

# OpenGL hardware matrix

Extensions exposed by OpenGL implementations

**November 2013, G-Truc Creation**

[illegible]

Supported
Not supported
Support added from previous report

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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	X	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
<u>GL ARB transform feedback3</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB transform feedback2</u>	X	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB texture query lod</u>	X	X	V	V	V	X	X	V	V	V	V	V	V	V	V	V
<u>GL ARB texture gather</u>	X	X	V	V	V	X	V	V	V	V	V	V	V	V	V	V
<u>GL ARB texture cube map array</u>	X	X	V	V	V	X	V	V	V	V	V	V	V	V	V	V
<u>GL ARB texture buffer object rgb32</u>	X	X	X	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>GL ARB tessellation shader</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB shader subroutine</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB sample shading</u>	X	X	V	V	V	X	V	V	V	V	V	V	V	V	X	V
<u>GL ARB gpu shader5</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB gpu shader fp64</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB draw indirect</u>	X	X	X	V	V	X	X	X	V	V	V	V	V	V	X	V
<u>GL ARB draw buffers blend</u>	X	X	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Support	0%	8%	46%	100%	100%	31%	54%	62%	100%	100%	100%	100%	100%	100%	54%	100%

OpenGL 3.3	G80	Tesla	GT21X	Fermi	Kepler	R600	RV670	RV700	EG	Cayman	S.I.	C.I.	IVB	HSW	Mesa	MacOS X
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