

SPV3

SINGLEPLAYER VERSION 3

OPTIMIZATION GUIDE

[GPU Configuration Guide](#)

[Launcher Settings Guide](#)

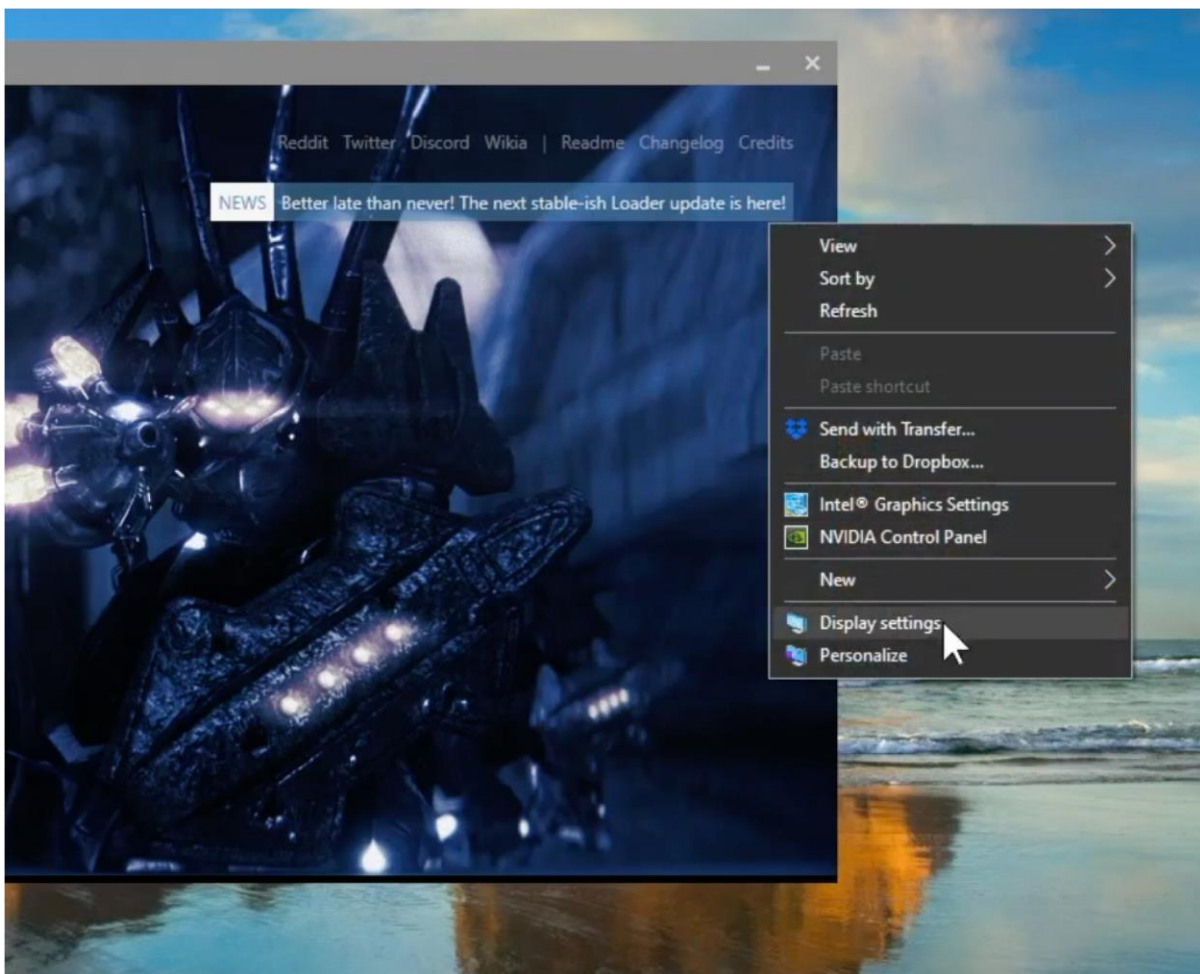
[Post Processing Performance Chart](#)

WINDOWS 10 GRAPHICS SETTINGS

Hold on there, flawless cowboy!!! Before you start playing SPV3.3, you need to fix some windows settings to get good performance. You see, Windows 10 will automatically think Halo CE is a mobile application, and not a game because it is so old. Yes, we know that's dumb. Because it thinks it's a mobile app, it will default your computer to run the game with as less power as possible, and your frame rates will be terrible and things will be choppy. So, we'll show you how to fix that! Luckily Windows 10 has a brand-new feature, which makes this super simple.

