

# OpenGL Matrix - November 2013

G-Truc Creation

Vendor	NVIDIA					AMD					Intel			Mesa		Apple
Drivers version	331.10 beta					13.11 beta 9.2					3325			git-10.0		10.9
Release date	02/10/2013					08/11/2013					30/08/2013			06/11/2013		22/10/2013
Platforms	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
OpenGL 4.4	63%	63%	63%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
OpenGL 4.3	81%	81%	81%	100%	100%	0%	0%	0%	100%	100%	100%	100%	19%	29%	38%	0%
OpenGL 4.2	67%	67%	67%	100%	100%	75%	75%	75%	100%	100%	100%	100%	92%	100%	58%	8%
OpenGL 4.1	67%	67%	67%	100%	100%	83%	83%	83%	100%	100%	100%	100%	100%	100%	33%	83%
OpenGL 4.0	0%	8%	46%	100%	100%	31%	54%	62%	100%	100%	100%	100%	100%	100%	54%	100%
OpenGL 3.3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 3.0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 2.1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
OpenGL 2.0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Nomenclature:

Supported
Not supported
Support added from previous report



<u>ARB indirect parameters</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB compute variable group size</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB compatibility</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X
<u>ARB cl event</u>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<u>ARB bindless texture</u>	X	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT texture sRGB decode</u>	V	V	V	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>EXT texture mirror clamp</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	V
<u>EXT framebuffer multisample blit scaled</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	V
<u>EXT direct state access</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>EXT depth bounds test</u>	V	V	V	V	V	X	X	X	X	X	V	V	X	X	X	V
<u>NV vertex buffer unified memory</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV texture multisample</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV texture barrier</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	V
<u>NV shader buffer store</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV shader buffer load</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV shader atomic float</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV multisample coverage</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV explicit multisample</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>NV copy image</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>NV bindless texture</u>	X	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV bindless multi draw indirect</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV blend equation advanced</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>INTEL map texture</u>	X	X	X	X	X	X	X	X	X	X	X	X	X	V	X	X
<u>INTEL fragment shader ordering</u>	X	X	X	X	X	X	X	X	X	X	X	X	V	V	X	X
<u>ATI texture mirror once</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X	V
<u>AMD vertex shader viewport index</u>	X	X	X	X	X	X	X	X	V	V	V	V	X	X	X	X
<u>AMD vertex shader layer</u>	X	X	X	X	X	X	X	X	V	V	V	V	X	X	X	X
<u>AMD transform feedback3 lines triangles</u>	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X
<u>AMD stencil operation extended</u>	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X
<u>AMD sparse texture</u>	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X
<u>AMD shader trinary minmax</u>	X	X	X	X	X	X	X	X	X	X	V	V	X	X	X	X
<u>AMD seamless cubemap per texture</u>	X	X	X	X	V	X	X	V	V	V	V	V	X	X	X	X
<u>AMD sample positions</u>	X	X	X	X	X	V	V	V	V	V	V	V	X	X	X	X

<u>AMD query buffer object</u>	X	X	X	X	X	X	X	X	V	V	V	V	X	X	X	X
<u>AMD pinned memory</u>	X	X	X	X	X	V	V	V	V	V	V	V	X	X	X	X
<u>AMD_occlusion_query_event</u>	X	X	X	X	X	X	X	X	X	X	X	V	X	X	X	X
<u>AMD blend minmax factor</u>	X	X	X	X	X	X	X	X	X	V	V	V	X	X	X	X
Support	40%	40%	40%	58%	67%	21%	21%	23%	33%	38%	46%	48%	8%	10%	2%	15%

OpenGL 4.4	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
<u>ARB buffer storage</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB clear texture</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB enhanced layouts</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB multi bind</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB query buffer object</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB texture mirror clamp to edge</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB texture stencil8</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>ARB vertex type 10f 11f 11f rev</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
Support	63%	63%	63%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

OpenGL 4.3	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
<u>GL ARB vertex attrib binding</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB texture view</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB texture storage multisample</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB texture query levels</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB texture buffer range</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB stencil texturing</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB shader storage buffer object</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	V	X	X
<u>GL ARB shader image size</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB program interface query</u>	V	V	V	V	V	X	X	X	V	V	V	V	V	V	X	X
<u>GL ARB multi draw indirect</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	X
<u>GL ARB invalidate subdata</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL ARB internalformat query2</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB framebuffer no attachments</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB fragment layer viewport</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB explicit uniform location</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X

<u>GL ARB ES3 compatibility</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	V	X
<u>GL_KHR_debug</u>	V	V	V	V	V	X	X	X	V	V	V	V	V	V	V	X
<u>GL ARB copy_image</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB compute_shader</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	V	X	X
<u>GL ARB clear_buffer_object</u>	V	V	V	V	V	X	X	X	V	V	V	V	X	X	X	X
<u>GL ARB arrays_of_arrays</u>	V	V	V	V	V	X	X	X	V	V	V	V	V	V	X	X
Support	81%	81%	81%	100%	100%	0%	0%	0%	100%	100%	100%	100%	19%	29%	38%	0%

OpenGL 4.2	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
<u>GL ARB transform_feedback_instanced</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB texture_compression_bptc</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	X
<u>GL ARB texture_storage</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB shading_language_packing</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB shading_language_420pack</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X
<u>GL ARB shader_image_load_store</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	V	X	X
<u>GL ARB shader_atomic_counters</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	X
<u>GL ARB map_buffer_alignment</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB internalformat_query</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB conservative_depth</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB compressed_texture_pixel_storage</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	X
<u>GL ARB base_instance</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
Support	67%	67%	67%	100%	100%	75%	75%	75%	100%	100%	100%	100%	92%	100%	58%	8%

OpenGL 4.1	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
<u>GL ARB viewport_array</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>GL ARB vertex_attrib_64bit</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB shader_precision</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>GL ARB separate_shader_objects</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>GL ARB get_program_binary</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB ES2 compatibility</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Support	67%	67%	67%	100%	100%	83%	83%	83%	100%	100%	100%	100%	100%	100%	33%	83%

OpenGL 4.0	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
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