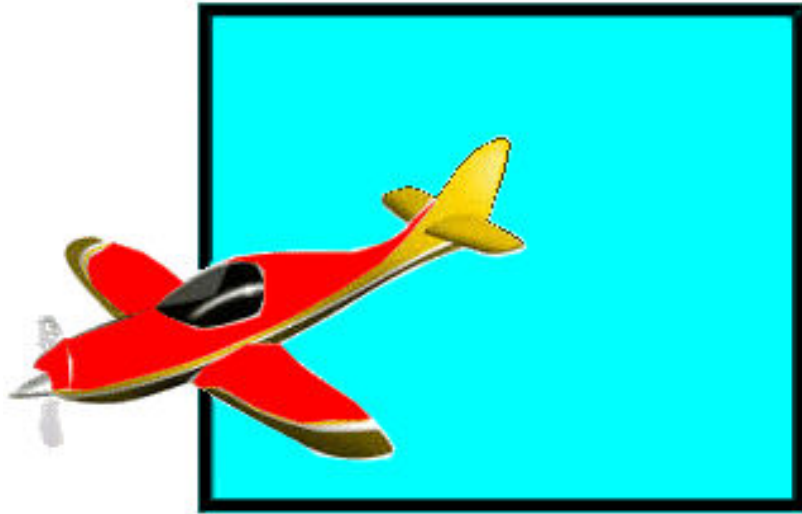


FSX Native 3D v3.0

Overview

FSX Native 3D combined with FSXFOV3 are utilities providing a true Native 3D experience in Microsoft Flight Simulator X.

The system is compatible with Side by Side (SBS) or Over+Under / Top+Bottom capable 3D displays.



Two executables are used in FSX Native 3D. The first is by the author, and the second, FSXFOV3, an application by Racer_S at ToCAEDIT.COM, which fulfills its part of the job so well that it was pointless to attempt to replicate it's functionality.

FSX Native 3D sets up and coordinates left and right perspective FSX camera views to provide the 3D effect.

FSXFOV3 compresses the image vertically or horizontally into the compressed aspect ratios required for Side by Side or Top + Bottom signal for a 3D projector / monitor / TV.

The resultant 3D image is True Native 3D, coming from the 2 individual offset camera/eye perspectives. This is different from interpolated 3D which display device may be capable of rendering from a 2D image. The native 3D is a superior 3D effect when compared to the 2D conversion, and is not subject to depth mis-interpretation.

This system also differs from TriDef, which I understand is working within the DirectX rendering routines to create a second eye perspective.

Included in the installation Zip file are SBS and Top + Bottom jpg's, so that if you want to see the result before installing, or are having problems installing, then view these images in full screen mode on your 3D display to see how good the output will be once FSX Native 3D is running. Use the Top + Bottom images if you have a passive 3D display.

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Installation

Step 1

Extract the Zip file to a temporary location, then paste the *Modules* folder into either:

- Your *Microsoft Flight Simulator X* folder provided you have full control permissions within this directory. Answer *Yes* to any prompts asking about merging of the folders.
- An alternative location where you have full control permissions such as a sub directory of your '*My Documents*' folder. Some users will not have write access within the *Microsoft Flight Simulator X* folder, in which case the utility cannot function in that location.

Your *Microsoft Flight Simulator X* folder will normally be at the location below, although your drive letter will not necessarily be C.

Win 7 *C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator X*

Win XP *C:\Program Files\Microsoft Games\Microsoft Flight Simulator X*

The program will perform a write check upon startup and will alert you to directory permissions issues hopefully upon startup, but otherwise when you '*Start 3D*'.

Step 2

For a new install

Open the *3DCameras.cfg* with Notepad.

Create a backup of your default *Camera.cfg*, found in the location below.

Win 7 *C:\Users\%UserName%\AppData\Roaming\Microsoft\FSX*

Win XP *C:\Documents and Settings\%UserName%\Application Data\Microsoft\FSX*

%UserName% is the User Account Name under which you have logged into your PC.

After backing up, open your default *Camera.cfg* with Notepad.

It may first be a good idea to search *Camera.cfg* for **Hotkey=** and make sure that there are no Hotkey definitions for 6,7,8,9. These Hotkeys are assigned to the 3D cameras as a means is required to change both views simultaneously. *Edit, Find* is the function to search in Notepad.

Copy the text content of the *3DCameras.cfg* file (the file that came with FSX Native 3D), and paste it at the bottom of the *Camera.cfg* text (your Global camera file) and save the file.

Close the *3DCameras.cfg* file.

For users with versions 1.0 or 2.0 of FSX Native 3D installed, there are a few edits required.

Open your default *Camera.cfg* (which should already include 3D cameras)

Find the *3D Flyby* camera definition

```
[Cameradefinition.053]
Title=3D FlyBy
Guid = {DA21AA77-674A-4AAD-A1C6-3861C36C77A0}
```

Delete the entire *[Cameradefinition.053]* all the way down to *[Cameradefinition.054]*

In *[Cameradefinition.054]*, change *HotKeySelect=5* to *HotKeySelect=6*

In *[Cameradefinition.051]*, after the entry *HotKeySelect=9*, please add *Transition = No*

Save and Close the *3DCameras.cfg* file

Step 3

For users with versions 1.0 or 2.0 FSX Native 3D installed - please update your *exe.xml* to the blue text, as some omissions in the earlier text supplied may have caused problems with loading.