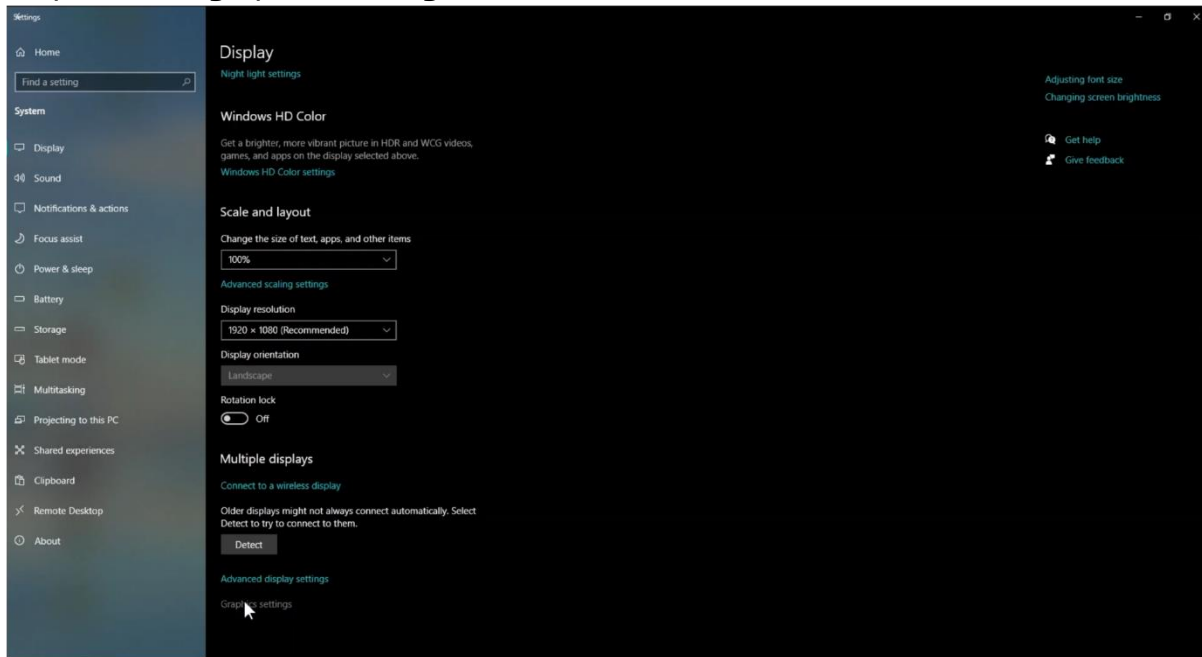
Step 1: Right click on your desktop

Step 2: Click on Display settings

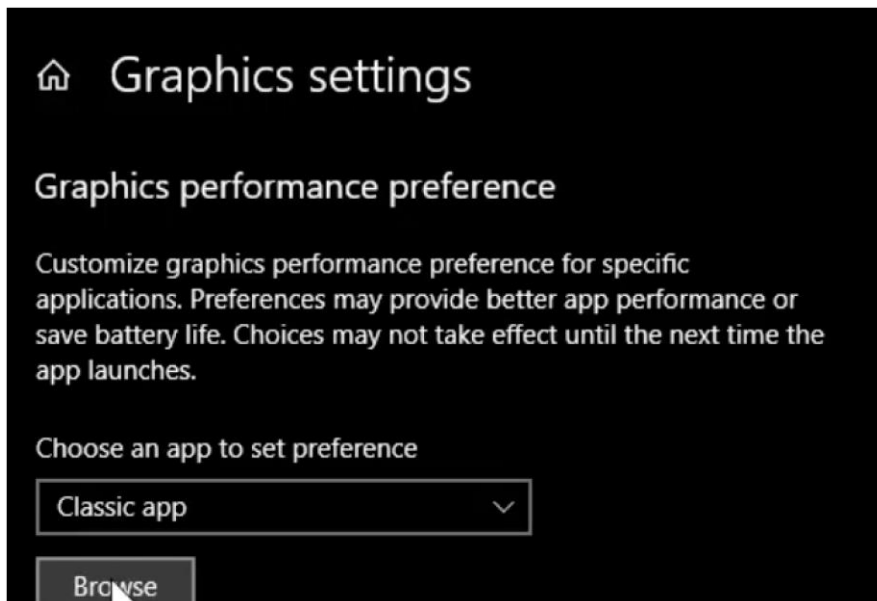


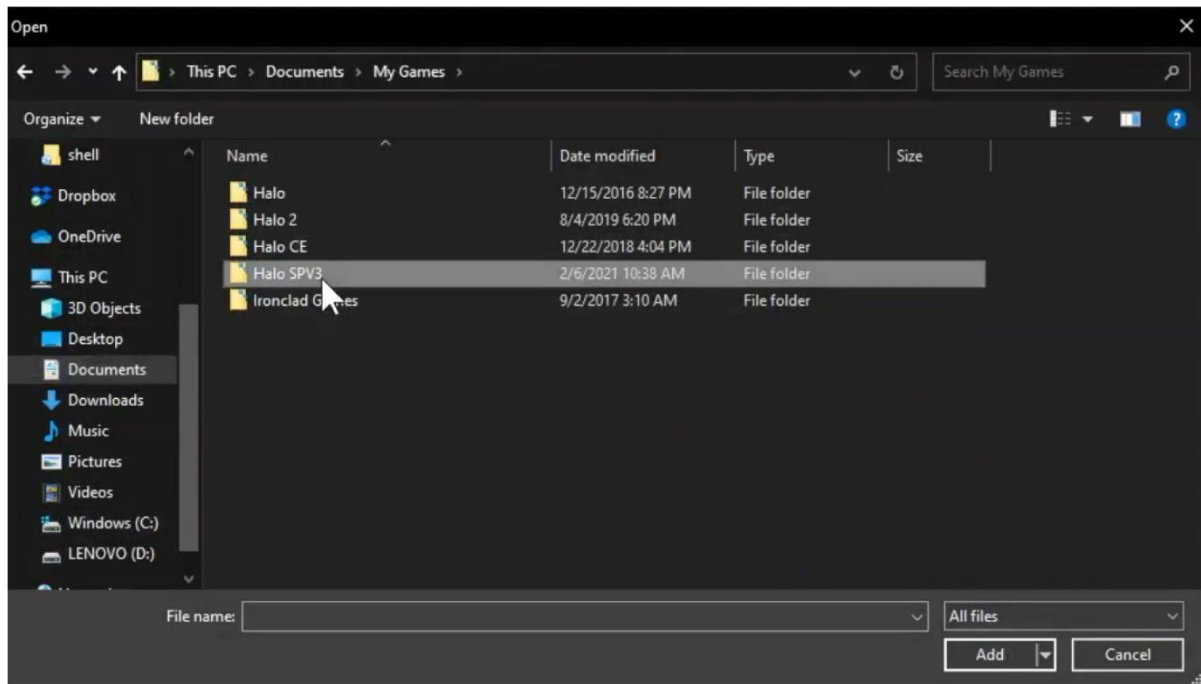
Step 3: Scroll down

Step 4: Select graphics settings

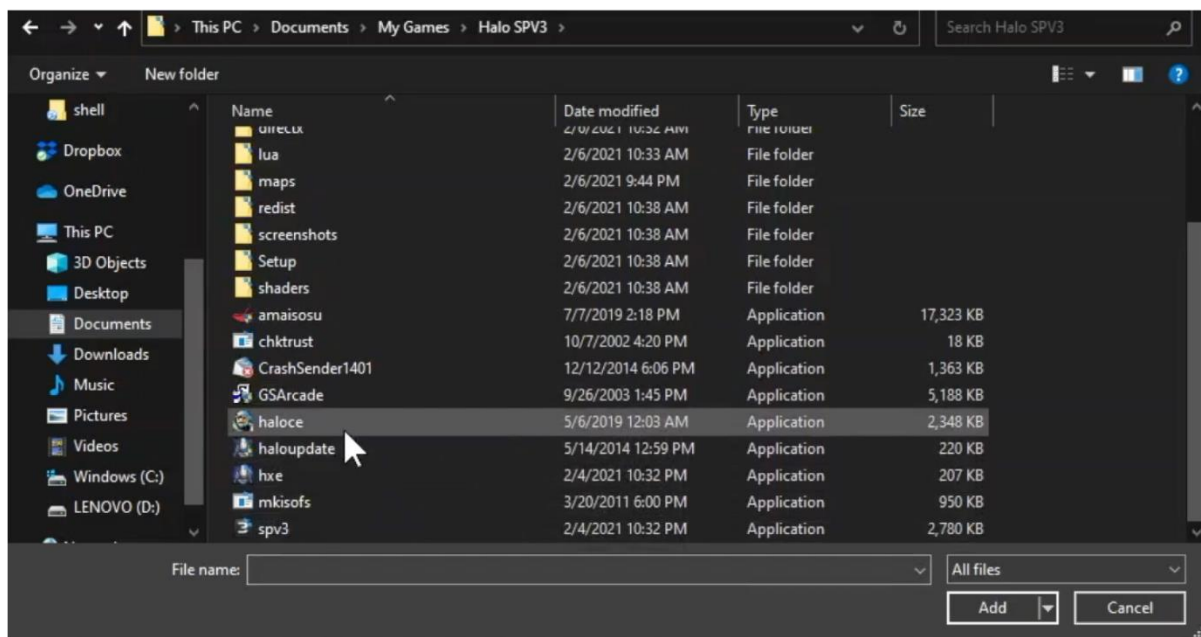


Step 5: Hit browse, and find the halo SPV3 folder (by default, it likes to install to Documents/My Games/Halo SPV3)





Step 6: select haloce.exe (NOT SPV3.EXE)



Step 7: Select options once it shows up.

