



Software Setup Guides

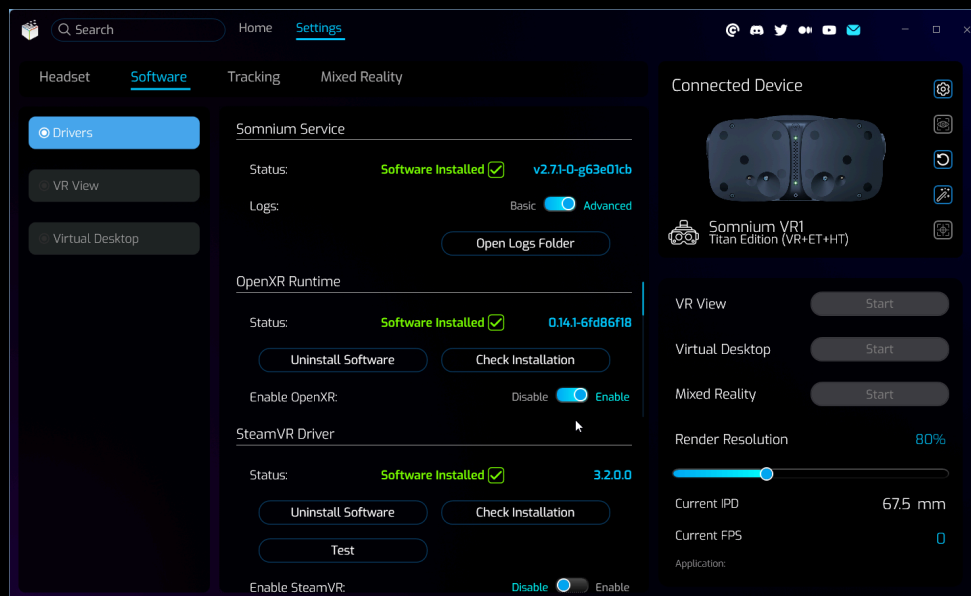
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DCS

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with DCS OpenXR implementation.

Please follow these steps for basic setup:

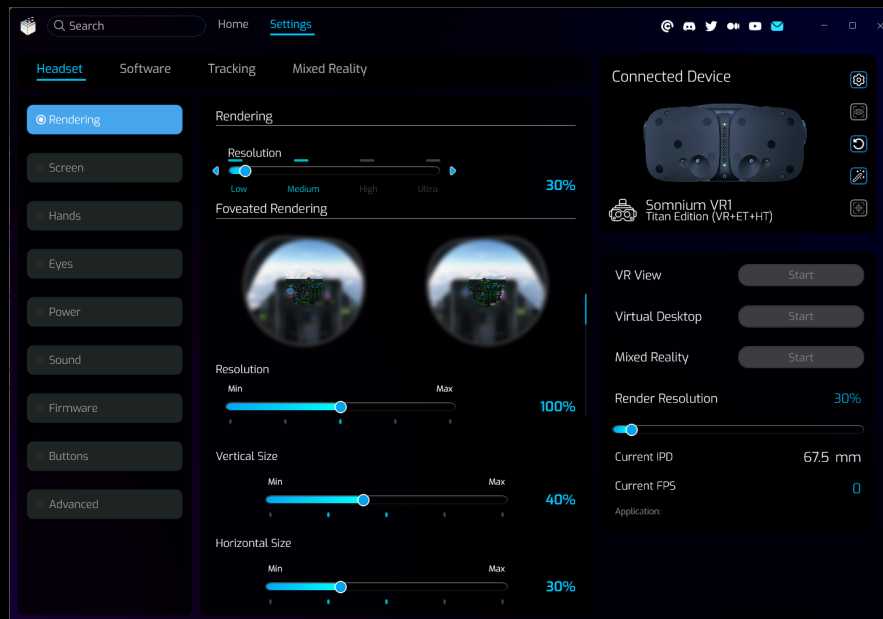
- Close SteamVR if it is running.
 - *If SteamVR is running and renders image into the headset, DCS OpenXR will not be able to initialize properly, and it will crash.*
 - *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.



- Adjust the “Resolution” and “Foveated Rendering” values in Somnium VR1 Tool.
 - DCS will use Quad views (foveated rendering) by default, so we recommend adjusting the main “Resolution” and “Foveated Rendering”

section in Somnium VR1 Tool – Settings – Software – Rendering according to the specific PC setup and desired performance.

- *For example, for middle range gaming PC we recommend using 30% on the main “Resolution” slider, 100% on the “Foveated Resolution” slider, 40% on the “Foveated Vertical Size” slider, and 30% on the “Foveated Horizontal Size” slider.*
- *Alternatively, you can disable “Use Quad View” in DCS Settings – VR. Then only the main “Resolution” set in Somnium VR1 Tool will apply to the whole rendered image.*



- Start DCS in VR mode.

