



MegaScenery USA 2004

Review by Doug Horton

How often do you install add-on scenery to Microsoft Flight Simulator? I find as the quality and quantity of the scenery has steadily increased with each new version, that I install significantly fewer scenery add-ons. Yet, every once in a while, new scenery is developed that's so remarkable that it's irresistible to add. MegaScenery USA for Southern California is one such scenery package. I should add as I prepare this review that MegaScenery is published by PCAviator Inc., which also publishes this magazine. However, please be assured that the following review expresses my own observations and the publisher has in no way influenced my comments.

The Package

My initial impression upon receiving the package was "Wow!" because the package artwork is beautiful, the contents include two booklets; two full-color, two-sided charts; and a jewel case containing two installation CDs. Even the artwork on the CDs is great.

One booklet describes the program and also provides four well-written lessons on visual (VFR) flying. The second booklet contains copies of airport diagrams and approach charts for all airports in the scenery. One chart is a copy of the Los Angeles sectional chart and the other is a copy of the Terminal Area Charts for Los Angeles and San Diego – on two sides. The latter provides greater detail in the areas surrounding Los Angeles International Airport (KLAX) and San Diego International Airport – Lindbergh Field (KSAN).

Installation

Installation is straightforward, though there are a few surprises. The default location for the scenery is the main FS folder. I prefer placing add-on scenery in the duly named "Addon Scenery" folder, so I type edited the folder location. During installation, you'll see a series of tip screens that recommend particular display and weather settings. Conveniently, the program also modifies your scenery.cfg file to add the scenery to the Scenery Library, so it will be available the

next time you start FS2004. After installation, if you inspect the file structure, you'll see that the scenery is actually placed in nine subfolders, classified by geographic sub-area of the scenery. This allows making any of the sub-areas of the scenery active or inactive in the Scenery Library.

What's not clear as you read the installation tip screens is that most of the recommended configuration changes are made by the installation program to your fs9.cfg file. (Yes, it's in the manual!) Fortunately, I'd been told this by a friend, so I made a copy of my existing fs9.cfg file before installing the program. Some users might argue with having the program make changes to your configuration file settings; however, developer Aerosoft Australia indicates they have conducted a great deal of testing to determine settings that provide the best visual quality and acceptable frame rates for their scenery. For now, I'm using these settings, though I think we'll know more about various display settings after the FS2004 SDKs are released.



Awesome mountain scenery abounds in Megascenery

The Scenery

In a word, this scenery is **“stunning!”** And perhaps more so with my new video card, because it enables a few more video techniques that were not possible with my older video card. According to developer Andrew McLean, the scenery includes an **“alpha channel”** for water, **“intelligent”** auto-generated trees and buildings, and it contains elaborate night scenery. Most of the tools used to develop the scenery were developed in-house by Aerosoft, and they used special techniques for handling the textures for both day and night flying. Andrew suggests that the night texture tool is quite advanced and uses these special techniques to make highways and roads stretch far out into the distance. Based on their vector data, the auto-gen tool places trees where there should be trees and houses where there should be houses. It also places larger buildings and structures in commercial and industrial areas, and it also **“knows”** where major roads lie and ensures that those roads are kept clear of auto-gen trees and buildings.

MegaScenery is **“photorealistic”** scenery that is derived from a huge stock of commercial satellite photos. It provides 5 meters per pixel resolution, which is the maximum that can be handled by the FS2002 and FS2004 scenery **“engine.”** Yes, it will work with either version. Thus, it’s as good as can be in terms of resolution, subject also to the quality of the photographs, and they are excellent in my view (pun intended!). Converting the metric to English units, 5 meters is about 16.4 feet, so that’s the size of each pixel – the smallest screen element on a computer monitor. We can think of MegaScenery as thousands of satellite photographs draped over poles that are arranged in a horizontal grid on a level earth surface. The spacing of the poles is the **“terrain mesh,”** which is 92.6 meters, or about 300 feet between the poles. The poles then provide the terrain height at the corners of every photo.

With the technical issues mentioned, it’s time for the customary **“with and without”** comparative screenshots, both of which are taken on my newer, faster system.



San Diego Airport (KSAN), with Harbor Island to the right, and downtown San Diego beyond.



Downtown San Diego, viewed over Coronado Island in the foreground. Note missing Coronado bridge – an issue with default scenery in FS2004.



North Island Naval Air Station, viewed over Ballast Point naval facility.



The marina area at Newport Beach, showing a great contrast in detail.

FS2004 Default Scenery



Northrup/Hawthorne Airport (KHHR) by I-105 freeway, with golf course beyond.

MegaScenery in FS2004



Long Beach Harbor and City Center. Note misplaced Queen Mary and dome in Megascenery.



Palos Verdes is an exclusive residential area on the southwest coast of Los Angeles.