Step 8: Set it to high performance

And you're done! That's the most simple way to do it.

NVIDIA CONTROL PANEL

But if you are still reading, there's a more complicated way to do this, where you can get better

and sharper textures at a distance. This is only for NVIDIA users, AMD users will want to check

the AMD User Optimizations PDF in the Halo SPV3 folder.

Step 1: Right click on your desktop

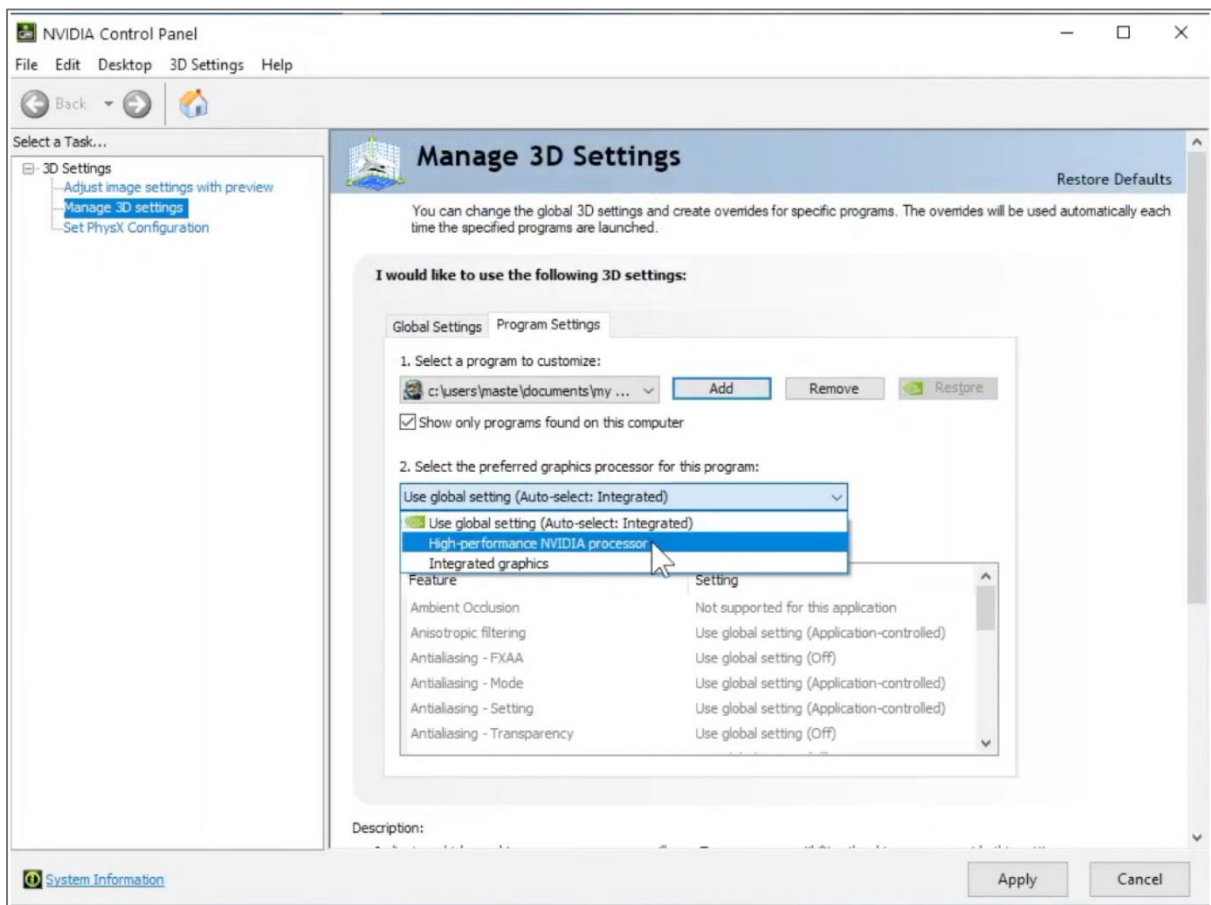
Step 2: Click Nvidia Control Panel

Step 3: Select Program settings tab

Step 4: Hit add, and find the haloce.exe in the Halo SPV3 folder.

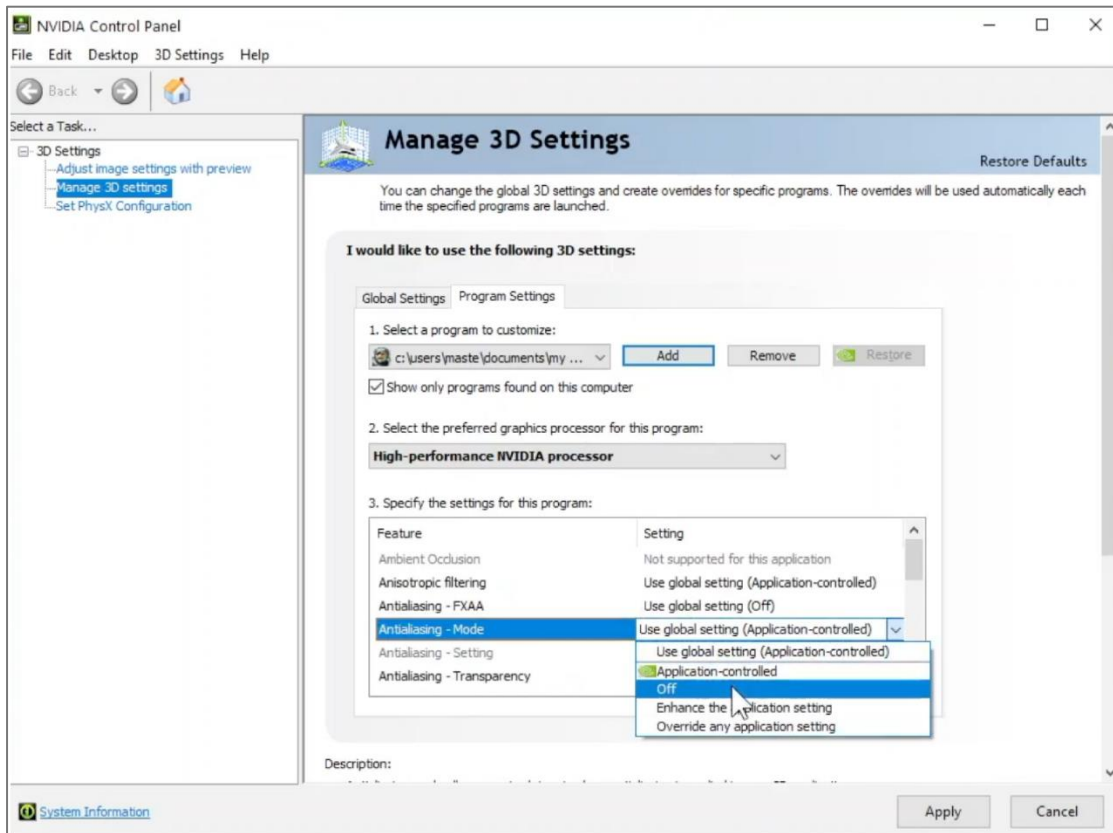
Step 5: Select High Performance Nvidia processor from the drop-down menu for preferred

graphics processor.