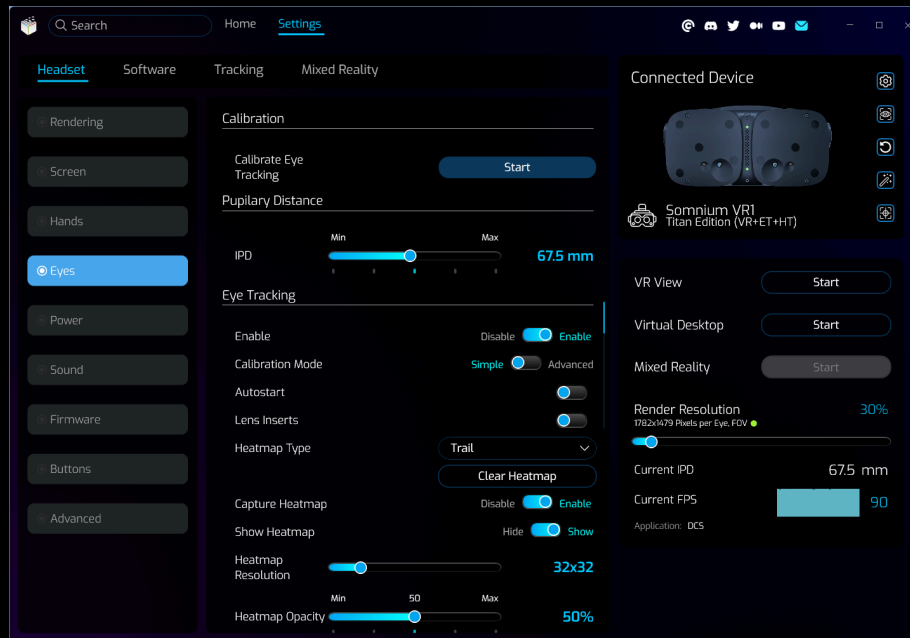


- Reset your view position.
 - Either with the predefined DCS shortcut (UI Layer shortcuts - “recenter VR Headset”).

- o Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).

Additionally, if your Somnium headset has eye tracking support you can enable dynamic foveated rendering:

- Follow the same steps as mentioned above.
 - o Make sure that “Use Quad View” is enabled in DCS Settings – VR.
- Choose if you want to use “Simple” or “Advanced” eye tracking calibration.
 - o In Somnium VR1 Tool on Settings - Headset - Eyes page.
- Calibrate eye tracking.
 - o Either with the “Calibrate Eye Tracking” button in Quick Settings section or on Settings - Headset - Eyes page.
 - o You can also use one of the physical buttons on top of the headset, if it is configured for this functionality on Settings – Headset – Buttons page.
- Enable eye tracking.
 - o With the “Enable” button on Settings - Headset - Eyes page.
 - o You can also use one of the physical buttons on top of the headset, if it is configured for this functionality on Settings – Headset – Buttons page.
 - o *Alternatively, you can enable the Autostart option (on Settings - Headset - Eyes page), which will automatically start eye tracking after successful calibration*
- If the eye tracking is correctly calibrated and enabled, the foveated/sharp render area in DCS will automatically move according to the eye tracking results.
 - o *You can also visualize the eye tracking results by pressing the “Show Heatmap” button in Somnium VR1 Tool on Settings – Headset – Eyes page.*

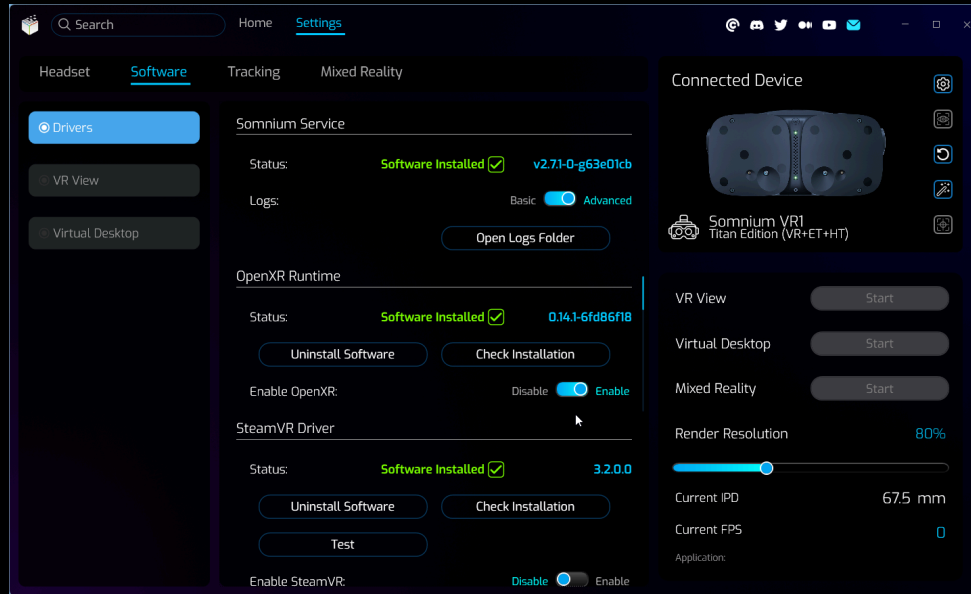


MSFS 2024

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with MSFS 2024 OpenXR implementation.

