# Requested Testing Beta vs Release
# VR Enhancement Relative Performance

## Testing INFO and Results

### The Rig Used for testing

The following example settings/charts are made on a highly overclocked Rig with these specs:

- Windows 10 1803, highly optimized and contained with Process Lasso
- Intel CPU: i7-8700K – Overclocked to 4.8 GHz
- CoolerMaster 360 CPU water cooler
- EVGA 1080ti FW3 (Driver V. 430.86 5/27/19)
- EVGA 1070 card *(activated in Nvidia CP as Use All Cuda's)*
- Supplemental 55f air over vid card
- (5) 122mm case fans, 2 in, 3 out.
- Gigabyte Aorus Gaming 5 v1
- 32 gig 3000 RAM XMP
- 3x RAM in Swap Space on OS M.2
- M.2 drive for OS and separate M.2 for DCS
- SSD for utility and storage

### VR Headset used for Testing

- HP Reverb

### fpsVR Tool used for capture of experience statistics

#### At Rest, Menu Page in DCS
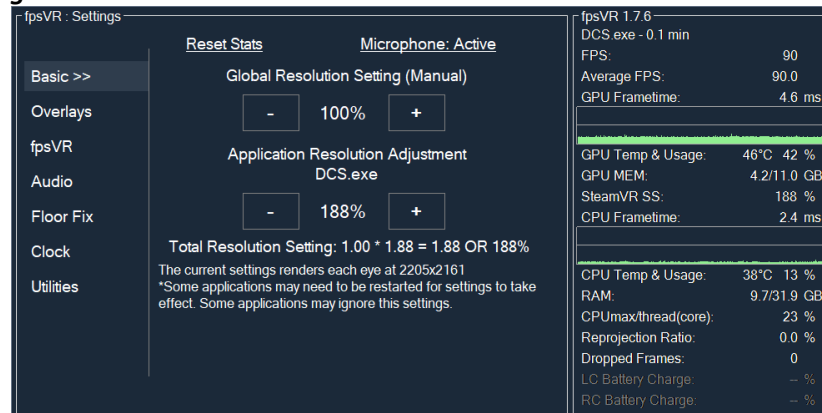
## RESULTS

**RELEASE VERSION**

**BETA Version**



fpsVR 1.7.6

**fpsVR : Settings**

Reset Stats          Microphone: Active

Basic >>

Overlays

fpsVR

Audio

Floor Fix

Clock

Utilities

Global Resolution Setting (Manual)

-    100%    +

Application Resolution Adjustment
DCS.exe

-    200%    +

Total Resolution Setting: 1.00 * 2.00 = 2.00 OR 200%

The current settings renders each eye at 2274x2229
*Some applications may need to be restarted for settings to take
effect. Some applications may ignore this settings.

Session history: C:\Users\Bryan\Documents\fpsVR\

fpsVR 1.7.6
DCS.exe - 3.2 min
FPS:                                    90
Average FPS:                      66.4
GPU Frametime:              10.5 ms

GPU Temp & Usage:       64°C  80 %
GPU MEM:                  7.3/11.0 GB
SteamVR SS:                    200 %
CPU Frametime:                9.3 ms

CPU Temp & Usage:       50°C  48 %
RAM:                       13.4/31.9 GB
CPUmax/thread(core):        62 %
Reprojection Ratio:          37.0 %
Dropped Frames:                    0
LC Battery Charge:             -- %
RC Battery Charge:             -- %

Help

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fpsVR 1.7.6

**fpsVR : Settings**

Reset Stats          Microphone: Active

Basic >>

Overlays

fpsVR

Audio

Floor Fix

Clock

Utilities

Global Resolution Setting (Manual)

-    100%    +

Application Resolution Adjustment
DCS.exe

-    200%    +

Total Resolution Setting: 1.00 * 2.00 = 2.00 OR 200%

The current settings renders each eye at 2274x2229
*Some applications may need to be restarted for settings to take
effect. Some applications may ignore this settings.