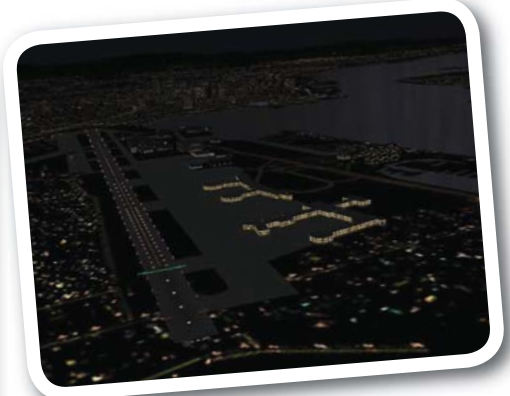
Night Scenery

I suppose that many of us don't make a point of flying VFR around the Flight Simulator world at night. Maybe there's a simple explanation for this: it's dark! On the other hand, maybe it's because we were never impressed with the scenery. Well, with MegaScenery, extra effort has been expended on the nighttime "look and feel." Here are night views from the coast looking

east over KLAX toward downtown Los Angeles and over KSAN looking toward downtown San Diego. The printing of these screenshots may not do them justice, but trust that the views on the monitor are spectacular. If you know the freeway systems in southern California, you'll be able to find your way quite easily during night flying by following these landmarks.



Nighttime view over KLAX to the east.



Nighttime view over KSAN toward downtown San Diego.

Summer-Only Textures

MegaScenery textures in this package are provided for the summer season only. Providing satellite images for all seasons would be four times more expensive for the developer to purchase the satellite photos, and importantly, disk space would quadruple for program distribution and users' hard disk storage. If winter, spring and fall were included in the scenery, approximately 150,000 additional files would have to be saved onto your hard disk and they would occupy another 3GB of storage space. The summer season was chosen since in many respects, southern California is truly summer-like in all seasons, at least compared to areas with real winter weather (such as my area of Chicago). So, think of it not so much as summer weather, but rather, as enviable all-season southern California weather.

Performance

I've run the MegaScenery on two desktop systems: an older Athlon 1200 512MB system with a GeForce 2 GTS 4xAGP 64MB DDR video card, as well as a new Intel 3.0 GHz 800 MHz FSB 1GB system with a GeForce Ti 4800 8xAGP 128MB DDR video card. Obviously, I get excellent performance with my newer system

– I should for the dollars spent. The good news is that with my older system and the MegaScenery-installed display settings, performance is surprisingly good. With AI traffic set at 50%, I was still able to achieve greater than 20 fps with my older system, and it's clear to me that the greatest influence on frame rates is the density for AI traffic. In both cases, texture seams are not an issue and the scenery usually loads smoothly without texture voids or stutters as I fly. Only if I used the Slew function was I able to overwhelm the scenery loading on either system, resulting in my moving faster than the textures can finish loading, though when loading a new flight or using the GoTo function, you'll wait a bit for scenery loading – more so with a slower system.

Settings

As mentioned above, MegaScenery users will find that their fs9.cfg file has been modified by the MegaScenery installation program to change display settings. These are fully explained in an informative pop-up window during installation. The question of optimal display settings is always debatable, and here are examples of some of the setting changes made by MegaScenery:

As suggested above, the developer's recommendation to set the **"Target frame rate"** to Unlimited may be controversial among MegaScenery users. It is commonly believed from various communications that if the slider is set to some lesser, visually-acceptable setting, such as 25 frames per second, that the **"unburdened"** cpu capacity is free for other display rendering tasks. This seems intuitively correct because the human eye does not perceive higher frame rates, which is why motion pictures are projected and viewed at 24 fps. However, my limited experiments don't convince me of the correctness of either recommendation, so I'll take the developers recommendation for viewing MegaScenery, and if I choose, I can revert to a lower target frame rate setting elsewhere.

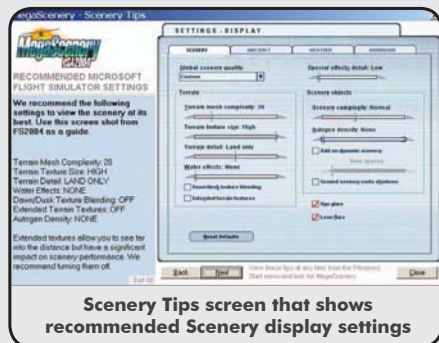
Comments

It's tempting to wonder why Microsoft doesn't provide the level of detail in the default scenery that is provided by MegaScenery, and the answer is simple. Without considering the cost, the disk space requirement would be larger than most current hard drives. Consider that this 120 by 120 mile scenery package resides in 58,780 files in 27 folders, occupying about 1.9 gigabytes of hard drive space, yet it's a only a small corner of one country, and it takes two CDs to distribute. Perhaps in a few years, when we have terrabyte hard drives and programs are distributed on DVDs, we'll see an increase in the default FS scenery density. Meanwhile, having a few selected areas available as add-ons makes for very high quality VFR flying.