Please follow these steps for basic setup:

- Close SteamVR if it is running.
 - o *If SteamVR is running and renders image into the headset, MSFS OpenXR will not be able to initialize properly, and it will show an error message.*
 - o *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - o Either on the homepage or on Settings - Software - Drivers page.



- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.
 - *Even when using foveated rendering option in MSFS 2024, only the main “Resolution” value in Somnium VR1 Tool will have any effect, due to the custom MSFS foveated rendering implementation. So you can ignore the Foveated Rendering options in Somnium VR1 Tool.*
 - *For example, for middle range gaming PC we recommend using the default 80% on the main “Resolution” slider, along with the foveated rendering option in MSFS 2024.*



- Start MSFS 2024.



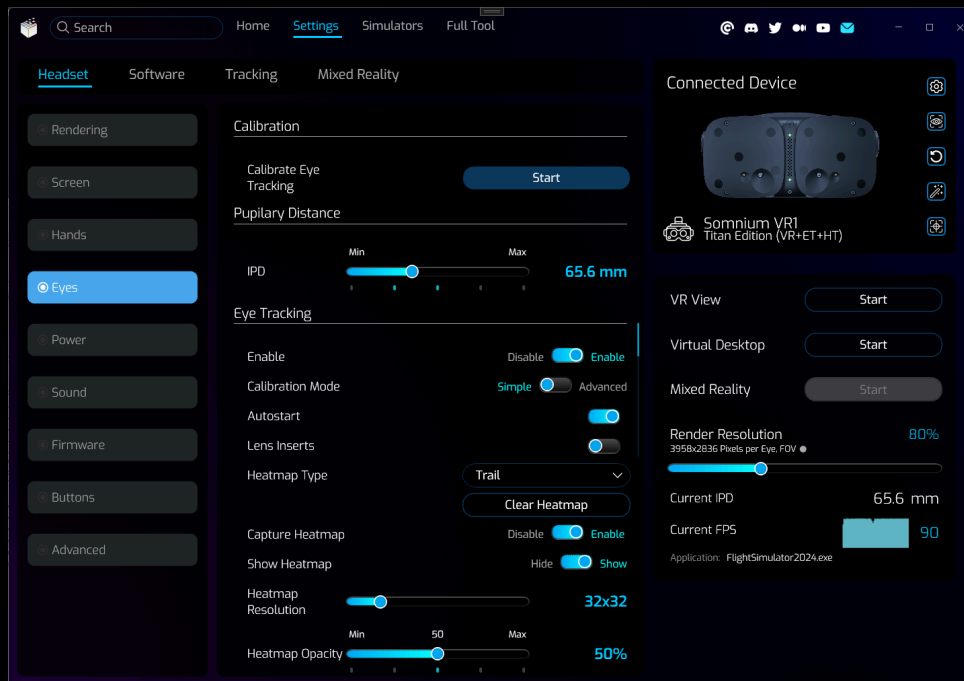
- Switch to VR.
 - Either from Settings-VR-VR Mode menu or through a predefined MSFS shortcut “VR - Activate/Deactivate VR Mode” (Ctrl+Tab by default).
- Reset your view position.
 - Either with the predefined MSFS shortcut “VR - Camera Reset” (Shift by default).
 - Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).
- Optional, if you want to use Foveated Rendering:
 - Adjust the foveated rendering configuration through MSFS UserCfg.opt file.

- *Located by default in "C:\Users\[username]\AppData\Roaming\Microsoft Flight Simulator 2024\".*
- *Changing the "FoveatedRenderingScale" parameter will change both the size of the foveated part and the quality of the background/peripherals.*
- *The middle of the image will have the quality/resolution as set in Somnium VR1 Tool, and its' size will be % of total FOV according to "FoveatedRenderingScale" parameter in MSFS config (50% by default).*
- *The rest of the image will have % of the main quality/resolution according to "FoveatedRenderingScale" parameter in MSFS config (50% by default).*
- *For example, for middle range gaming PC we recommend using 0.25 "FoveatedRenderingScale" along with 80% on the main "Resolution" slider in Somnium VR1 Tool.*
- Enable "Foveated Rendering" option in MSFS Settings-VR-VR Graphics menu.

Additionally, if your Somnium headset has eye tracking support you can enable dynamic foveated rendering:

- Follow the same steps as mentioned above.
 - Make sure that "Foveated Rendering" is enabled in MSFS Settings-VR-VR Graphics menu.
- Choose if you want to use "Simple" or "Advanced" eye tracking calibration.
 - In Somnium VR1 Tool on Settings - Headset - Eyes page.
- Calibrate eye tracking.
 - Either with the "Calibrate Eye Tracking" button in Quick Settings section or on Settings - Headset - Eyes page.
 - You can also use one of the physical buttons on top of the headset, if it is configured for this functionality on Settings – Headset – Buttons page.
- Enable eye tracking.
 - With the "Enable" button on Settings - Headset - Eyes page.
 - You can also use one of the physical buttons on top of the headset, if it is configured for this functionality on Settings – Headset – Buttons page.