In the same location as your *Camera.cfg* file, look for an *exe.xml* file.

If you have never installed any add ons, then you may not have an *exe.xml* file. If you don't have one, open Notepad, and paste all of the text below into it, then save it as *exe.xml*.

```
<?xml version="1.0" encoding="windows-1252"?>
<SimBase.Document Type="Launch" version="1,0">
  <Descr>Launch</Descr>
  <Filename>exe.xml</Filename>
  <Disabled>False</Disabled>
  <Launch.ManualLoad>False</Launch.ManualLoad>

  <Launch.Addon>
    <Disabled>False</Disabled>
    <ManualLoad>False</ManualLoad>
    <Name>FSX Native 3D</Name>
    <Path>C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator
X\Modules\FSXNative3D\FSXNative3D.exe</Path>
    <CommandLine></CommandLine>
    <NewConsole>True</NewConsole>
  </Launch.Addon>

</SimBase.Document>
```

If you already have an *exe.xml* file, open it with Notepad and add just the bit in bold blue above. It should be added above the *</SimBase.Document>* line in your file.

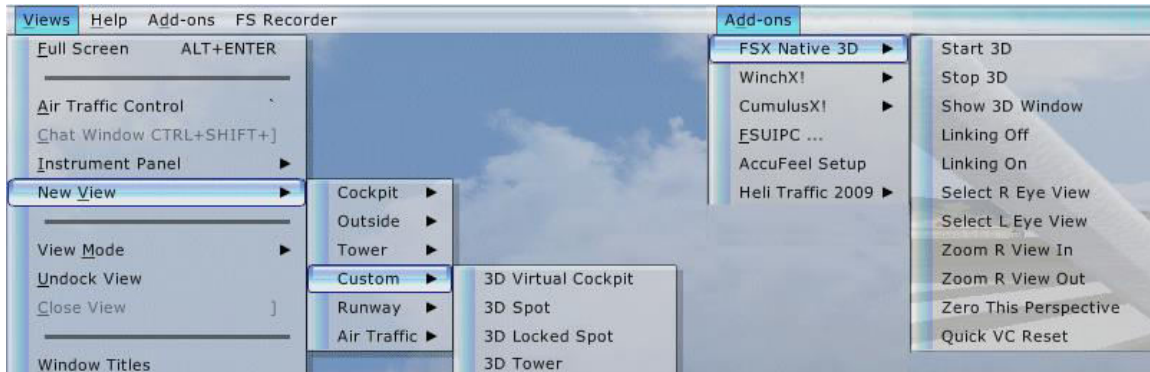
Ensure the <Path> line points to the location where you installed the FSXNative3D directory

If you don't wish to add FSX Native 3D to your *exe.xml*, that's fine, but you will have to manually run the executable each time you want to use it.

Done! You're ready to go.

Operation

Startup



- Run FSX. If you added FSX Native 3D to the exe.xml file, FSX Native 3D should start automatically. You may be prompted the first time asking whether to trust this file. Reply Yes. If you didn't add FSX Native 3D to the exe.xml file, you will have to start the FSXNative3D.exe manually. If you get .NET assembly errors, refer to the Troubleshooting section.
- Start your flight.
- In the FSX *Add-ons* menu option should be a *FSX Native 3D* sub menu if Simconnect has successfully connected to FSX. If *FSX Native 3D* is not in the *Add-ons* menu, then find the *FSX Native 3D* program on your running programs on the task bar and bring its window up. The Simconnect icon is probably red. Click on the red icon to try to connect again. It will turn green once connected, and the *Add-ons* menu items should then be present.
- Click on the FSX *Add-ons* menu option *FSX Native 3D*, *Show 3D Window*, then click on the *Screen & Misc Setup* tab of the new window that comes up.
- Select the 3D mode for your display; Side by Side or Top + Bottom (Over Under). Your 3D display needs set to the same mode.
- Passive 3D horizontally line interlaced displays should use Top + Bottom (Over Under) mode, as this will give the highest resolution. Active 3D displays should not matter whether Side by Side or Top + Bottom (Over Under) is used.
- Top + Bottom Windowed mode retains the normal window title bar, whilst Full Screen mode is the *Alt + Enter* mode without title bar. The disadvantage of Full Screen mode is that any time you drop back to windowed mode, the 3D will not be displaying correctly, as the FSX image will be split in the wrong position due to the title bar being present and displacing the split between left and right views below the half-way point on the screen.