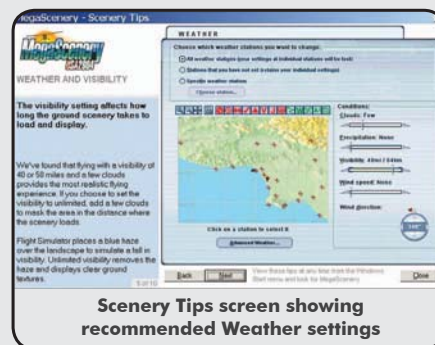
The product is available in Lite and Full versions. The Full version gives users a full printed Aeronautical Chart collection for visual navigation of the scenery, including a full-size color sectional chart for Los Angeles, full-size color Terminal Area Charts for Los Angeles and San Diego, and 232 pages of instrument approach charts and airport diagrams. Additionally, the manual has 48 pages of VFR flying lessons and tutorials prepared by a Certified Flight Instructor. The Lite version does not include the aeronautical charts. PC Aviator president and publisher Robert Ferraro has said, **"I am dismayed with the direction that the flight sim software industry has gone with skimping on printed literature and software manuals. Most consumers need these printed materials to enjoy their software properly, and I am proud to say that PC Aviator continues to defy this trend."** The difference in package price is \$10 US, though the charts if purchased separately would cost over \$20 US.

Having a sectional chart, terminal area charts, and approach plates provides both VFR and IFR simulator pilots with authentic support material. The booklet with the approach charts is very complete, though it would be helpful to include an index. Searching for individual airports can be difficult, particularly if you don't know the **"official"** name. An example is secondary airports such as Montgomery Field in San Diego. Though the charts are printed in alphabetical order by airport name, this airport is found under **"S,"** not **"M,"** because its charts are captioned **"San Diego/Montgomery Field."**

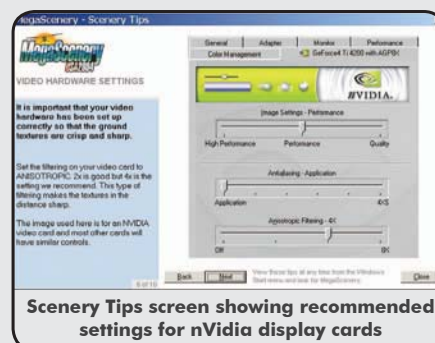
You may find a few minor scenery object placement anomalies, though this is probably unavoidable in a scenery collection this size, particularly since it combines aerial photographs with scenery artwork and default scenery objects. Otherwise, the package is a great addition to day and night VFR flying around southern California, and I highly recommend it. ➔



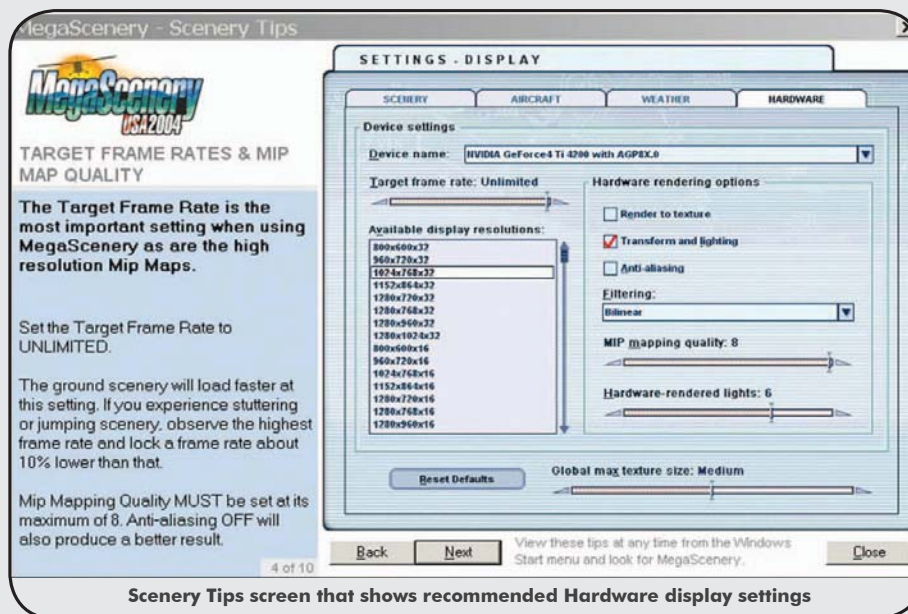
Scenery Tips screen that shows recommended Scenery display settings



Scenery Tips screen showing recommended Weather settings



Scenery Tips screen showing recommended settings for nVidia display cards



Scenery Tips screen that shows recommended Hardware display settings