- o Alternatively, you can enable the Autostart option (on Settings - Headset - Eyes page), which will automatically start eye tracking after successful calibration
- If the eye tracking is correctly calibrated and enabled, the foveated/sharp render area in MSFS will automatically move according to the eye tracking results.
 - o You can also visualize the eye tracking results by pressing the “Show Heatmap” button in Somnium VR1 Tool on Settings – Headset – Eyes page.



Additionally, if you want to enable spacewarp/reprojection functionality:

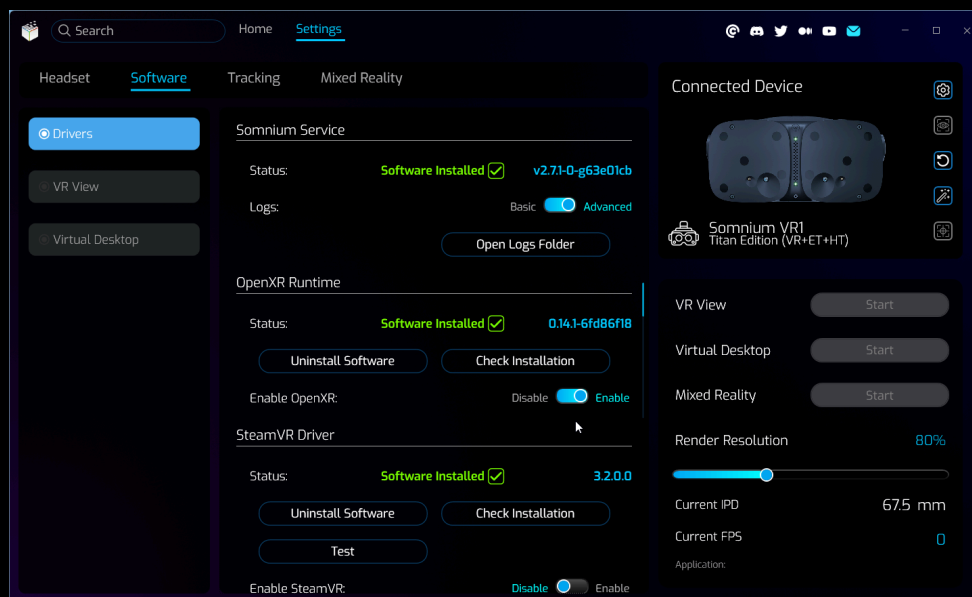
- Make sure that Spacewarp is enabled in Somnium VR1 Tool (on Settings - Headset - Rendering page).
- Switch "Reprojection" option to “Depth” in MSFS Settings-VR-VR Graphics menu.
- Be aware that the spacewarp functionality in Somnium OpenXR Runtime is currently experimental and may not work correctly on all PC/software setups.

MSFS 2020

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with MSFS 2020 OpenXR implementation.

Please follow these steps for basic setup:

- Close SteamVR if it is running.
 - *If SteamVR is running and renders image into the headset, MSFS OpenXR will not be able to initialize properly, and it will show an error message.*
 - *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.

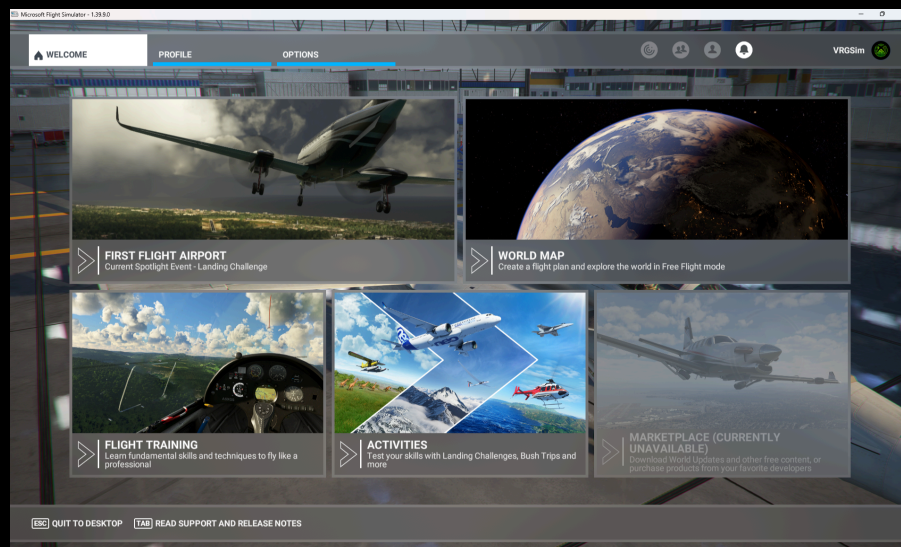


- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.

