

OpenGL hardware matrix

Extensions exposed by OpenGL implementations

February 2013, G-Truc Creation

[illegible]

Supported
Not supported

[illegible]

<u>NV copy image</u>	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>ARB compatibility</u>	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
<u>AMD blend minmax factor</u>	X	X	X	X	X	X	X	X	X	V	V	X	X	X
<u>NV bindless texture</u>	X	X	X	X	V	X	X	X	X	X	X	X	X	X
Support	39%	39%	39%	48%	58%	24%	24%	27%	42%	48%	61%	6%	3%	12%

OpenGL 4.3	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB vertex attrib binding</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB texture view</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB texture storage multisample</u>	V	V	V	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB texture query levels</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB texture buffer range</u>	V	V	V	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB stencil texturing</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB shader storage buffer object</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB shader image size</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB robustness isolation</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB robust buffer access behavior</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB program interface query</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB multi draw indirect</u>	X	X	X	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB invalidate subdata</u>	V	V	V	V	V	X	X	X	X	X	X	X	V	X
<u>GL ARB internalformat query2</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB framebuffer no attachments</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB fragment layer viewport</u>	V	V	V	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB explicit uniform location</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB ES3 compatibility</u>	V	V	V	V	V	X	X	X	X	X	X	X	V	X
<u>GL KHR debug</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB copy image</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB compute shader</u>	X	X	X	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB clear buffer object</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
<u>GL ARB arrays of arrays</u>	V	V	V	V	V	X	X	X	X	X	X	X	X	X
Support	83%	83%	83%	100%	100%	0%	0%	0%	17%	17%	17%	0%	9%	0%

OpenGL 4.2	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB transform feedback instanced</u>	X	X	X	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	X	X	X
<u>GL ARB texture storage</u>	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	X	V	X
<u>GL ARB shading language 420pack</u>	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>GL ARB shader image load store</u>	X	X	X	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB shader atomic counters</u>	X	X	X	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB map buffer alignment</u>	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	X
<u>GL ARB conservative depth</u>	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	X	X	X
<u>GL ARB base instance</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	X
Support	58%	58%	58%	100%	100%	67%	67%	67%	100%	100%	100%	50%	58%	0%

OpenGL 4.1	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB viewport array</u>	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>GL ARB vertex attrib 64bit</u>	X	X	X	V	V	X	X	X	V	V	V	X	X	X
<u>GL ARB shader precision</u>	X	X	X	V	V	V	V	V	V	V	V	X	X	X
<u>GL ARB separate shader objects</u>	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>GL ARB get program binary</u>	V	V	V	V	V	V	V	V	V	V	V	X	X	X
<u>GL ARB ES2 compatibility</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
Support	67%	67%	67%	100%	100%	83%	83%	83%	100%	100%	100%	17%	17%	0%

OpenGL 4.0	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB transform feedback3</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB transform feedback2</u>	X	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB texture query lod</u>	X	X	V	V	V	X	X	V	V	V	V	V	X	X
<u>GL ARB texture gather</u>	X	X	V	V	V	X	V	V	V	V	V	V	X	X
<u>GL ARB texture cube map array</u>	X	X	V	V	V	X	V	V	V	V	V	V	V	X
<u>GL ARB texture buffer object rgb32</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB tessellation shader</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	X
<u>GL ARB shader subroutine</u>	X	X	X	V	V	X	X	X	V	V	V	V	X	X

<u>GL ARB sample shading</u>	X	X	V	V	V	X	V	V	V	V	V	V	V	X	X
<u>GL ARB gpu_shader5</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	X	X
<u>GL ARB gpu_shader_fp64</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	X	X
<u>GL ARB draw_indirect</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	X	X
<u>GL ARB draw_buffers_blend</u>	X	X	V	V	V	V	V	V	V	V	V	V	V	V	X
Support	0%	8%	46%	100%	100%	31%	54%	62%	100%	100%	100%	100%	100%	38%	0%

OpenGL 3.3	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB vertex_type_2_10_10_10_rev</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB timer_query</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB texture_swizzle</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB texture_rgb10_a2ui</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB shader_bit_encoding</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB sampler_objects</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB occlusion_query2</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB instanced_arrays</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB explicit_attrib_location</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>GL ARB blend_func_extended</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	40%

OpenGL 3.2	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
<u>GL ARB vertex_array_bgra</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB texture_multisample</u>	V	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>GL ARB sync</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB seamless_cube_map</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB provoking_vertex</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB geometry_shader4</u>	V	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>GL ARB fragment_coord_conventions</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB depth_clamp</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB draw_elements_base_vertex</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	78%	100%

OpenGL 3.1	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	Evergreen	Cayman	S.I.	HD 4000	Intel Mesa	MacOS X
------------	-----	-------	-------	-------	--------	------	-------	-------	-----------	--------	------	---------	------------	---------

[illegible][illegible][illegible]

[illegible][illegible]