- Select which screen you want the 3D display on. You can move the window after setup if you select the wrong screen - just ensure you maximize it after moving, and for Top + Bottom display it needs to be in the Full Screen mode (Alt + Enter) to get rid of the title bar at the top and task bar at the bottom of the screen.
- In the 'Select Views by' box, 'Ctrl Tab' is the recommended option as it is faster, more reliable and doesn't have side effects. The only reason for using the 'Click' option would be if you are running additional Undocked windows. Using the 'Ctrl Tab' option assumes you have only View 00 plus 3D View 01 and 02. *Note that I currently have not catered for more views than 00 – 02 when running this program with head tracking.*
- The Delay Factor scroll bar is a factor for the delay timers that occur after events such as view changes, to ensure that the change has completed before the next step. If you have a slower running system and this utility is always getting out of synch, e.g. one view zooms and one doesn't, then try increasing the Delay Factor to 200% or 300% and see if it improves the reliability.
- Your Setup options will be saved, so that you don't have to do this each time.
- Minimize the *FSX Native* 3D window, **don't close it.**
- Go back to FSX, *Add-ons, FSX Native 3D, Start 3D.*
- The flight will re-load with the same aircraft, location etc, but will now be running compressed split 2D views and normal aspect in 3D. **If the views are not compressed horizontally for SBS or vertically for Top Bottom in 2D and appear stretched in 3D, then please go to the trouble shooting part of this document so that you can test FSXFOV3.exe which handles the field of view compression.**
- If you are running Top+Bottom Full Screen mode, you will need to *Alt + Enter* into full screen mode as we need to get rid of top and bottom borders so that the view split is exactly in the centre of the screen. SBS and Top+Bottom Windowed mode are more forgiving. FSX must be maximized, but the title bar doesn't matter.
- Now that you are displaying left and right views, turning your 3D display into 3D mode should bring up 3 dimensional display. The default view offsets are what the author came up with for his 3D projection system, and have not been tested on 3D monitors or other displays. It is possible that the default offsets should be adjusted slightly for your display. If you feel the 3D is not as focused or not as blatantly 3D as you might expect, then please read the calibration section of this document.
- **Once you are finished flying in 3D and want to revert to 2D, *Add-ons, FSX Native 3D, Stop 3D,* will stop FSX Native 3D from manipulating your Zoom, Pan & View controls.**

3D Display Modes

I use an Active 3D projector, and prefer Side by Side mode for the following reasons.

- The left / right division point of the screen views does not change regardless of whether I am in Full Screen or Windowed mode.
- Horizon lines, horizontal wings etc are smoother as vertical change is in single pixel increments, compared with 2 pixel steps when operating in Top + Bottom. Because the image gets re-stretched vertically in Top Bottom mode, vertical changes will be in 2 pixel increments.

For users of Passive displays, if your display is line based horizontally interlaced you will want to use Top + Bottom mode, otherwise you will lose half your resolution in both horizontal and vertical direction, rather than just in the vertical direction.

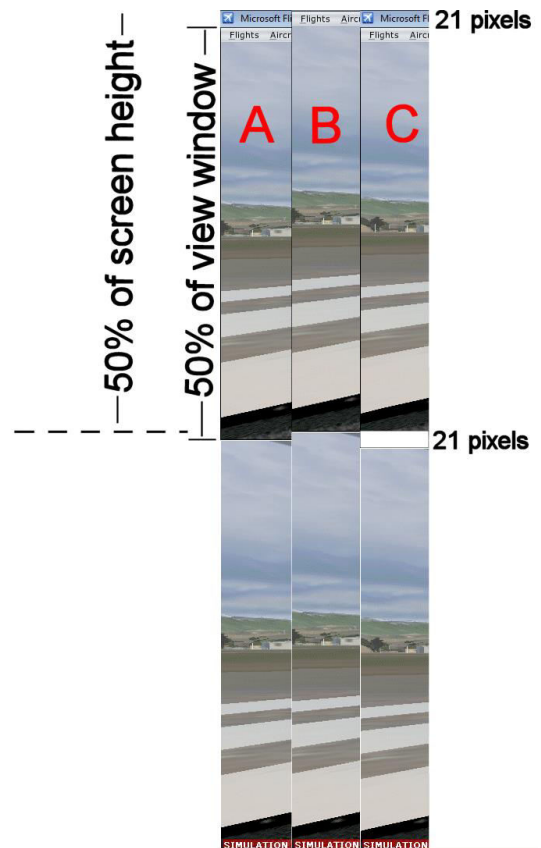
If your Passive display is checkerboard interlaced, it may not matter whether you use SBS or Top + Bottom. I don't have any experience with checkerboard interlaced, so try both and see which delivers the better result.

In the image to the right, the 50% of screen height position is where your display will demarcate between left and right eye data.

(A) Shows 3D Top Bottom Full Screen mode setup BEFORE having gone into Full Screen display. As the blue bar at the top of the screen has squeezed the view window, the middle of the view window does not line up with the middle of the screen, and the 3D will be out of focus.

(B) Shows once you enter Full Screen display, the middle of the view window and the middle of the screen are the same. The Menu bar floats on top of the display - it's slightly transparent - and is not occupying space. 3D is in focus.

(C) Shows 3D Top Bottom Windowed mode. As the blue bar at the top of the screen occupies 21 pixels, a corresponding gap of 21 pixels is inserted half way down the screen to keep top and bottom identical.



3D View System

Four 3D camera configurations were provided which you should have added to your global Camera.cfg file.

The new Camera Views will be listed in the *Custom* section of the *Views* menu item.

View	Horizontal Panning	Vertical Panning	Perspective Adjustment for 3D
3D Virtual Cockpit	✓	✓	Eyepoint
3D Spot	✓	Read below - this is not synchronised.	Pan. This effectively moves you slightly around a circle with the aircraft always being the centre point.
3D Locked Spot	✓		
3D Tower	✗	✗	Eyepoint

As left and right views have to pan in the same direction, at the same time in order to maintain the 3D effect, an FSX function called View Linking is used. Unfortunately in Spot views this function only supports Horizontal panning.

Keyboard functions for vertical panning are suppressed when in Spot view, in order to prevent you getting the views out of synchronization. Unfortunately I cannot trap and discard Hat Switch pan up/down signals when in Spot Views, although I have slowed the movements right down to try and prevent you getting left and right views out of vertical synchronization. Remember not to pan up/down when in spot views to avoid risk of disrupting your flight.