- o MSFS 2020 doesn't support foveated rendering, so only the main "Resolution" value in Somnium VR1 Tool will have any effect, and you can ignore the Foveated Rendering options in Somnium VR1 Tool.
- o For example, for middle range gaming PC we recommend using 60% on the main "Resolution" slider.



- Start MSFS 2020.



- Switch to VR.
 - o Either from MSFS Options - General Options –VR Mode menu, or through a predefined MSFS shortcut "VR - Activate/Deactivate VR Mode" (Ctrl+Tab by default).
- Reset your view position.
 - o Either with the predefined MSFS shortcut "VR - Camera Reset" (Space by default).

- o Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).

Additionally, if you want to enable spacewarp/reprojection functionality:

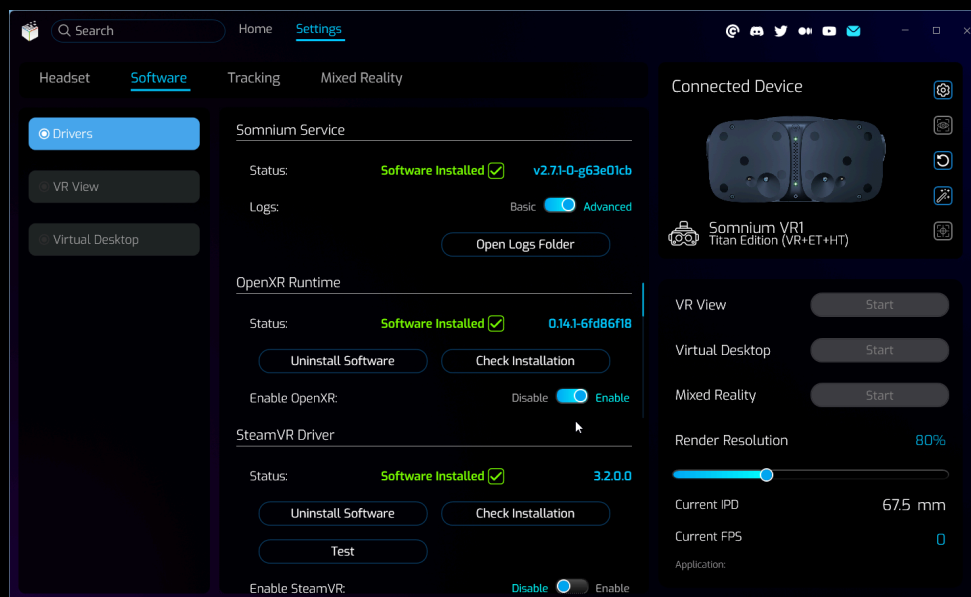
- Make sure that Spacewarp is enabled in Somnium VR1 Tool (on Settings - Headset - Rendering page).
- Switch "Reprojection Mode" option to "Depth" in MSFS Options - General Options –Graphics - VR menu.
- *Be aware that the spacewarp functionality in Somnium OpenXR Runtime is currently experimental and may not work correctly on all PC/software setups.*

Falcon BMS

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with Falcon BMS OpenXR implementation.

Please follow these steps for basic setup:

- Close SteamVR if it is running.
 - *If SteamVR is running and renders image into the headset, Falcon BMS OpenXR will not be able to initialize properly, and it will show an error message.*
 - *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.



- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.

- o Even when using foveated rendering option in Falcon BMS, only the main “Resolution” value in Somnium VR1 Tool will have any effect, due to the custom Falcon BMS foveated rendering implementation. So you can ignore the Foveated Rendering options in Somnium VR1 Tool.
- o For example, for middle range gaming PC we recommend using the default 80% on the main “Resolution” slider, along with the foveated rendering option in Falcon BMS.