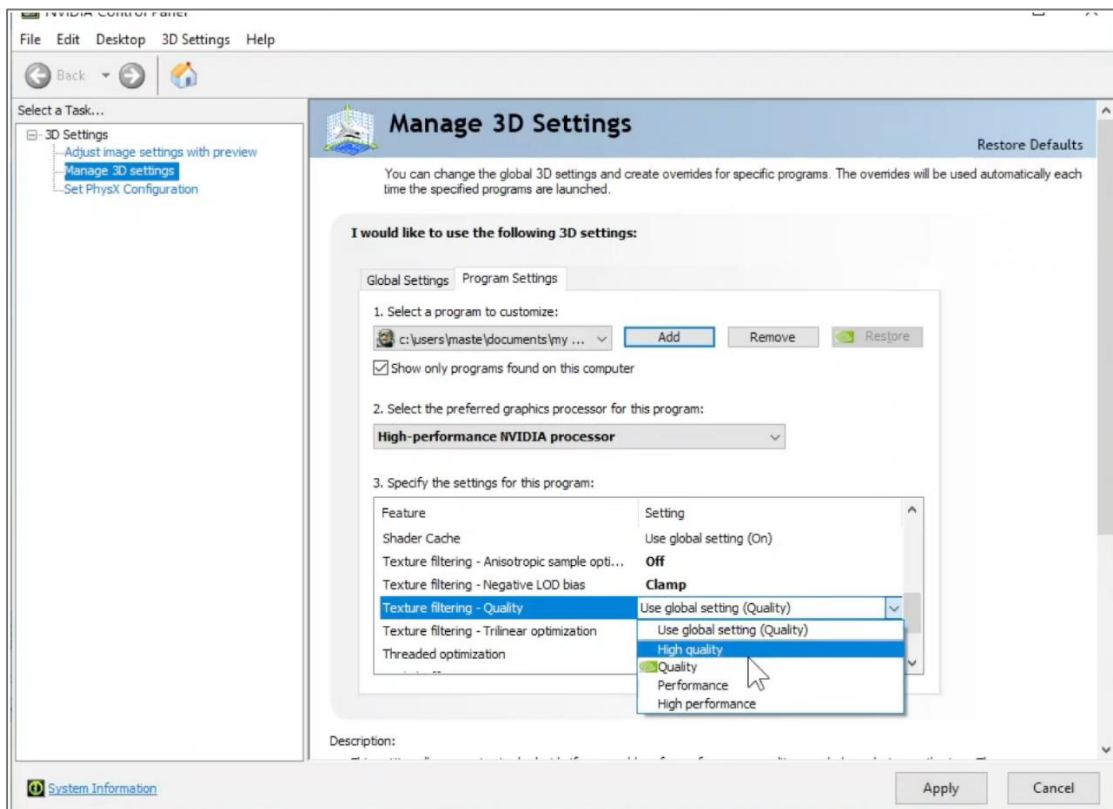


Step 5: Select Anisotropic filter, set it to 16x.