If you do want a Spot View looking down/up at your aircraft, it is possible to :

- Temporarily (for this flight) pan one view vertically, then change to the other view and pan it precisely the same amount until the image becomes clear again.
- Modify the view and save it for this aircraft only. See the calibration section.
- Permanently modify the vertical angle on your 3D Spot view for all aircraft. See the calibration section.
- Permanently sacrifice a camera such as 3D Tower to allow for creation of another Spot view with a different angle. See the calibration section.

Zooming

Zoom In/Out in single click steps (FSX default keys are + and -), and then wait for the other view to catch up. There will be a brief delay whilst this happens.

If you get the zoom out of synchronization such that left and right views are on different zoom levels, the menu items '*Zoom R View In/Out*' can be used for correction. Close your right eye, then your left, to see whether the right view needs to zoom in or out to match the zoom level on the left view. Hopefully following an improvement in v3.0, getting the zoom out of synch may become a problem of the past.

Alternatively, you can '*Start 3D*' again.

Switching Views

Use the standard keys '*a*' next view and **Shift + 'a'** previous view or whatever other controls you have mapped to do this. One view will change immediately, and the other shortly afterwards. Wait for the second view to catch up before changing view again.

Don't use the right mouse click to get the pop up menu as selecting from this menu this will only change one view. If you do the right click menu view select and end up with different views, '*a*' or **Shift + 'a'** should get both views synchronized again.

In FSXNative3D.cfg, Line 5, you can specify a valid SimConnect Name to trap to use as a **Shift + 'a'** / previous 3D view trigger that is mapped to a controller button. The event must be one that is present in both your controls list and in the SimConnect events.

Note : If you have the 'Select Views by Click' option enabled, then when Zooming and Switching views, you may notice the cursor jumping around the screen for a couple of seconds, and the focus changing from one view to the other a few times.

Don't interrupt this - it is a programmed part of getting both views synchronized.

'Select Views by Ctrl Tab' is the preferred and more reliable method of selecting views.

3D Perspective Calibration / Focusing (optional)

Do Not have your own additional Views open when working on Calibration. There should be the 3D Left and Right Views (01 and 02), and View 00, the main view, that will be hidden beneath them. Having other views open may result in the wrong information being read.

In the FSX Add-ons menu *FSX Native*, select *Show 3D Window*, then click on the *Calibration* tab.

Calibration **Screen & Misc Setup**

FSDS3 HS748 "Air North".

☐ Show Default Settings ☒ Show Saved User Settings

Read Current Offsets

Save Flagged Offsets

View	User Zoom	This Zoom	User Translation	This Translation	User Chase Direction	This Chase Direction	User Chase Altitude	This Chase Altitude	Save As
3D Virtual Cockpit	0.9	0.9	0.02	0					
3D Spot	1.5	1.5			-1.036	-1.036	1	1	
3D Locked Spot	1.5	1.5			-0.983	-0.983	1	1	
3D FlyBy	10	10	0.541	0					
3D Tower	16	16	2.02	0					

Select View in FSX for Editing

☒ Virtual Cockpit ☐ Spot ☐ Locked Spot ☐ Flyby ☐ Tower 0

Revert User Offsets to Default Offsets

The option buttons in the top left hand corner of the Calibration page show either the original defaults, or your **Saved User** defaults, for comparison against the not yet saved '*This*' settings.

FSX Native 3D will use your Saved User settings for setup. If you make a mess of these, you can restore these to the original default values as a fresh starting point for your own setup.

EyePoint adjustments : 3D Virtual Cockpit and Tower Views.

As a default, I have made all the perspective adjustments to the right eye view.