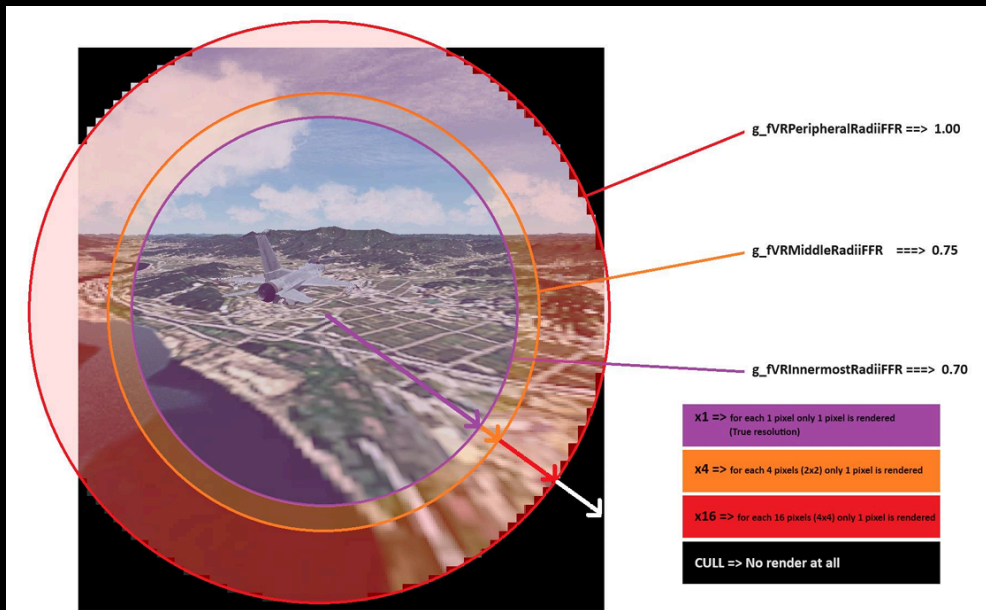


- Start Falcon BMS in OpenXR mode.
 - o Either select OpenXR in the Falcon BMS Alternative Launcher, or add this line “set g_nVRHMD 2” to “Falcon BMS User.cfg” file.



- Reset your view position.
 - Either with the predefined Falcon BMS shortcut (“VR Camera Rotation Reset”).
 - Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).
- Optional, if you want to use Foveated Rendering:
 - Adjust the foveated rendering configuration through “Falcon BMS User.cfg” file.
 - Located by default in “\Falcon BMS x.xx\User\Config\”.
 - Add this line “set g_bVREnableFFR 1” to enable foveated rendering
 - Add this line “set g_fVRInnermostRadiiFFR 0.3” to adjust the size of the inner part of the image (this part will use the full resolution as set in Somnium VR1 Tool).
 - Add this line “set g_fVRMiddleRadiiFFR 0.55” to adjust the size of the middle part of the image (this part will use 50% of the resolution as set in Somnium VR1 Tool).
 - Add this line “set g_fVRMiddleRadiiFFR 1.3” to adjust the size of the outer part of the image (this part will use 25% of the resolution as set in Somnium VR1 Tool, and everything outside this part will not be rendered at all).
 - For example, for middle range gaming PC we recommend using the values mentioned above (0.3, 0.55, 1.3) along with 80% on the main “Resolution” slider in Somnium VR1 Tool.

- *Be aware that this foveated rendering implementation will only work on Nvidia GPUs, and it does not support eye tracking so it will always be fixed in the middle of the view.*



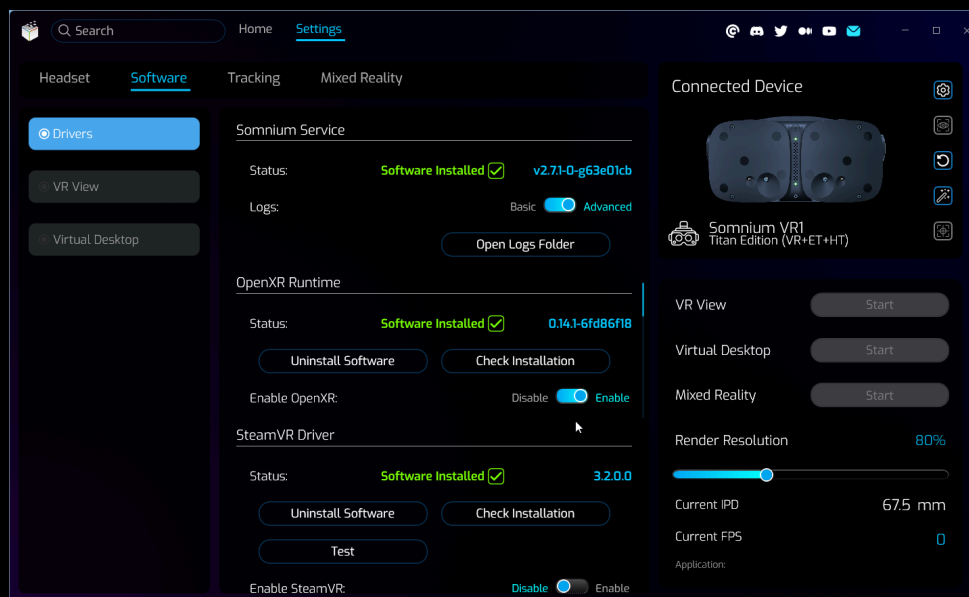
- o You can also enable/disable the foveated rendering in Falcon BMS through the console/chat window.
 - Press Shift+T to show the console.
 - Input “.ffr” and press Enter to switch the status of foveated rendering.
- *Be aware that the mixed reality cockpit cover implementation in Falcon BMS is currently not compatible with Somnium OpenXR Runtime, and instead we recommend using the “3D mesh” masking option in Somnium VR1 Tool (on Settings – Mixed Reality – Masking page).*

iRacing

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with iRacing OpenXR implementation.

Please follow these steps for basic setup:

- Close SteamVR if it is running.
 - *If SteamVR is running and renders image into the headset, iRacing OpenXR will not be able to initialize properly, and it will show an error message.*
 - *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.