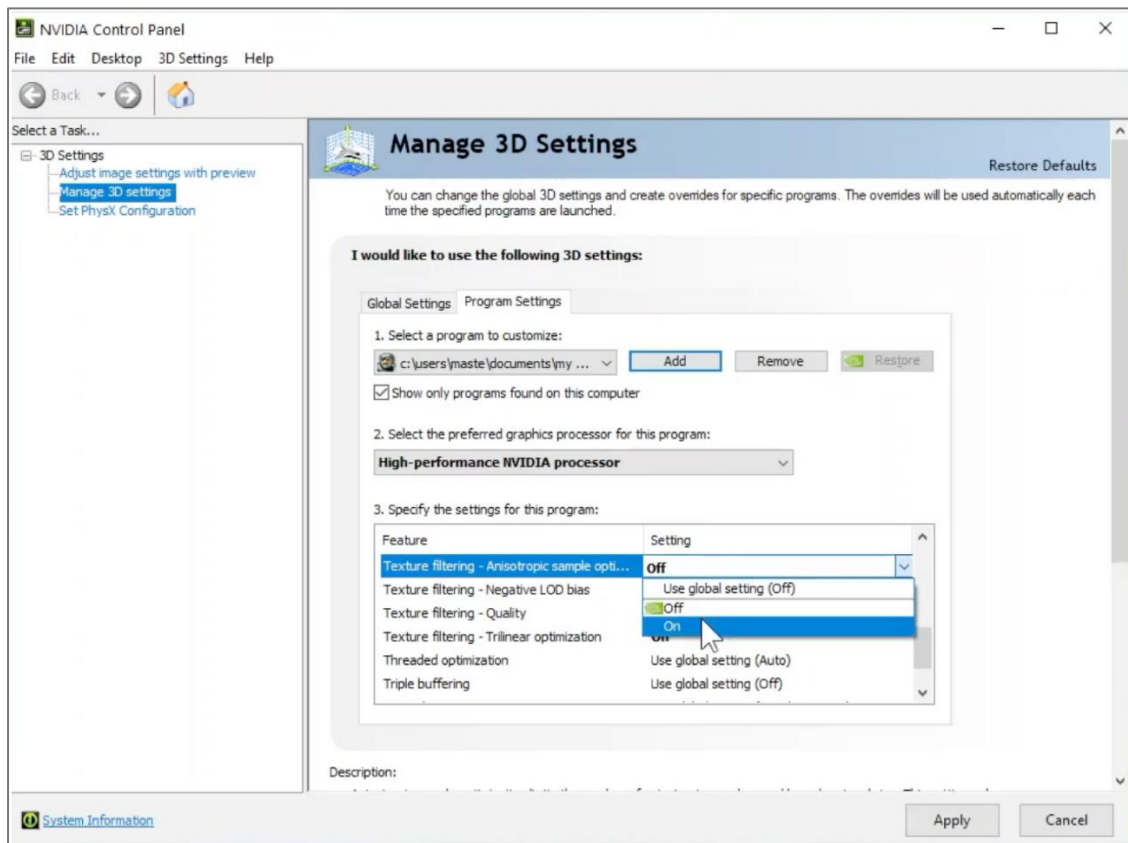
Step 6: Anti-Aliasing Mode: Off



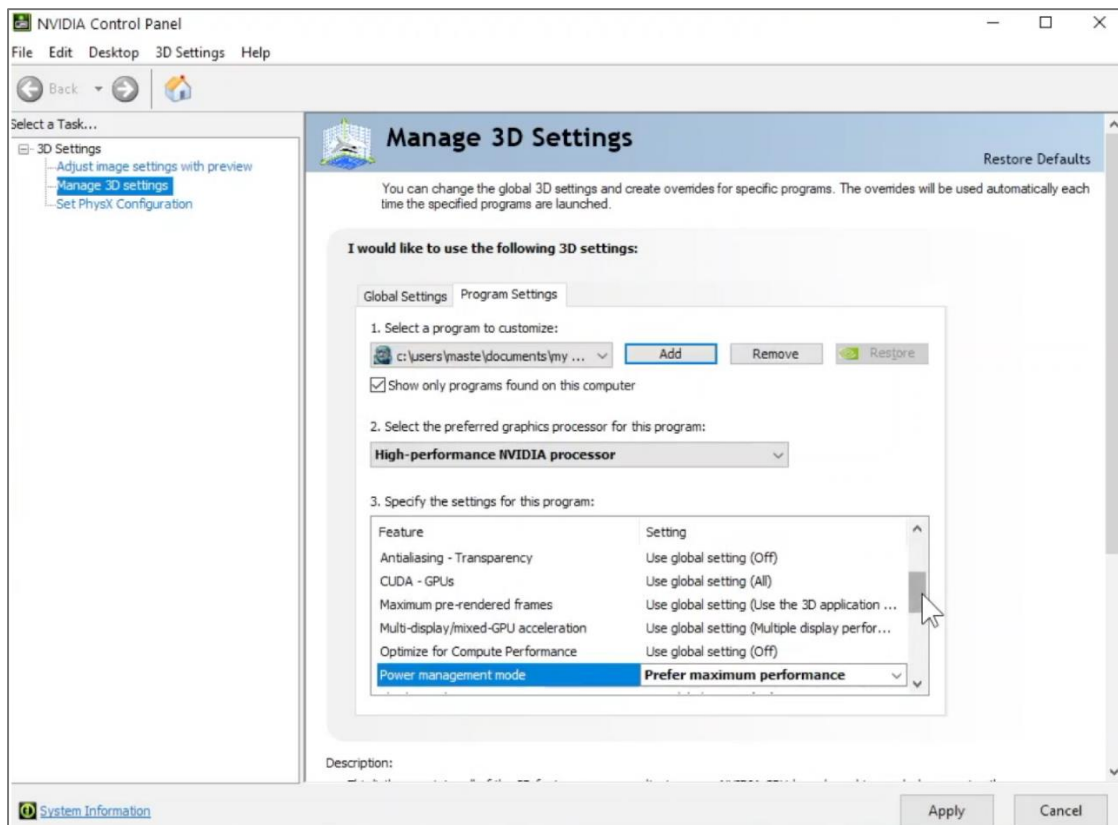
Step 7: Texture Filtering Quality: High Quality



Step 8: Texture Filtering Anisotropic Sample Options: On



Step 9: Power Management Mode (THIS IS THE MOST IMPORTANT!!!): Prefer maximum performance.



Step 9: Hit apply!

You're all good now on graphics!!! Boot up SPV3 and enjoy! If you have further issues, join us in our discord (Link is in the upper right of the launcher) and our community will be happy to assist!

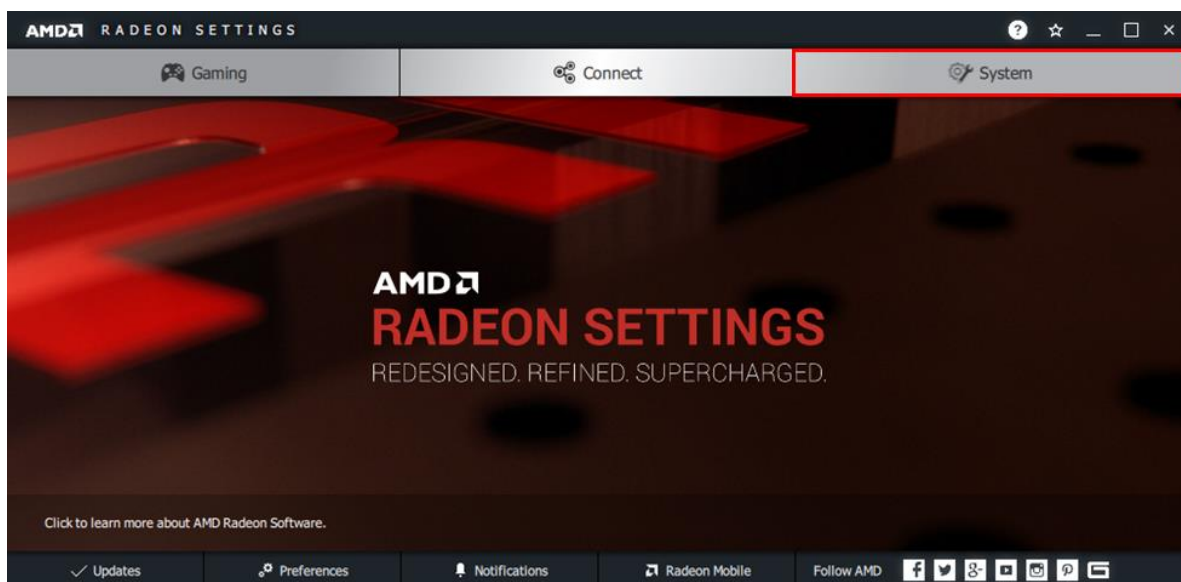


AMD RADEON SETTINGS

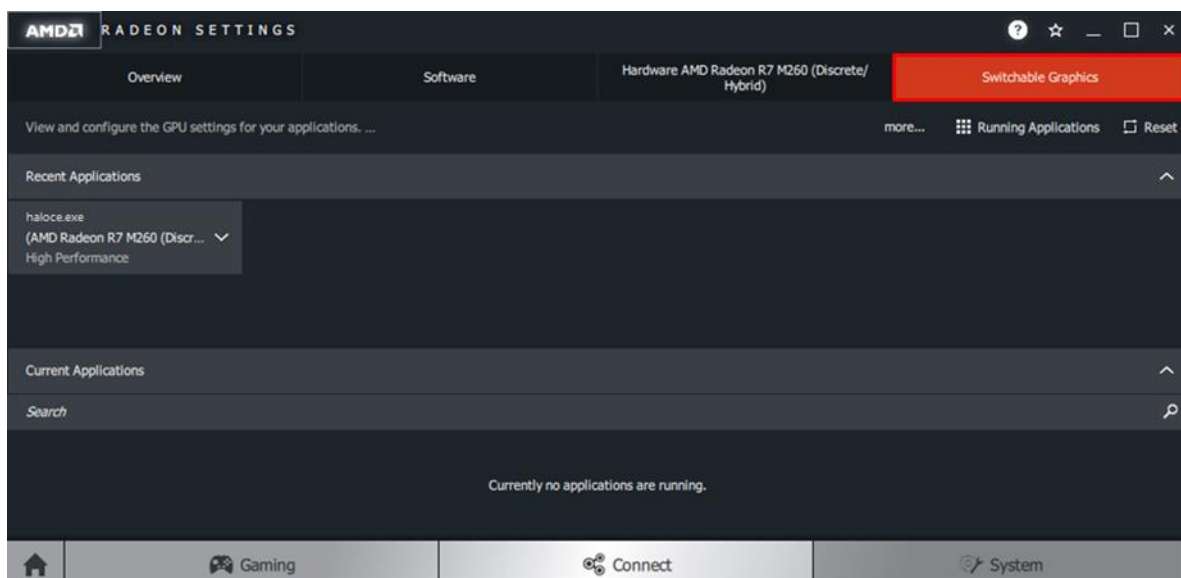
For the red team its pretty simple as well.

Step 1: Right click on the desktop.

