

OpenGL hardware matrix

Extensions exposed by OpenGL implementations

July 2016, G-Truc Creation

GF / Fermi: GeForce 400 series, GeForce 500 series

GK / Kepler: GeForce 600 series, GeForce 700 series

GK110 / Kepler 110: GeForce 780

GM200 / Maxwell: GeForce 900 series

EG / Evergreen: Radeon HD 5000 series, Radeon HD 6000 series

N.I. / Northern Islands: Radeon HD 6900 series

S.I. / Southern Islands: Radeon HD 7000 series, Radeon R7 250X, Radeon R7 265, Radeon R9 280

C.I. / Sea Islands: Radeon HD 7790, Radeon R7 240, Radeon R7 250, Radeon R7 260, Radeon R9 270

V.I. / Volcanic Islands: Radeon R9 285 / 290 / Fury

SNB / Sandy Bridge: HD, HD 2000

IVB / Ivy Bridge: HD4000, HD2500

HSW / Haswell: Iris 5X00 series, HD 4X00 series

BSW / Broadwell: Iris 6X00 series, HD 5X00 series

<u>ARB_pipeline_statistics_query</u>	V	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB_parallel_shader_compile</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X
<u>ARB_gpu_shader_int64</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X
<u>ARB_fragment_shader_interlock</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X	X
<u>ARB_ES3_2_compatibility</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X
<u>ARB_debug_output</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>ARB_indirect_parameters</u>	V	V	V	V	X	X	V	V	V	X	V	V	V	V	V	X
<u>ARB_compute_variable_group_size</u>	V	V	V	V	X	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	X	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	V	V	V	X	X	V	V	V	X	X	X	X	X	X	X
<u>ARB_gl_spirv</u>	X	V	V	V	X	X	X	X	X	X	X	X	X	X	X	X
Support	54%	66%	69%	86%	17%	17%	40%	40%	40%	11%	20%	20%	29%	20%	3%	

OpenGL Extensions	GF	GK	GM100	GM200	EG	N.I.	S.I.	C.I.	V.I.	IVB	HSW	BDW	SLK	Mesa	MacOS X
<u>EXT_window_rectangles</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_texture_compression_dxt1</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	V	V
<u>EXT_texture_compression_s3tc</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	X	V
<u>EXT_texture_sRGB_decode</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
<u>EXT_texture_mirror_clamp</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	X	V
<u>EXT_texture_filter_minmax</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_shader_integer_mix</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>EXT_shader_image_load_formatted</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_shader_framebuffer_fetch</u>	X	X	X	X	X	X	X	X	X	X	X	X	V	X	X
<u>EXT_sparse_texture2</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_raster_multisample</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_post_depth_coverage</u>	X	X	X	V	X	X	X	X	X	X	X	X	X	X	X
<u>EXT_polygon_offset_clamp</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	X	X
<u>EXT_framebuffer_multisample_blit_scaled</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	V	V
<u>EXT_direct_state_access</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	X	X
<u>EXT_depth_bounds_test</u>	V	V	V	V	X	X	V	V	V	X	X	X	X	X	V
<u>EXT_clip_control</u>	X	X	X	X	X	X	X	X	X	X	V	V	V	X	X