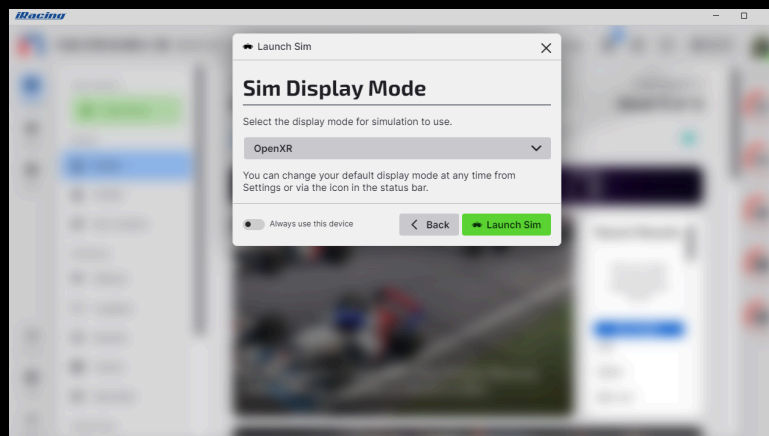


- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.

- o Even when using foveated rendering option in iRacing, only the main “Resolution” value in Somnium VR1 Tool will have any effect, due to the custom iRacing foveated rendering implementation. So you can ignore the Foveated Rendering options in Somnium VR1 Tool.
- o For example, for middle range gaming PC we recommend using the default 80% on the main “Resolution” slider, along with the foveated rendering option in iRacing.



- Start iRacing in OpenXR mode.



- Reset your view position.
 - o Either with the predefined iRacing “Recenter HMD” shortcut (“;” by default).
 - o Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).

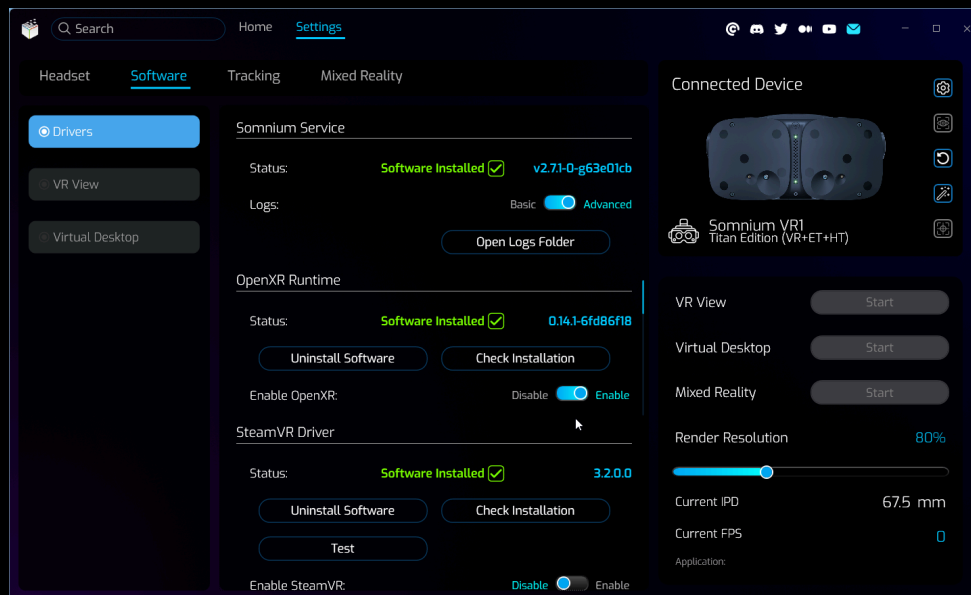
- Optional, if you want to use Foveated Rendering:
 - Adjust the foveated rendering configuration through iRacing rendererDX11OpenXR.ini file.
 - *Located by default in "C:\Users\[username]\Documents\iRacing\".*
 - *Changing the "FoveatedInsetWidthPct" parameter will change the size of the foveated part.*
 - *Changing the "FoveatedOuterPctRes" parameter will change the quality of the background/peripherals.*
 - *The middle of the image will have the quality/resolution as set in Somnium VR1 Tool, and its' size will be % of total FOV according to "FoveatedInsetWidthPct" parameter in iRacing config (40% by default).*
 - *The rest of the image will have % of the main quality/resolution according to "FoveatedOuterPctRes" parameter in iRacing config (35% by default).*
 - *For example, for middle range gaming PC we recommend using the default "FoveatedInsetWidthPct" (40%) and "FoveatedOuterPctRes" (35%) along with 80% on the main "Resolution" slider in Somnium VR1 Tool.*
 - Switch "VR Mode" option to "Foveated (MVP)" in iRacing Options - Graphic menu.

Le Mans Ultimate

For the best experience with Somnium VR1 we recommend using our Somnium OpenXR Runtime along with Le Mans Ultimate OpenXR implementation.