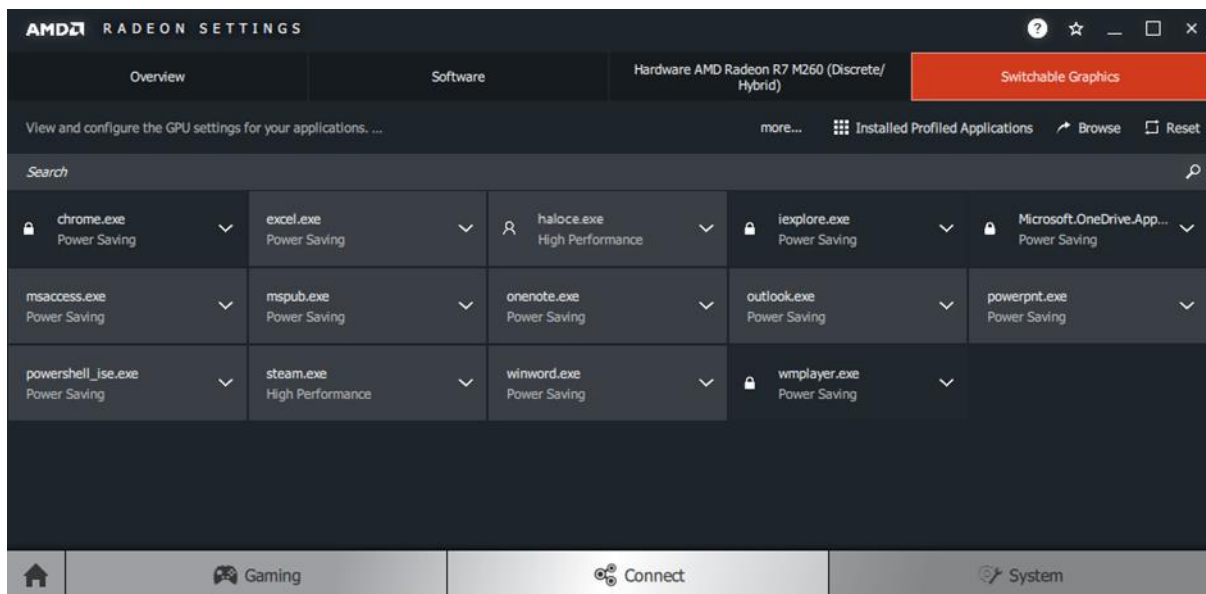
Step 2: Click on AMD Radeon Settings



Step 3: Click on "System" and then "Switchable Graphics"



Step 4: Click on “Running Application” and from the drop down select “Installed Profile Applications

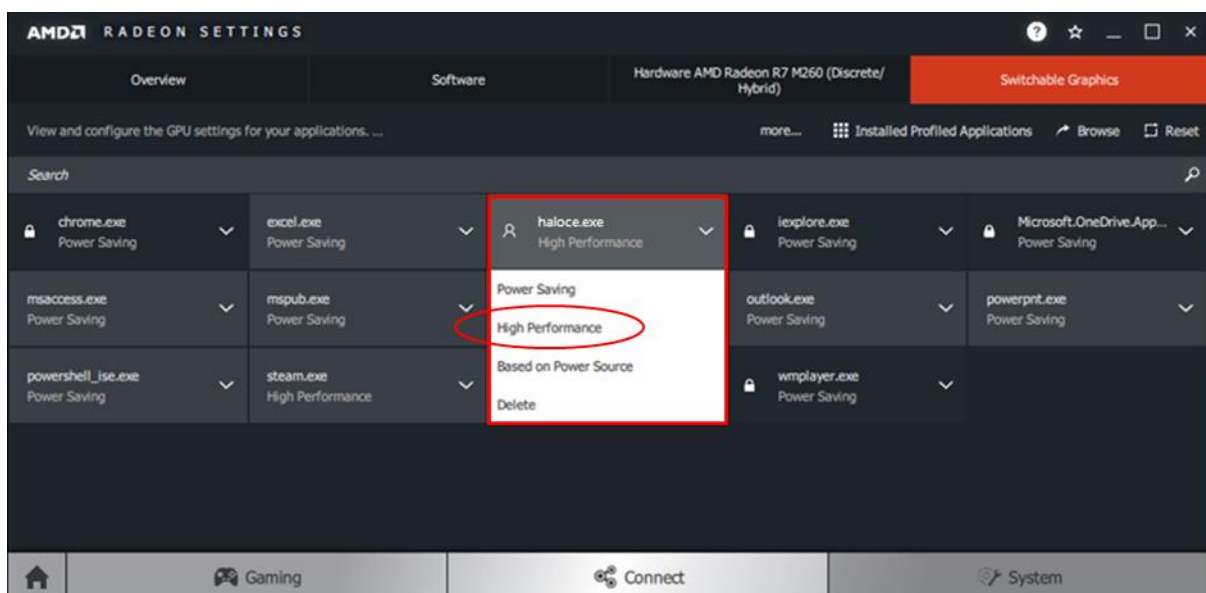


Step 5: Click on “Browse”

Step 6: Select “haloce.exe” in the same way as [above](#).

Step 7: Now “haloce.exe” should appear in the list. Click on it and a drop down should appear.

Step 8: Click on “High Performance”



If your system doesn't support switchable graphics then the AMD GPU is going to be used anyway, if that's the only one available and the above steps won't apply.