<u>NV bindless multi draw indirect</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>NV blend equation advanced</u>	V	V	V	V	X	X	X	X	X	X	X	X	X	X	X
<u>INTEL multi rate fragment shader</u>	X	X	X	X	X	X	X	X	X	X	X	X	V	X	X
<u>INTEL map texture</u>	X	X	X	X	X	X	X	X	V	V	V	V	X	X	X
<u>INTEL fragment shader ordering</u>	X	X	X	X	X	X	V	V	V	X	V	V	V	X	X
<u>INTEL conservative rasterization</u>	X	X	X	X	X	X	X	X	X	X	X	X	V	X	X
<u>ANGLE texture compression dxt5</u>	X	X	X	X	X	X	X	X	X	X	X	X	X	V	X
<u>ANGLE texture compression dxt3</u>	X	X	X	X	X	X	X	X	X	X	X	X	X	V	X
<u>AMD vertex shader viewport index</u>	X	X	X	X	V	V	V	V	V	X	V	V	V	X	X
<u>AMD vertex shader layer</u>	X	X	X	X	V	V	V	V	V	X	V	V	V	V	X
<u>AMD transform feedback4</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD transform feedback3 lines triangles</u>	X	X	X	X	X	V	V	V	V	X	X	X	X	X	X
<u>AMD stencil operation extended</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD_sparse_texture_pool</u>	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
<u>AMD sparse texture</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD shader trinary minmax</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	V	X
<u>AMD shader stencil value export</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD shader stencil export</u>	X	X	X	X	V	V	V	V	V	X	X	X	X	X	X
<u>AMD seamless cubemap per texture</u>	X	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>AMD sample positions</u>	X	X	X	X	V	V	V	V	V	X	X	X	X	X	X
<u>AMD query buffer object</u>	X	X	X	X	V	V	V	V	V	X	X	X	X	X	X
<u>AMD pinned memory</u>	X	X	X	X	V	V	V	V	V	X	X	X	X	X	X
<u>AMD performance monitor</u>	X	X	X	X	V	V	V	V	V	X	X	X	X	V	X
<u>AMD occlusion query event</u>	X	X	X	X	X	X	X	V	V	X	X	X	X	X	X
<u>AMD interleaved elements</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD_gpu_shader_half_float</u>	X	X	X	X	X	X	X	X	V	X	X	X	X	X	X
<u>AMD_gpu_shader_half_float2</u>	X	X	X	X	X	X	X	X	V	X	X	X	X	X	X
<u>AMD_gpu_shader_int64</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD_gcn_shader</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD_framebuffer_sample_positions</u>	X	X	X	X	X	X	V	V	V	X	X	X	X	X	X
<u>AMD depth clamp separate</u>	X	X	X	X	V	V	V	V	V	X	X	X	V	X	X
<u>AMD blend minmax factor</u>	X	X	X	X	X	V	V	V	V	X	X	X	X	X	X

<u>ATI texture mirror once</u>	V	V	V	V	V	V	V	V	V	V	X	X	X	X	X	V
Support	40%	48%	50%	73%	22%	24%	40%	42%	44%	7%	15%	15%	21%	14%	8%	

OpenGL 4.5	GF	GK	GM100	GM200	EG	N.I.	S.I.	C.I.	V.I.	IVB	HSW	BDW	SLK	Mesa	MacOS X
<u>KHR context flush control</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>KHR robust buffer access behavior</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>KHR robustness</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB ES3 1 compatibility</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB clip control</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB conditional render inverted</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB cull distance</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB derivative control</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB direct state access</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB get texture sub image</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB shader texture image samples</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
<u>ARB texture barrier</u>	V	V	V	V	V	V	V	V	V	X	X	X	X	V	X
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%	0%	0%	0%	100%	0%

OpenGL 4.4	GF	GK	GM100	GM200	EG	N.I.	S.I.	C.I.	V.I.	IVB	HSW	BDW	SLK	Mesa	MacOS X
<u>ARB buffer storage</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>ARB clear texture</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB enhanced layouts</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB multi bind</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB query buffer object</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB texture mirror clamp to edge</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB texture stencil8</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
<u>ARB vertex type 10f 11f 11f rev</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X
Support	100%	100%	100%	100%	100%	100%	100%	100%	100%	13%	100%	100%	100%	100%	0%

OpenGL 4.3	GF	GK	GM100	GM200	EG	N.I.	S.I.	C.I.	V.I.	IVB	HSW	BDW	SLK	Mesa	MacOS X
<u>ARB vertex attrib binding</u>	V	V	V	V	V	V	V	V	V	V	V	V	V	V	X
<u>ARB texture view</u>	V	V	V	V	V	V	V	V	V	X	V	V	V	V	X

