



Global Buildings HD

USER GUIDE JUNE 2019



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Thank you!

Orbx would like to thank you for purchasing Global Buildings HD! A monumental project three years in the making, Buildings HD overhauls the default autogen buildings in P3D and FSX to provide you with a breathtaking, realistic new flying experience across the globe. The development team overhauled over 900 texture sheets containing 3,860 individual buildings and created over 400 new 3D building models from scratch to create a realistic, detailed, and varied rendition of the world's structures. During project development, lead developer Scott Armstrong travelled to over a dozen countries throughout the Americas, Europe, and Asia to take on-location source photos to ensure accurate regional variations and incredibly crisp new textures. From New York to Singapore, London to Cape Town, Buenos Aires to Moscow, urban environments around the world will take on a new look of life and authenticity.



Buildings HD also includes ambient occlusion shadows on every building to help blend with terrain, roof textures created from high-resolution drone photography, and expertly crafted new night textures that create an immersive and beautiful flying experience after sundown. Because it modifies the sim's default autogen buildings (which are the standard building type included in FSX / P3D), Buildings HD will work seamlessly with just about every combination of scenery add-ons, modifying the autogen buildings wherever they appear in both default and add-on scenery products.

So take a flight over your favorite city and see what a difference the HD textures make! Buzz the rooftops and rattle the windows; with Buildings HD, don't be afraid to fly low.

Product requirements

This scenery addon is designed to work in the following simulators: **Microsoft Flight Simulator X, Lockheed Martin Prepar3D v1, Lockheed Martin Prepar3D v2, Lockheed Martin Prepar3D v3** and **Lockheed Martin Prepar3D v4**.

Quick Installation Guide

Installing Orbx Global Buildings HD is managed by our FTX Central application. This app is responsible for most aspects of maintaining your Orbx installation. Please visit our support forums to learn more, for example <https://orbxsystems.com/forum/topic/168822-how-to-use-orbx-direct-and-ftx-central/>

Once you have purchased Buildings HD it will be added to your account and you can have FTX Central download and install it for you. The appropriate scenery library entries will also be managed by FTX Central.

You may also manually download Buildings HD and then have FTX Central manage the installation for you once the download has completed.

An internet connection is required for FTX Central to validate your license.

Please note that the above all refers to FTX Central 3. Earlier versions of FTX Central are no longer supported. The integration of FTX Central with your OrbxDirect account is only available with FTX Central version 3 and above.

*As of this writing (June 2019) we are close to launching an entirely new version of this app, named **Orbx Central**. Please keep an eye on our forums as to its availability and use.*

Buildings HD Explained

So, what does Buildings HD actually do? What changes can you expect to see?

Buildings HD is a Worldwide Autogen Building Upgrade

Buildings HD is a replacement for the textures and models of “autogen buildings” in P3D and FSX. Autogen buildings make up the vast majority of 3D buildings seen throughout the flight sim world, and are designed populate the ground textures with buildings that look believable and realistic. Buildings HD updates the old textures (typically 1K resolution) with new textures at 4K resolution based on real-world photos for a detailed and realistic appearance.

Buildings HD also replaces the autogen.bgl object library with an all-new version, featuring more detailed autogen buildings such as water towers, gas stations, factories, farm buildings, etc that complement and add detail to the autogen environment.



Which Buildings Will Buildings HD NOT Improve?

Buildings HD will not change the appearance of airport buildings or custom-made scenery objects.

Some custom-made scenery objects are included in default installations of FSX / P3D (famous landmarks such as the Eiffel Tower, Empire State Building, and the tallest several buildings in most major cities around the world). And 3rd party sceneries often make heavy use of custom scenery objects. In either case, wherever custom scenery objects are used, they will not be modified by Buildings HD.

Compatibility Notes

Please visit <https://orbxsystems.com/forum/forum/80-orbx-compatibility-forum/> for the latest compatibility information regarding Buildings HD and third-party add-ons.

Buildings HD is designed to work seamlessly with nearly every product combination that you may have installed on your home simulator. Regardless of what scenery products you already have installed, Buildings HD will replace all of your autogen buildings, worldwide (with a few exceptions, see below). Buildings HD will work equally well as an autogen building replacement for default FSX / P3D, or with a wide range of scenery products installed, both ORBX and otherwise.