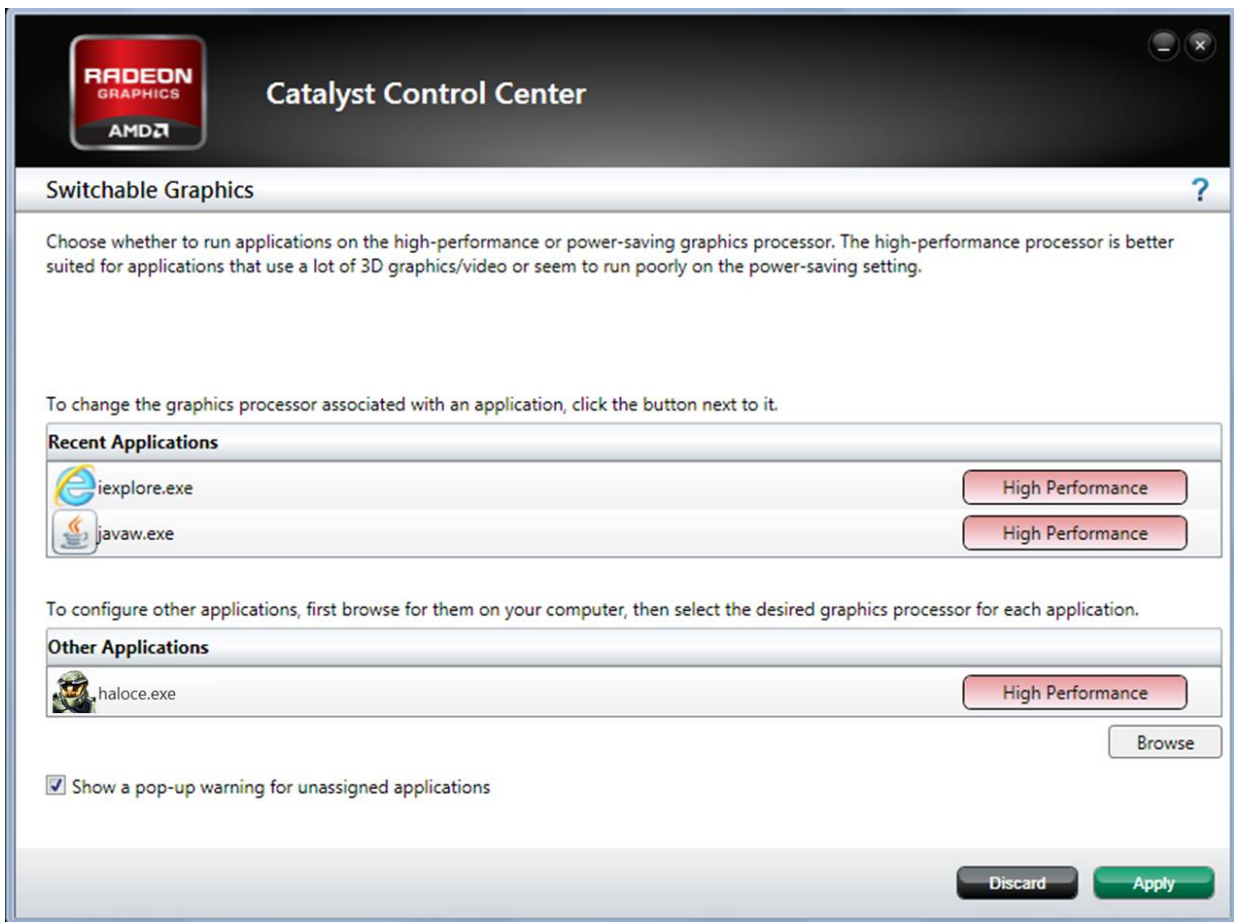
AMD CATALYST CONTROL CENTER

If you don't have the latest setup don't worry, we got you covered.

Step 1: Right click on the desktop

Step 2: Select "Configure Switchable Graphics"

Step 3: Click Browse and select "haloce.exe" using [these](#) steps



Step 4: You should now see haloce.exe listed. Click on the little button on the right of where it says "Power Saving" or "Not Assigned".

Step 5: Change it to "High Performance".

Step 6: Don't forget to click on "Apply".

LAUNCHER SETTINGS

You have followed all the above steps and you are still getting bad frame rates and lags? Below is a guide to configure SPV3 to suite your hardware. SPV3 is built to be very scalable. So, it can run on very low-end computers.

Let's first start with certain display settings:

- Resolution: Lower the resolution, higher the framerate (considering fps is not locked). Higher the resolution sharper the image, but a greater number of pixels to process. So, if you want to make the game perform better without losing graphics quality, lower resolution.
- V-Sync locks your framerate to a certain value. If you are expecting higher framerates but the FPS seems limited to a certain value, check the V-Sync settings.
- Field of View has a minimal effect on performance. Lower FOV results in a slight improvement in performance. In most cases the improvement isn't noticeable, so you can just click on 'Optimal' and call it a day or set your own FOV.

Graphics Quality Presets:

They provide one click configuration options that control several settings at once. Based on your hardware performance you can select from "very low" to "ultra". If the game is lagging choose a lower preset. If it's running smooth and you have a really powerful rig then you can experiment with higher presets.

If you want more fine tune controls on the visuals you can use the below guide.

OpenSauce settings:

- G-Buffer is required by a lot of visual effects and features, but it has a good amount of cost. Disabling this usually results in a performance boost both on its own and also by automatically disabling all graphics features that depend on it. We don't recommend that you turn it off unless absolutely necessary.
- Normal maps, Detail maps, Specular maps, Specular lighting, are all very low-cost features. Again, we don't recommend turning them off unless its lagging badly.
- Bloom causes bright light to bleed into the surroundings. It makes glowing objects look more realistic. Bloom is a pretty fast effect and doesn't have much of a performance cost. It however depends on Adaptive HDR which has

a slightly higher cost than bloom. More on Adaptive HDR later.

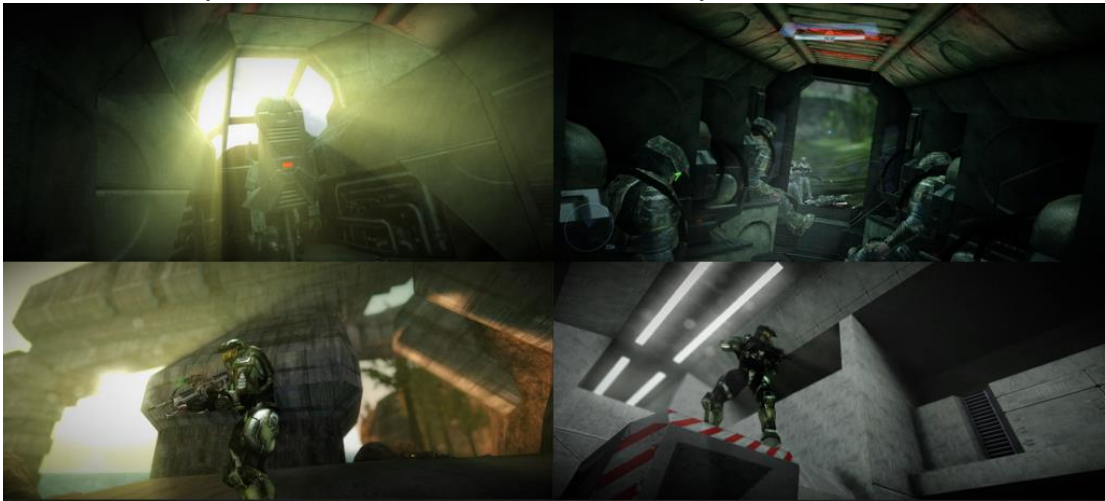


Post-processing settings:

- Disabling post processing takes out a lot of SPV3's graphics system along with certain armor abilities and tweaks. Like g-buffer we don't recommend turning it off unless absolutely necessary. You can have post processing on and g-buffer off which will automatically disable effects that rely on g-buffer, but the vice versa is not possible.
- Adaptive HDR is (HDR = High Dynamic Range) an effect that modifies the image in a way to ensure maximum visibility in most lighting conditions. Halo doesn't output true HDR, so this effect acts like a magnifying glass on Halo's color space. So, when the scene is too dark, it boosts all the pixels so to make what was barely visible, visible. It does the same when a scene is too bright. It's like your eye or a camera constantly adapting to new lighting situations. It also uses ACES tone mapper to make colors more natural under different lighting. (ACES = Academy Color Encoding System). This needs to be ON for bloom and SSR to work.
- Visor Overlay adds stuff on the Spartan's visor. Stuff like holograms, outlines, raindrops and frost accumulation in cold environments. The effect has a good amount of performance cost, but most computers should be able to handle it just fine.



- Film Grain makes the image grainy which gives an illusion of details. It's a low-cost effect as well.
- Volumetric Lighting emulates light scattering through fog or Tindal effect. It's also a fairly medium cost effect. But not every mission has them.