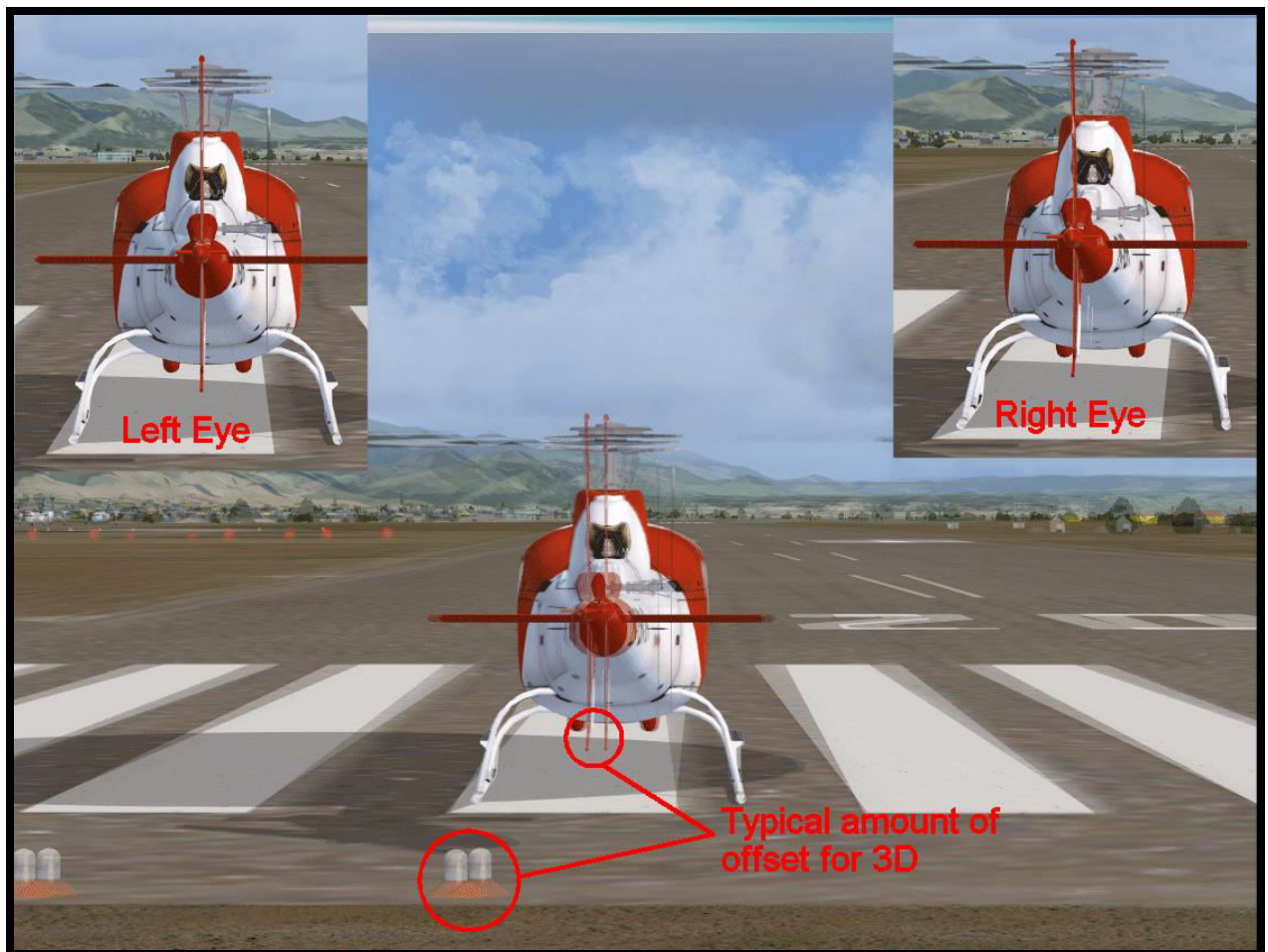
Select the Right View. You can either use the *Add-ons, FSX Native 3D, Select R View* menu item, or close your left eye so you see only the right view, and make sure you select it. When selected, the view has a thin white border. (Actually, if you move the left view left, it will still work as I take the difference between the L & R views for horizontal offset)

Shift + Ctrl + Enter moves the right eye point further right, increasing the offset between the "eyes". If you go too far, things will get out of focus. See the image on the next page for a typical adjustment.

Shift + Ctrl + BackSpace moves the right view closer to the left. When they are the same, you'll be in 2D. If you inadvertently move the right view further left than the left view, then you won't have either 3D or focus.

If you get badly out of alignment, perhaps the easier alternative is to go to the *Add-ons, FSX Native 3D, Show 3D Window* menu item, and click the *Reset This Perspective* option, which will bring the views together and select the right view, ready for you to start moving it out with *Shift + Ctrl + Enter*. Alternatively, you can move the views a considerable distance apart, then close one eye, then the other, to see where the left and right images are, then figure out which eye you wish to adjust in which direction.

Make sure that you look at both the aircraft and objects in the distance, and ensure both are in 3D focus. If you look at the screen without your 3D glasses, you should see a small offset but nothing too big.



Once you are happy with the 3D effect, on the *Calibration* page, click *Read Current Offsets*, and the relevant value will be shown in a *This..* cell for the relevant view, e.g. the adjustment in the image above is the *3D Spot*, *This Chase Direction*, and the image 2 pages down from here is *3D Spot*, *This Chase Altitude*.

You can adjust the numeric value if you feel it should be a bit more/less than where you got to playing with the FSX controls.

If you want to keep this setting, double click in the 'Save As' column. The cell will change to 'User', and a second double click will change it to 'Aircraft'. A third double click clears the cell again. Click 'Save Flagged Offsets' to save your modified settings. 'User' applies to all aircraft, whilst 'Aircraft' only applies to the current aircraft + paint combination.

Pan Adjustments : 3D Spot and Locked Spot Views.

Spot Views require adjustment by panning back and forth around the circle of which the aircraft is at the center.

To do this, firstly, you need to Un-link the views so that you can pan one view independently of the other. Use the *Add-ons*, *FSX Native 3D*, *Linking Off* function.

In a similar fashion to the Eye Point adjustments described above, select the right view and adjust the eye position using small amounts of left or right panning. Read the section above for Resetting, Saving etc.

Once you are done adjusting Spot Views, you need to either Re-link the views so that they pan together using *Add-ons*, *FSX Native 3D*, *Linking On*, or just *Start 3D* again. If you forgot to Re-link and then subsequent panning puts your views out of synchronization just *Start the 3D*.