Please follow these steps for basic setup:

- Close SteamVR if it is running.
 - *If SteamVR is running and renders image into the headset, LMU OpenXR will not be able to initialize properly, and it will show an error message.*
 - *Alternatively, you can completely disable the Somnium SteamVR driver.*
 - *Either in Somnium VR1 Tool (on homepage or on Settings - Software - Drivers page).*
 - *Or in SteamVR itself (in Settings Menu - Startup/Shutdown - Manage Add-ons).*
 - *Then it will not matter if SteamVR is running or not, as it will never render image into the headset.*
- Make sure that the Somnium OpenXR Runtime is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.



- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.

- o *Le Mans Ultimate doesn't support foveated rendering, so only the main "Resolution" value in Somnium VR1 Tool will have any effect, and you can ignore the Foveated Rendering options in Somnium VR1 Tool.*
- o *For example, for middle range gaming PC we recommend using 60% on the main "Resolution" slider.*



- Start Le Mans Ultimate in OpenXR mode.
 - o Add "+VR" startup parameter.



- Reset your view position.
 - o Either with the predefined LMU shortcut ("VR Centre head position").

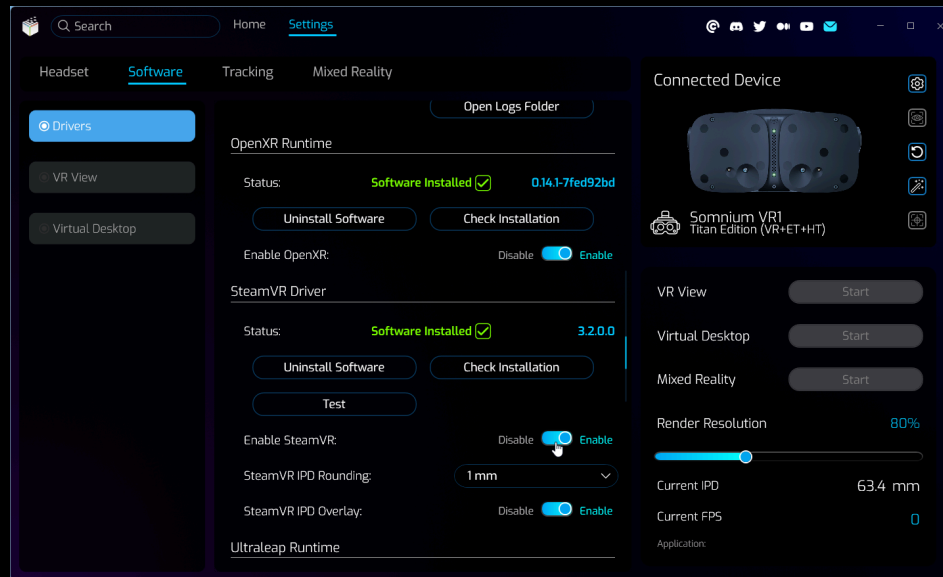
- o Or by pressing the Somnium VR1 Tool “Calibrate Position” button (in Quick Settings section).

VR Chat (and other SteamVR applications)

VR Chat, and other VR applications which don't have custom OpenXR implementation, will require using SteamVR along with the Somnium SteamVR Driver.

Please follow these steps for basic setup:

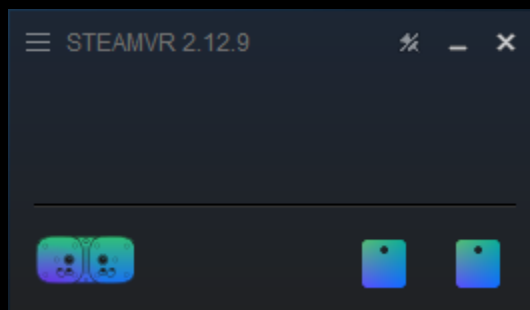
- Make sure that the SteamVR Driver is enabled in Somnium VR1 Tool.
 - Either on the homepage or on Settings - Software - Drivers page.



- Adjust the “Resolution” slider according to the specific PC setup and desired performance.
 - In Somnium VR1 Tool in Quick Settings section or on Settings - Headset - Rendering page.
 - *SteamVR doesn't support foveated rendering, so only the main “Resolution” value in Somnium VR1 Tool will have any effect, and you can ignore the Foveated Rendering options in Somnium VR1 Tool.*
 - *For example, for middle range gaming PC we recommend using 80% on the main “Resolution” slider, but be aware that the final performance will mainly depend on the specific end VR application.*



- Start SteamVR.
 - At this point SteamVR should show the icon of the Somnium VR1 headset along the icons of your base stations.



- Calibrate your SteamVR tracking space.
 - Either through SteamVR “Room Setup” or with the “Quick Calibrate” option in Settings – Developer menu.
- Adjust the “Render Resolution” option in SteamVR Settings – General menu.
 - We recommend switching it to “Custom” and setting the “Resolution per Eye” slider to 100%. With these options the final resolution for the end VR application will exactly correspond to the main “Resolution” slider in Somnium VR1 Tool.
- Start the end VR application (for example VR Chat).