Session history: C:\Users\Bryan\Documents\fpsVR\

fpsVR 1.7.6
DCS.exe - 5.0 min
FPS:                                    90
Average FPS:                      68.7
GPU Frametime:                9.5 ms

GPU Temp & Usage:       66°C  83 %
GPU MEM:                  7.3/11.0 GB
SteamVR SS:                    200 %
CPU Frametime:                7.3 ms

CPU Temp & Usage:       52°C  59 %
RAM:                       13.3/31.9 GB
CPUmax/thread(core):        76 %
Reprojection Ratio:          35.0 %
Dropped Frames:                    0
LC Battery Charge:             -- %
RC Battery Charge:             -- %

Help

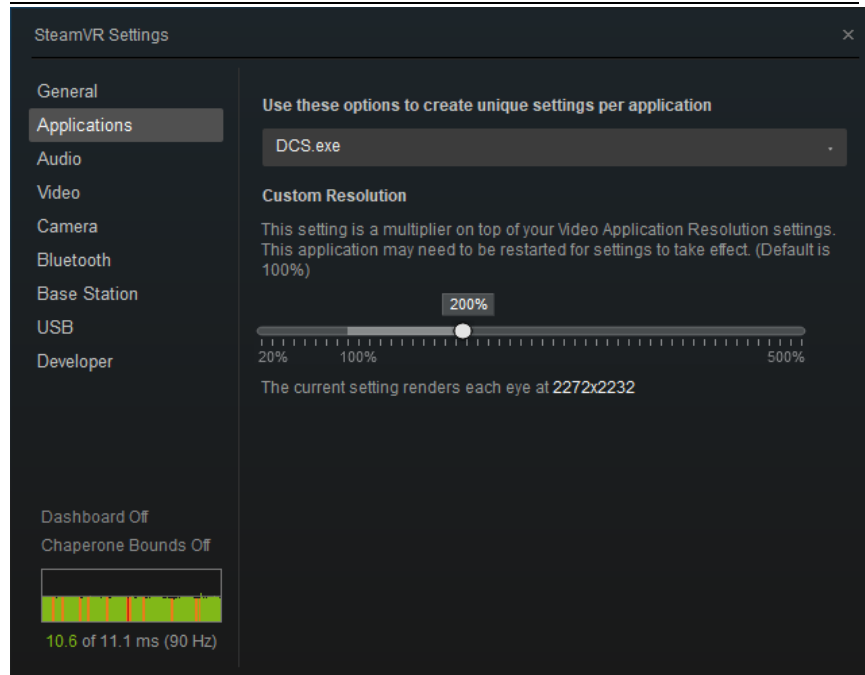**Game Settings used for Open Beta & Release**