Buildings HD will upgrade your autogen buildings in:

- **Default FSX/P3D**
- **Orbx Global** and the Global range of products (Vector, OpenLC, etc.)
- The Following **Orbx Regions**:
 - North America: Pacific Northwest, Central Rocky Mountains, Northern Rocky Mountains, Pacific Fjords, Southeast Alaska, Northern California, Southern California
 - Australia V1 and V2
 - New Zealand North and South
 - Europe: Norway, England, Wales, Scotland, Ireland, Northern Ireland
- **Orbx Airports**: Houses and small buildings in the surrounding area are usually autogen, and thus will see an upgrade.
- Any **third-party sceneries** that use **default autogen buildings**.

Which products will not be upgraded by Buildings HD?

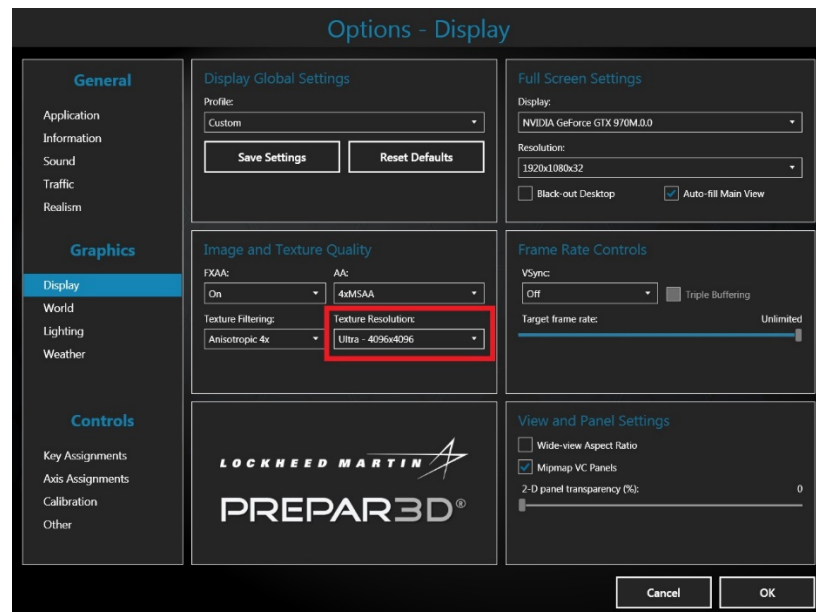
- **Orbx TrueEarth Regions**: TrueEarth regions make heavy use of custom buildings, which are not upgraded by Buildings HD.
- **Orbx Germany North and Germany South Regions**: These regions use custom autogen textures carefully made by Frank Schnibben and it was decided during development that they would not be replaced by Buildings HD.
- **Orbx CityScapes**: Our cityscape products primarily use custom buildings, which are not modified by Buildings HD. However, some smaller buildings and houses may be improved.
- **Drzewiecki Design Cities and Other Similar City Addons**: These CityScape – style addons from other vendors consist mostly of custom-building objects, which are not modified by Buildings HD. However, some smaller buildings and houses may be improved.

Texture Resolution Settings

In order to see the new Buildings HD textures at their full 4K resolution, you need to apply the following simulator settings. You may use lower settings if desired, but you will not see the Buildings HD textures at their full resolution.

Prepar3D

Adjust the Texture Resolution setting (found in Options>Graphics>Display>Image and Texture Quality) to “Ultra – 4096x4096”



FSX

FSX and FSX Steam Edition limit max texture sizes to 1K by default. To see the Buildings HD textures at the full 4K resolution, you will need to edit the Texture Max Load setting in your FSX.cfg file. This is a simple task, and can be done by anyone using simple text editing using the instructions below:

1. **Find your FSX.cfg file:**
 - a. **FSX SP2 and FSX Acceleration in Windows 7, 8.1 and 10:**
C:\Users\Username\AppData\Roaming\Microsoft\FSX
 - b. **FSX Steam Edition (NOTE – file is called fsx_se.cfg):**
C:\Users\Username\AppData\Roaming\Microsoft\FSX-SE or
C:\Users\Username\AppData\Roaming\Microsoft\FSX
2. **Open FSX.cfg using Notepad:**
 - a. Right click on the file, select “Open with...” and choose Notepad
3. **Change the Texture_Max_Load setting to 4096**
 - a. In the Notepad Edit menu, choose “Find...”
 - b. Search for “TEXTURE_MAX_LOAD”, and change the entry so it reads
TEXTURE_MAX_LOAD=4096
 - c. Save the file and exit. You’re done!