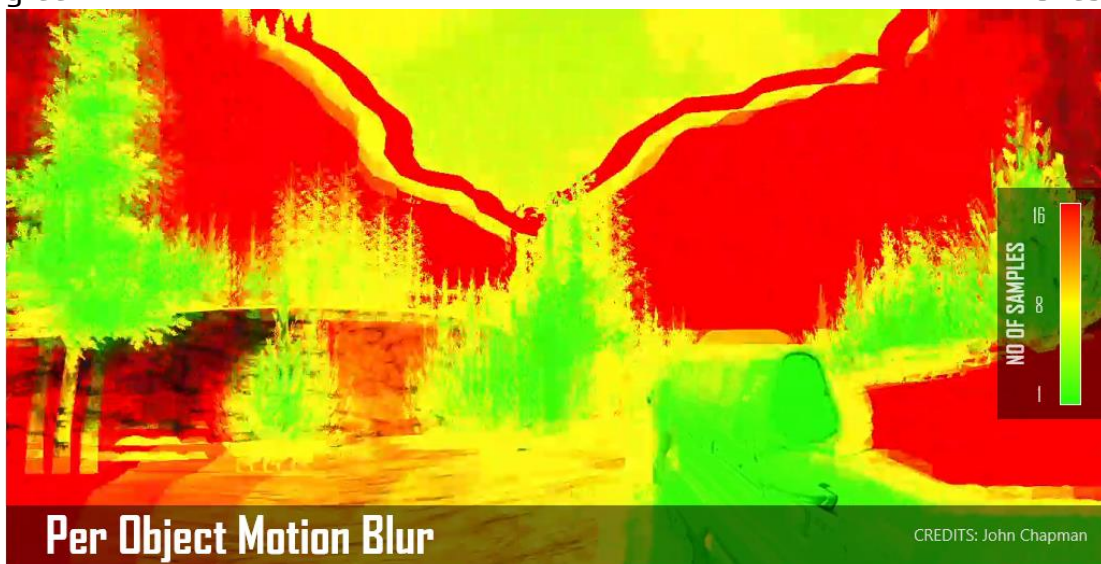
- Lens dirt adds dirt and scratch effects on the visor. It's pretty damn fast and shouldn't be much of a performance hit.



- Motion Blur adds some blurring in the direction of camera movement which makes looking around smooth and realistic. You will two kind of options. Built-in is a default implementation of this effect that is very old but reliable in a way. POMB is per object motion blur is our improved version of it. POMB provides far more realistic effect and is also smart when it comes to managing performance. Sometimes you may witness motion blur causing the screen to stay blurred and smeared. This is not a fault with this effect itself but that the game is lagging which causes the velocity data in g-buffer to freeze. It's an engine problem and only happens when the game is lagging. POMB itself isn't much costly to run at all. So, if your screen is smeared mess, you can try switching to built-in mode or turn it off or even better try disabling other effects so the game stops lagging. The below screenshot shows POMB in action:



The effect can smartly tune its own quality based on need as shown below in debug view as I move my camera. (The red regions receive more blur than green ones)



- Depth of Field causes background stuff to blur out as they go out of focus. It emulates a camera which constantly does instant autofocus. For obvious reasons its only available in cutscenes. The focus parameters are scripted in the cutscenes, so it knows where to look and what to focus on. DOF on low quality isn't much of a performance hit. High quality DOF is pretty cinematic with bokeh effects and some chromatic aberration thrown into the mix, and incurs a good amount of performance cost.



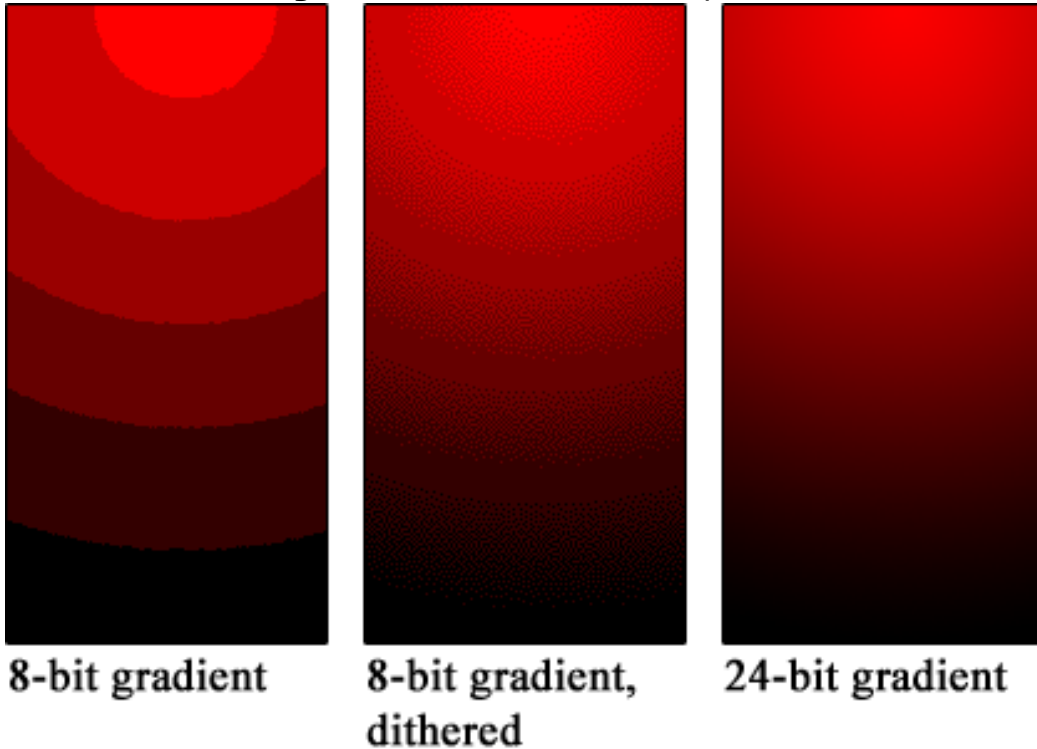
- Ambient Occlusion adds dynamic soft shadows to corners, behind or nearby objects and in crevices of surfaces. AO also brings out details on surfaces due to it directly accessing Halo's normal maps. Low quality one is grainy and fairly costly. High quality one is smooth and realistic but is a huge performance hit.



- SSR stands for Screen Space Reflections. It uses a simple ray tracing algorithm for calculating reflections on various objects in view and from the scene in view only. SSR provides extremely realistic reflections on surfaces which vary based on environments and materials. It's the biggest performance hog in the game. Unless you have a beast of a PC, you won't be able to use it and get stable FPS.



- Debanding evens out banding artifacts in the final image. Halo has a small color space compared to most modern games, so gradients often appear to have steps or bands rather than a smooth gradient. This effect makes the bands grainy and make them blend into one another making the image look smooth from viewing distance. Below is an example of how it works:



Of course, you can hopefully use all the above effects on your PC by carefully choosing a lower resolution.

Miscellaneous settings:

- Frame smoothness allows the game to interpolate frames in between actual frames thereby making movements extra smooth. Higher values can be demanding on your machine. It's basically the secret behind SPV3's 60FPS glory.
- Anisotropic filtering allows textures to appear sharp and in great quality when viewed in oblique angles. It has minimal performance impact, but you can turn it off if it helps