- o Visibility Range - Ultra
- o MSAA – NONE
- o SSAA – NONE
- o Preload Radius – < 100,000
- o Anisotropic Filtering – 16x
  - ▪ **Picture incorrectly shows 8x – correct is 16x.**
- o VR Pixel Density – ONE
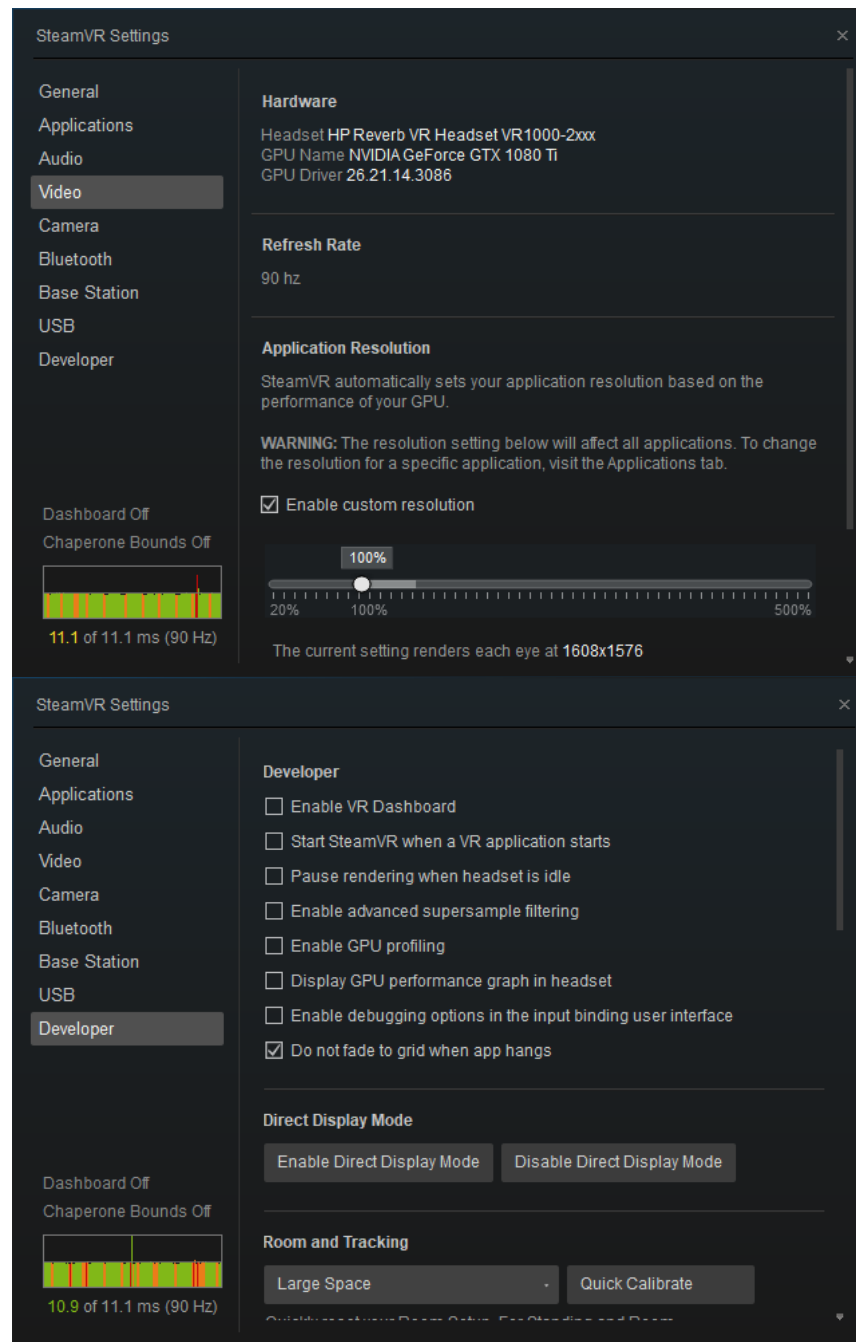
*DCS Options Settings for Both Tests*
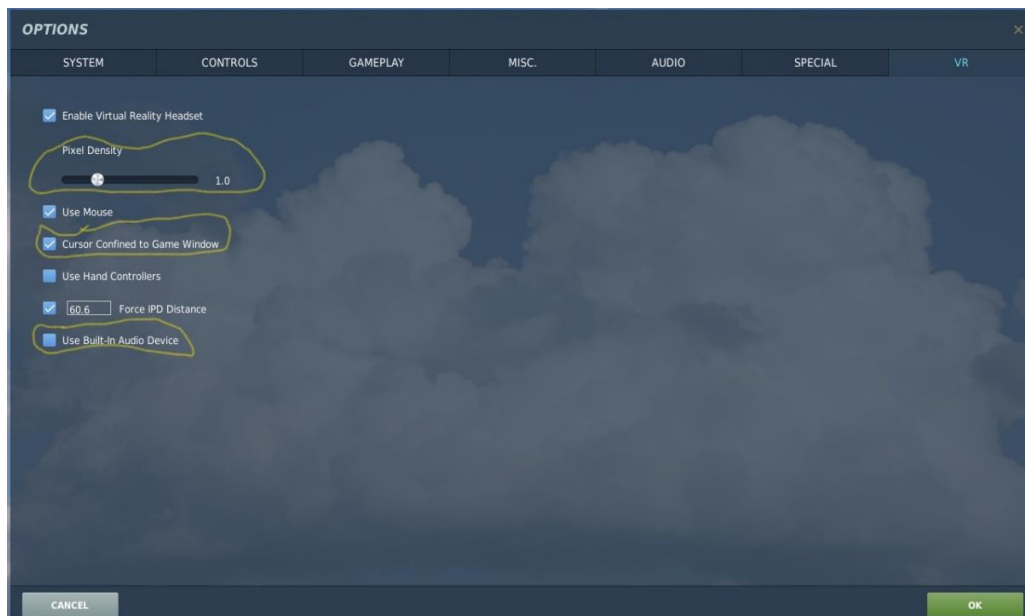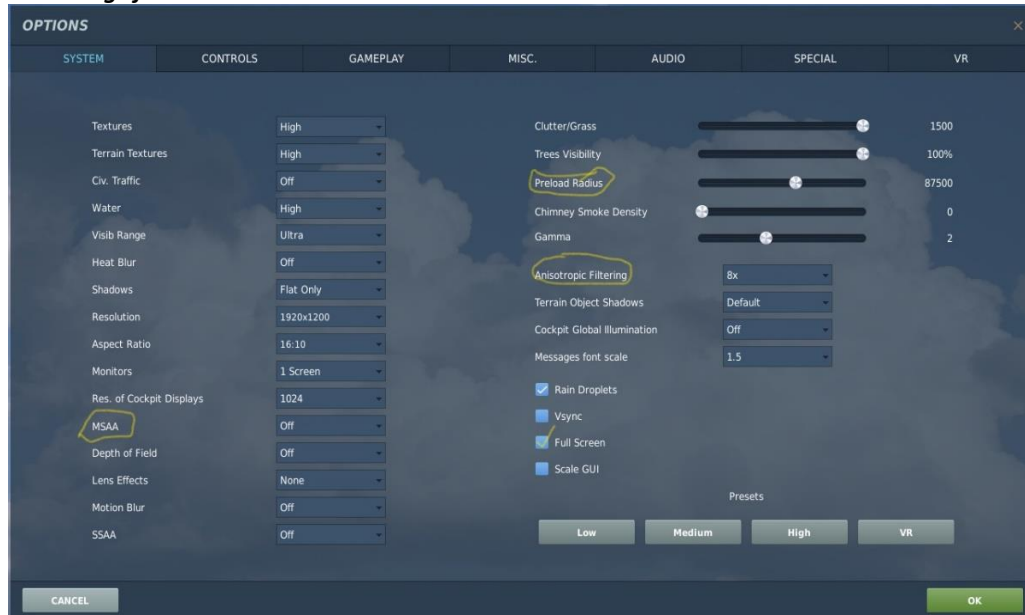
**SteamVR** (In the SteamVR Settings Menus)