Quick Reference Simulator Settings

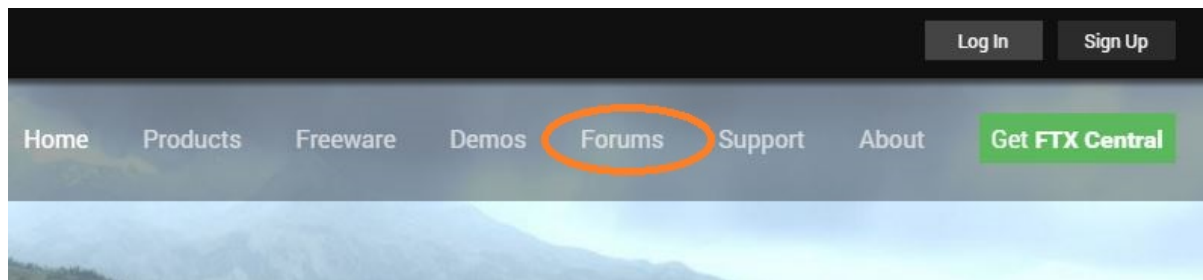
Firstly, dragging all your sliders to the right, even with current hardware, will probably result in poor visuals, low frame rates, and potentially crashes. We suggest that you begin your exploration of Buildings HD using the settings suggested below. Then, if you find performance to be acceptable, experiment with moving certain sliders to the right, although we recommend you only move one slider at a time to objectively gauge its effect. The table below lists the minimum recommended settings required in FSX/P3D to enjoy Buildings HD the way Orbx designed it. These settings run well on most PCs:

Setting	Value	Why?
Global Texture Resolution (FSX only)	Very High	Enables maximum display quality of object textures
Level of detail radius	Large (FSX) High (P3D)	Influences sharpness of textures with increasing distance
Use high-resolution terrain textures	ON	Enhances distance-display of photoreal ground textures
Mesh Complexity (FSX) Tessellation Factor(P3D)	100 (FSX) Ultra (P3D)	Better terrain definition (= interpolation between adjacent grid elevation points)
Mesh Resolution	5m	5m terrain mesh resolution is the slider setting that all Orbx regions and airports are designed for. Since the slider setting governs the horizontal spacing of mesh grid points this value primarily affects the steepness of slopes adjacent to flattened areas at airports or lakes and rivers. If objects are placed on or next to such slopes they can shift a bit.
Texture Resolution	7cm	Enables maximum display quality of vector textures meaning roads, freeways, railroads, and shorelines
Scenery Complexity	Extremely Dense	Lower settings mean fewer custom objects are displayed
Autogen and scenery draw distance (P3D only)	Medium	Higher settings induce more obvious "popping in" of autogen
Autogen Density (separate sliders in P3D)	Dense	Regulates the overall density of autogen buildings and vegetation (-20% with each slider notch to the left)
Dynamic 3D autogen vegetation (P3D V4+)	OFF	Highly recommended! Dynamic trees do not match the FTX colours and may cause performance issues.
Road Vehicles traffic	15-20%	Decent road traffic density; higher settings cost performance!

We also strongly recommend disabling Dynamic 3D Autogen Vegetation (Speedtrees) in P3Dv4 as it has a major impact on performance and disables custom Orbx tree textures.

Product Technical Support

Orbx has a very simple support policy: no question unanswered. That means, should you have any questions about Buildings HD or its use, please feel free to register on the forums at orbxdirect.com and then log a support question in the Orbx Payware Support Forum section. Orbx experts will be available to review your support questions and you will usually get a reply on the forums within 12 hours, often much sooner than that.



To visit our support forums, click on the “Forums” button shown on the homepage of orbxdirect.com.

Please do NOT email support requests

Orbx provides world-class support on our forums, and it’s the only way in which you can receive support for Buildings HD. Provided you adhere to the forum terms of use and have a legitimate copy of Buildings HD, you will always be offered our support at no cost as we work toward a resolution to your problem each time.

Use the forum search function

Before you post a question, please try searching for the answer first, using the forum’s built in search function located on the forum menu bar.

What to include in your support requests

If at all possible, this is what we’d like to see provided for each request you log:

- A separate post on the Orbx support forums for each issue (don’t tag new issue reports onto existing threads).
- Include your TRANSACTION ID from your Buildings HD purchase in your post or forum signature section.
- A screenshot to highlight what you are talking about.
- A descriptive post title which clearly states what the issue is.
- Detailed comments in your post about what you are reporting on.

The Orbx support team is always on standby to assist you with any problems you may have, or will comment on your issue reports. Please remember, our priority is fixing any urgent issues first, and addressing bug reports second. Clearly though, any “show stopper” bugs will be given top priority though.

