

## VZX Pro Player VRAM Usage Optimizations

This report is for Pro Player version 0.9.6.0. Regular VZX Player will report similar gains but with slightly more overhead as it has UI elements loaded as well.

The optimization is based on re-using frame buffers (temporary images) across multiple visuals.

All measurements are in Megabyte if nothing else specified. (1024\*1024 bytes).

This is prerelease data, it could change again before release.

Since the measuring method used relies on VRAM usage reported for the whole OS, error can be as high as 10%.

Visual Pack	V0.9.5 VRAM Allocated		V0.9.6 VRAM Allocated	
	1080p	2160p	1080p	2160p
<i>Classics</i>	575.8	1925	321	980
<i>Particle Bliss</i>	737	2271	250	589
<i>Spectrums &amp; Oscilloscopes</i>	820	3142	193	593
<i>Networks</i>	1023	3916	741	2653
<i>Voyages</i>	2356	6426	1200	2044
<i>The Next Generation</i>	3000	8700	1770	2800
<b>All Visuals Loaded</b>	<b>8511.8</b>	<b>26380</b>	<b>3575</b>	<b>7318</b>

Note! The total/sum for the optimized columns is lower because the screen presentation buffers are shared across all packs. The individual pack values includes the size of these buffers for every pack. When all visuals are loaded there is only one set of common buffers.

When all visuals loaded:	1080p	2160p
VRAM reduction (MB)	4936.8	19062
VRAM percentage reduced	57%	71%

What does this mean in practice? It means that the drivers have to swap memory from RAM to VRAM less often (ideally not at all) which, when it happens, can cause quite big lag spikes when the VRAM has filled up.

Also, since there are now these shared buffers, all visuals that benefit from having it has gotten gamma correction added to them making them "pop" more.

In the test system we ran, the GPU had an initial VRAM usage of around 4-5GB due to web browser, Steam and LibreOffice running.

VZX Pro Player VRAM Usage Optimizations