- o Settings Menu/Video – App Rez/Custom 100%
- o Settings Menu/Applications - DCS.exe Custom Rez @ 188%.
- o Developer - Enhanced Super Sampling – OFF



o

**SteamVR Settings** ✕

General
Applications
Audio
**Video**
Camera
Bluetooth
Base Station
USB
Developer

**Hardware**

Headset HP Reverb VR Headset VR1000-2xxx
GPU Name NVIDIA GeForce GTX 1080 Ti
GPU Driver 26.21.14.3086

**Refresh Rate**

90 hz

**Application Resolution**

SteamVR automatically sets your application resolution based on the performance of your GPU.

WARNING: The resolution setting below will affect all applications. To change the resolution for a specific application, visit the Applications tab.

☑ Enable custom resolution

100%

20%    100%                                              500%

The current setting renders each eye at 1608x1576

Dashboard Off
Chaperone Bounds Off

11.1 of 11.1 ms (90 Hz)

**SteamVR Settings** ✕

General
Applications
Audio
Video
Camera
Bluetooth
Base Station
USB
**Developer**

**Developer**

☐ Enable VR Dashboard
☐ Start SteamVR when a VR application starts
☐ Pause rendering when headset is idle
☐ Enable advanced supersample filtering
☐ Enable GPU profiling
☐ Display GPU performance graph in headset
☐ Enable debugging options in the input binding user interface
☑ Do not fade to grid when app hangs

**Direct Display Mode**

[ Enable Direct Display Mode ]  [ Disable Direct Display Mode ]

**Room and Tracking**

[ Large Space                    · ]  [ Quick Calibrate ]

Quickly reset your Room Setup. For Standing and Room

Dashboard Off
Chaperone Bounds Off

10.9 of 11.1 ms (90 Hz)