Orbx Community Forums

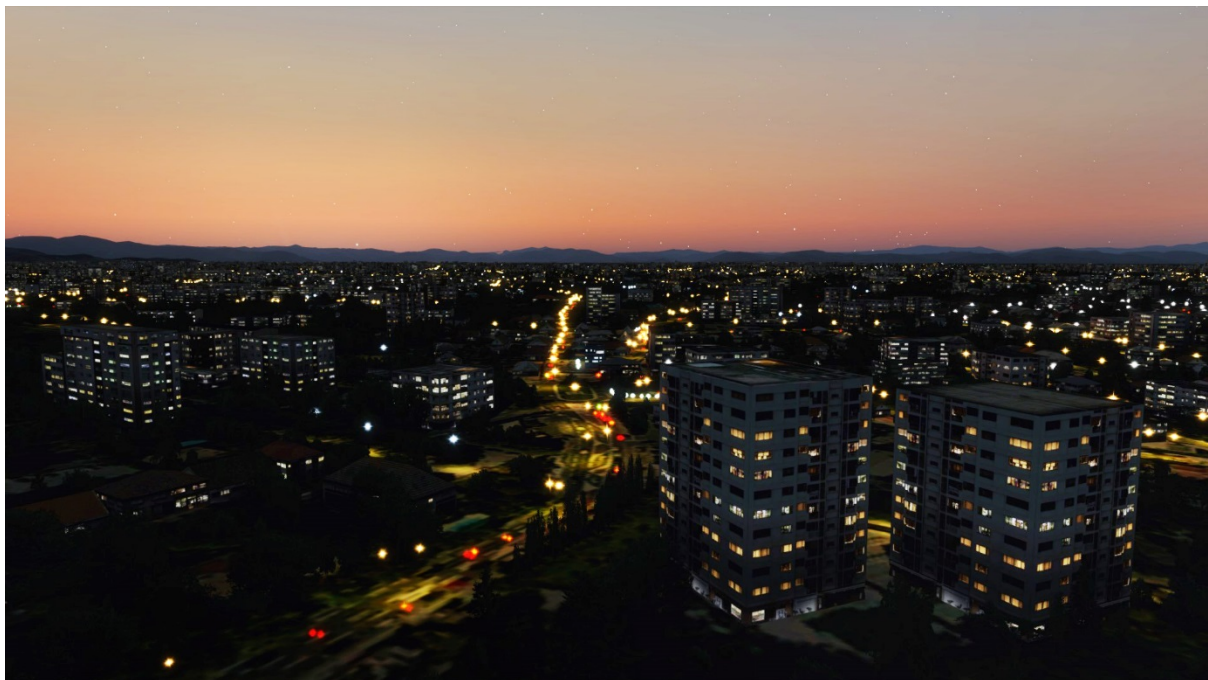
Orbx already has quite a thriving and active user community on the forums, with over 88,000 members as of June 2019. To visit the forums, just point your web browser to orbxdirect.com and from the front page click the “Forums” menu item.

You don’t need a user account to view other people’s posts and information posted by Orbx staff, but if you’d like to join in on the discussion there, simply create an account. It’s instant and no validation email is required. We like to keep things simple ☺.

We hope to see you there soon!

Thanks for reading!

You’ve stuck with us through all these pages of information, and we appreciate you taking the time to read the user guide. We hope it gave you some tips and insights. See you on the forums!



The Buildings HD Team

Lead Developers

- **Scott Armstrong** Project Manager; lead texture artist, source photo acquisition, 3D models, night textures, Aurora Simulations team lead
- **Bill Womack** 3D Modelling Lead; 3D models, texturing, autogen.bgl object library assembly, iBlueYonder team lead

Additional Developers (Aurora Simulations team):

- **Faysal Ahmed** Night textures
- **Evheniia K.** Night textures
- **Diego M.** Night textures
- **Irina Ostapenko** Night textures

Additional Developers (iBlueYonder team):

- **Jessica Bannister-Pearce** 3D models, texturing
- **Antonio Bonet** 3D models, texturing
- **Dean Crawford** 3D models, texturing
- **Ben O'Donnell** 3D models, texturing
- **Ezequiel Oliveira** 3D models, texturing
- **Fergus Tanaka** 3D models, texturing

Specialist Roles

- **John Venema:** Business Management
- **Ed Correia:** Production Management
- **Jarrad Marshall:** Management and Support
- **Ben McClintock:** FTX Central and website

Beta Testing Team

Rob Abernathy, Adam Banks, Steve Colbert, Nick Cooper, John Dow, James Eden, Friedi Gulder, Scott Harmes, HiFlyer, Phil Manhart, Matt McGee, Jon Murchison, John Tavendale, Darryl Wightman

End User License Agreement (EULA)

For the most recent version of the EULA, see orbxdirect.com/eula.

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