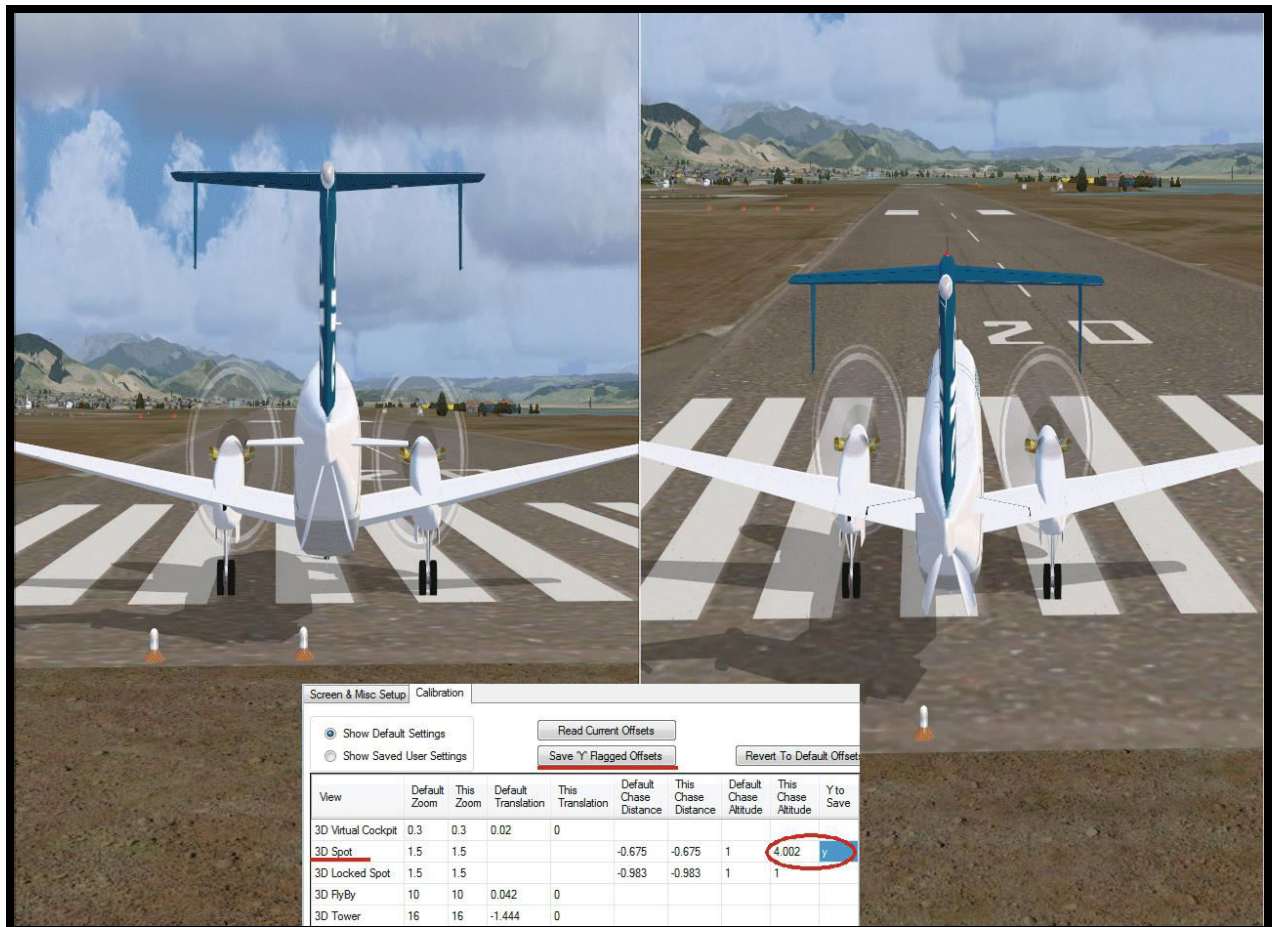
If you wish to have a Spot View looking down on or up at your aircraft, you can apply a user setting to the Spot View to do that. At present linked vertical panning is not possible in the Spot Views, so it's a case of setting it up for the vertical angle you like, then leaving it set to that until you really feel like you want to adjust it again.

To modify the vertical angle on your Spot Views, select the Right View, pan up/down using *Ctrl + Q / Shift + Ctrl + Q*, then *Read Current Offsets*. 'This Chase Altitude' for the Spot View should have changed. To save, double click in the 'Save As' column. The cell will change to 'User', and a second double click will change it to 'Aircraft'. A third double click clears the cell again. Click 'Save Flagged Offsets' to save your modified settings. 'User' applies to all aircraft, whilst 'Aircraft' only applies to the current aircraft + paint combination.

'Start 3D' again, and the flight should reload with your new perspective.

You may decide that you want to do away with 3D Tower view, in order to always have more than one Spot definition.

To do this, open your Cameras.cfg file, go to the 3D Cameras, copy the 3D Spot View definition, starting below the Guid, and replace the 3D Tower definition with the Spot definition, but keeping the Tower Guid and Hotkey number. Duplicate Guid's or Hotkeys will cause problems so don't double up on these by copying them. Modify the name to 3D Spot 2 or 3D Spot Down or something like that, but ensure you keep 'Spot' in the name as it is used for identification of the view type.



Head Tracking

Tick the '*Using Head Tracking*' checkbox on the *Screen & Misc Setup* tab of FSX Native 3D if you are using head tracking in order for the program to keep view selection on View 00.

In the event that the program does not automatically set focus onto View 00, press Ctrl + Tab until neither of the left or right views have a white border, which means View 00 should then be the View with focus.

Head Tracking software sends information on up to 6 degrees of freedom (6DOF) to the main View 00, which is hidden under the left and right stereo views. As we are keeping all 3 views on the same 3D camera, we can link the motion of View 00 to the stereo views, however this only appears to work if View 00 is the selected view.