- **Windows MR Settings** (In the Windows MR Portal Settings Menus)
  - Visuals – Very High (beta)
  - Calibration – Your IPD
  - Experience Options – 90Hz
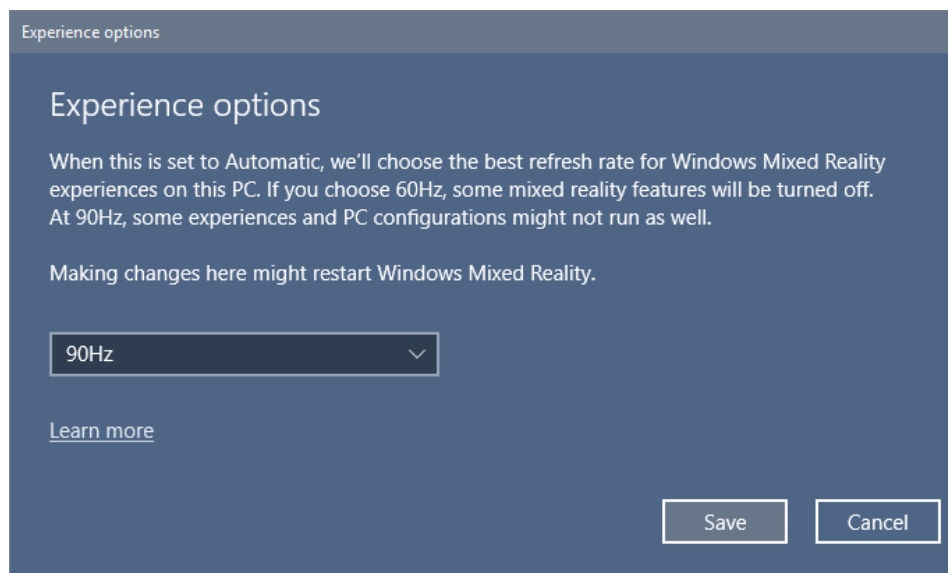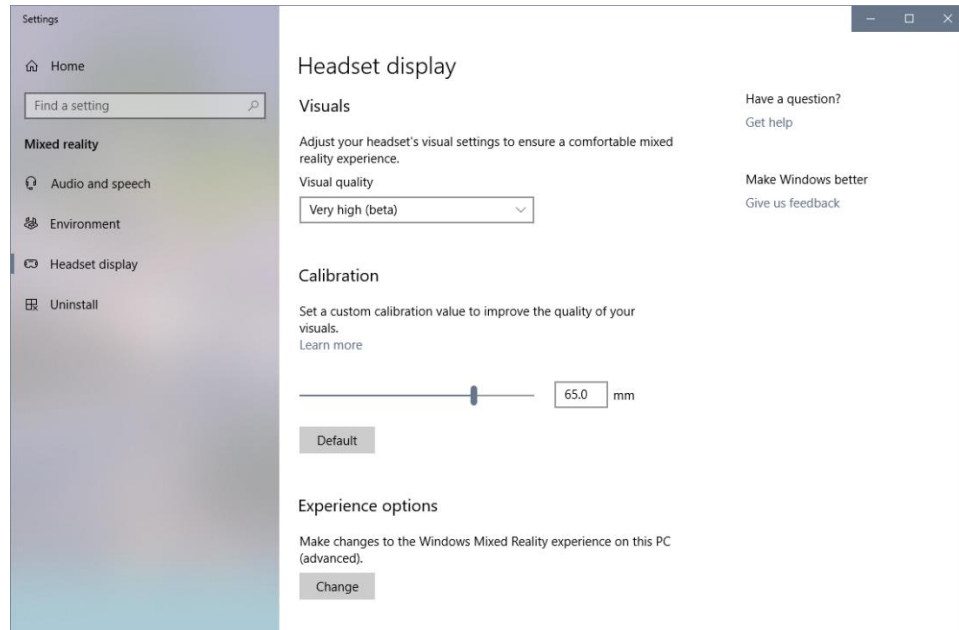




- **Nvidia Control Panel**
  - Set Virtual Reality pre-rendered frames: 3
  - Set Power Management Mode: Prefer Maximum Performance
  - Set Shader Cache: ON