As there is no quick means (that I am aware of) to query FSX as to which view is currently selected, the screen border is monitored. A white border surrounds the selected view.

As it is possible that different display/color setups may result in slightly different border colors, it may be necessary for you to adjust the border color threshold that FSX Native 3D is using for detection. The default value is below 30 = View not selected, 30+ = View selected.

If necessary, you can do a Print Screen of FSX, paste it into MS Paint, zoom in on the border, sample it with the eye dropper, then go to edit colors to see what the grayscale value of your border is (I have only seen values where R=G=B). Following this, adjust the value on the *Screen & Misc Setup* tab of FSX Native 3D.

Some more tips on Head Tracking are in the Troubleshooting section.

Recording Video - some tips

When recording Top Bottom mode, I found Bandicam wouldn't record in Full Screen mode, so I had to record in Windowed Mode.

As I didn't want the FSX Window bar in the recording, I told FSX Native 3D to set up for Full Screen mode, but actually recorded in Windowed Mode. This means that the 3D focus is out slightly whilst flying the recording, and that the recording ends up being 1920 x 1059 due to the exclusion of the window bar. During subsequent editing, I resized 1920 x 1059 back up to 1920 x 1080, and the left/right split ends up exactly where it should be for full screen playback on any video player software.

Troubleshooting

I do not have any illusions about this being a perfect utility. You may get things out of sync sometimes if you are jumping around with lots of view changes or zooming.

Here are the most common problems and some fixit suggestions.

.NET errors

The program requires that you have .NET Framework 3.5 installed and FSX Service Pack 2.

Both of these are readily available on the Internet.

Windows 8 / 8.1

The FSXFOV3.exe utility unfortunately does not appear to function on Windows 8.1 and is untested on Windows 8.

The FSX Native 3D part of the system should still function, however the aspect ratio will be 2:1 or 1:2 rather than 1:1.

Aspect is incorrect.

In 2D, the split screen should show 2x compression sideways for SBS or vertically for Top + Bottom. This will stretch back to 1:1 when viewed in 3D. See the image on the previous page as an example.

If FSXFOV3.exe does not run, then the split 2D screen will be normal 1:1, and the 3D display will stretch this to 2:1, which will be in 3D, but will look horrible.

Go to

C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator X\Modules\FSXNative3D

or the alternative location where you installed the utility and have a play with the FSXFOV3.exe utility, and see if you can get it working.

If FSXFOV3.exe is not in the FSXNative3D folder, then your Anti Virus may have quarantined it. I run Norton, which is over zealous about removing exe's just because they aren't well known. Restore it from Quarantine or from the Zip file, then tell your Anti Virus program that it's OK.

Left eye on one view and right eye on another.

If they are both 3D views, then **a** or **Shift + a** will move on to the next view and they should both sync again. Each time you move forward or back through the 3D views, the Hotkey number is sent to both left and right views.

If you have got one of them onto a non 3D view, then use **a** or **Shift + a** on the one that is a 3D view or use the View menu to change the one that is incorrect.

Left eye and right eye on same 3D view but not in sync and badly focused.

a) Re-Start 3D. Your flight will be at the same stage upon reload.

or

b) Adjust manually. This can be slow depending on how far out you are, horizontally or vertically and which view type. You may need to Un-link, pan, Re-link etc. May be easier to simply restart 3D.

or

c) If you're in the 3D Virtual Cockpit, I've added a *Quick VC Reset* menu item, which probably isn't much quicker than *Start 3D*, but it is another option. After setting up, sometimes the view may jump out again as it re-links, in which case you have to repeat it or *Start 3D*.

Views are in focus, but not 3D.

Take your glasses off. If it's also fine without glasses, then you're right, there are no offsets and it is in 2D. It is easiest to *Start 3D* again to get the offsets back, although for VC there is also the *Quick VC Reset* that will reset both views and re-apply the offset. Changing aircraft mid-flight will result in the VC reverting back to 2D, but the utility should detect the new aircraft and re-start 3D automatically.

Next View (a) or Previous View (Shift + a) move onto a non 3D view.

3D views use Hotkeys 6-9 to send the change to both Left and Right views.

If you have a camera definition that also tries to use one of these Hotkeys, problems may occur.

Standard FSX cameras use Hotkeys 1-3, but if you have modified the global *Cameras.cfg*, or there are aircraft cameras in the current *Aircraft.cfg* that also try to use Hotkeys 6-9 then there may be a clash that disrupts view changing.

Head Tracking is not working

Check that the selected view is the main View 00. Do this by looking at the left and right views, and if either one has a white border, press Ctrl-Tab until neither of them have a white border, which should mean that View 00 underneath them is selected.

If this does not fix the problem, try the FSX *Add-ons* menu option *FSX Native 3D, Linking On*, to ensure the View 00 movement echoes to View 01 & 02.

If you still have a problem resize the left or right view slightly so that you can see part of the underlying View 00, and check that your head tracking is moving View 00. If this is not moving, then the problem is with your head tracking setup rather than the 3D add on. Resize the left/right view back to the original position after doing this, or *Start 3D* again.

If you are experiencing problems with the selected view not automatically reverting back to View 00 view changes etc, then firstly ensure that you ticked the '*Using Head Tracking*' checkbox on the *Screen & Misc Setup* tab of FSX Native 3D. If there is still a problem, you may need to adjust the colors used for border detection. Refer to the Head Tracking section of this document.

The views are flashing on and off in a crazy manner.

For some reason, FSXFOV3.exe has not shut down after adjusting the FOV, and there are 2 copies of the FSXFOV3 program running and fighting for control of your display.

Look on your Windows task bar for FSXFOV3, close one copy down, then set the sliders on the second to 1 and 1 to return to normal FOV and close that copy too.

You've closed down FSX Native 3D, but the FSX is still running in compressed view.

FSXFOV3 didn't re-instate standard aspect ratio before exiting the program.

If you're done with flying, then just shut down, and things should be back to normal next time FSX runs, otherwise :

a) Go to *C:\Program Files (x86)\Microsoft Games\Microsoft Flight Simulator X\Modules\FSXNative3D* (or the alternative location where you installed FSX Native 3D) and run FSXFOV3.exe. Set both sliders to 1.000 then close it. You may could add a desktop shortcut to FSXFOV3 in case this happens another time.

b) Close and restart FSX.

Top + Bottom display mode doesn't seem in focus

The projector splits exactly half way down the screen for left/right views.

If you are running maximized Window mode, there should be a strip at mid screen the same height as the Windows title bar at the top of the screen.

If you have a task bar at the top or bottom of the screen, you will need to hide it.

If you are running Full Screen mode (*Alt + Enter*) then there should be no Windows title bar, no gap mid screen and no task bar top or bottom.

The FSX Menu Bar lies on top of the image, rather than displacing it, so does not matter.

One View is Zoomed differently than the other.

Use the menu items '*Zoom R View In/Out*' for correction. Alternatively, you can '*Start 3D*' again.

Zoom goes in the opposite direction from what it should.

On my PC, I have to send Simconnect Zoom In commands to Zoom Out and vice versa, so I assumed it is a Simconnect error and that everyone else would be the same.

Either just use the opposite keys, or ask me to put a check box into the program to reverse the actions.

No 3D when I turn around and look at my tail from the VC.

Yep. That's like your eyes turning around and looking through the back of your head rather than you head turning. You can use *Shift + Ctrl + Enter* and *Shift + Ctrl + Backspace* to modify the eye offsets in the opposite direction, but you'd then have to adjust it again for forward view. No easy solution at the current time.

Program errors, Install issues etc

I only have 2 PC's available to test on, and it's working fine, but I'm sure some other issues will come up.

Search for a "*FSX Native 3D*" thread on either www.flightsim.com or www.avsim.com and post something there or email rich.barry@usa.com.

Version 3.0 Changes

- Corrections to the *exe.xml* text.
- Option for Over/Under 3D mode running in maximized window rather than full screen.
- 3D re-initiates after a new aircraft is loaded as changing aircraft mid flight results in the VC reverting to 2D unless this additional step is taken.
- Prevented a second zoom action processing before the first zoom action is complete, as this was putting the views out of synch. Added menu items '*Zoom R View In/Out*' for quick correction if your zoom factors do get unsynchronized.
- Prevented a second view change action processing before the first change action is complete.
- Stay on your current 3D view upon '*Start 3D*' rather than default back to 3D VC.
- 3D Flyby has been removed as it is out of 3D synchronization during position transitions. Unfortunately this cannot be corrected as either left or right view has to switch to Flyby first, so will be ahead of the other view time/position wise.
- Add In menu commands replicated in the Native 3D FSX program window to enable you to have this showing on a separate 2D screen if you wish.
- Manual over-rides available for the re-initiate 3D on new aircraft detection and auto full screen '*Alt + Enter*' when running in full screen.
 - The re-initiate 3D on new aircraft detection over ride was added for when using FSRecorder and changing the user aircraft, you don't want FSX Native 3D resetting everything when it sees that your aircraft has changed.
 - The auto full screen '*Alt + Enter*' over ride was added as full screen video recording does not work for me. Bandicam which I use, can capture the view window without the title bar, so you want a split exactly half way through the view window.
- A '*Resume 3D*' button was added with the manual over rides to resume without a '*Restart 3D*'.
- A Rescan button for the displays has been added in case you modify screen setup after the program has booted.
- Ability for you to add a Simconnect Name in the cfg file that will be trapped and used for Previous 3D View. This is the same as Shift A, but I don't have a controller button mapped to Shift A, whereas when in 3D, I do have other controller buttons I can temporarily re-assign for Previous 3D view.

Version 2.0 Changes

- Stopped the control manipulation from taking effect on program launch, as this was extremely annoying if you did not want to fly in 3D. This now only comes into effect when you 'Start 3D', and is reset to normal when you click on 'Stop 3D'.
- Changed the View selection method in order to avoid mouse clicks showing the cursor and/or mistakenly activating/deactivating a VC control. This method is faster, is more stable and avoids side effects of the method used in Version 1.0, so there are fewer times when the views will get out of synchronization.
- Added specific aircraft calibrations for aircraft where the generic User settings do not achieve the result you want. If the specific aircraft/3D view combination is defined it will be used, otherwise the User Default parameters will be used. Unfortunately this is currently "Paint Job" specific, so will only apply to the (aircraft + paint job + 3D view) combination until such time as I find a means of querying the aircraft name by itself.
- Head tracking is now supported.
- Check that you have read/write access to the FSX program directory, and warn you if installation in an alternative location is necessary.
- The executable now shuts down when FSX shuts down.
- Improved the exception trapping to make the program more stable.

