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Onyx2 Technical Specifications






	Onyx2 Reality Deskside	Onyx2 InfiniteReality2 Deskside	Onyx2 InfiniteReality2 Rack Single-Pipe	Onyx2 InfiniteReality2 Rack 16-Pipe with Multipipe Rendering†
Graphics				
Polygons/sec	5.5M	13.1M	13.1M	210M
Pixel fill, smooth, Z	224M to 448M	224M to 448M	224M to 896M	7.2B
Pixel fill, textured, AA, Z	94M to 188M	192M to 384M	192M to 768M	6.1B
Anti-aliased vectors/sec	3.6M	8.6M	8.6M	138M
Trilinear interpolations/sec	100M to 200M	200M to 400M	200M to 800M	6.4B
Convolutions/sec (5x5 sep. RGBA)	6.4M	15.3M	15.3M	245M
Voxels/sec	100M to 200M	200M to 400M	200M to 800M	6.4B
24-bit floating-point Z	Yes	Yes	Yes	Yes
Color	48-bit RGBA	48-bit RGBA	48-bit RGBA	48-bit RGBA
Overlay planes	16	16	16	16
Anti-aliasing multisampling	4x4	8x8	8x8	8x8
Max. bits/pixel	128 to 512	256 to 2,048	256 to 2,048	256 to 2,048
Graphics pipelines	1	1	1 to 16	1 to 16
Geometry Engine processors/pipeline	2	4	4	4
Raster Managers/pipeline	1 to 2	1 to 2	1 to 4 and 1 to 2	1 to 4 and 1 to 2
Texture memory/pipeline	64MB	64MB	64MB	Up to 1GB combined texture memory capacity with MonsterMode software
Frame buffer size/pipeline	40MB to 80MB	80MB to 160MB	80MB to 320MB	80MB to 320MB
Display channels/pipeline	2 or 8	2 or 8	2 or 8	1†, 2, or 8
Display capability	VGA to HDTV	VGA to HDTV	VGA to HDTV	VGA to HDTV
Std. monitor size resolution	20" 1280x1024	24" 1920x1200	24" 1920x1200	24" 1920x1200
Computer Platform				
CPU	MIPS RI2000	MIPS RI2000	MIPS RI2000	MIPS RI2000
Quantity	2 to 4	2 to 4	2 to 8	4 to 128
Primary caches (ins./data)	32KB/32KB	32KB/32KB	32KB/32KB	32KB/32KB
Secondary cache	8MB	8MB	8MB	8MB
RAM	256MB to 8GB	256MB to 8GB	256MB to 16GB	256MB to 256GB
Disk storage (internal)	1 to 5 9.1GB or 18.2GB Ultra SCSI	1 to 5 9.1GB or 18.2GB Ultra SCSI	1 to 11 9.1GB or 18.2GB Ultra SCSI or 10 3.5" Fibre Channel	1 to 11 9.1GB or 18.2GB Ultra SCSI or 10 3.5" Fibre Channel per rack
Expansion slots	4 XIO slots standard and 3-slot PCI optional	4 XIO slots standard and 3-slot PCI optional	9 XIO slots standard and 3-slot PCI optional	9 XIO slots standard and 3-slot PCI optional per rack
Dimensions	24" L, 20" W, 26.5" H	24" L, 20" W, 26.5" H	39" L, 29" W, 73" H	39" L, 29" W, 73" H per rack
Weight (max. configuration)	215 lb (98 kg)	215 lb (98 kg)	800 lb (364 kg)	800 lb (364 kg) per rack
Standard monitor weight	71.6 lb (32.5 kg)	90.2 lb (41 kg)	90.2 lb (41 kg)	90.2 lb (41 kg)
Electrical and Power				
Voltage	100 to 120 or 200 to 240 VAC, 1 phase (configurations limited below 200 V*)	100 to 120 or 200 to 240 VAC, 1 phase (configurations limited below 200 V*)	200 to 240 VAC, 1 phase	200 to 240 VAC, 1 phase
Frequency	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz	47 to 63 Hz
Power	2,300 W max at 208 V, 1,840 W max at 120 V	2,300 W max at 208 V, 1,840 W max at 120 V	4,750 W (compute and graphics module) or 5,050 W (two graphics modules)	4,750 W (compute and graphics module) or 5,050 W (two graphics modules) per rack
Heat dissipation	7,843 BTU/hr (208 V), 6,274 BTU/hr (120 V)	7,843 BTU/hr (208 V), 6,274 BTU/hr (120 V)	16,198 BTU/hr (compute and graphics module) or 17,220 BTU/hr (two graphics modules)	16,198 BTU/hr (compute and graphics module) or 17,220 BTU/hr (two graphics modules) per rack
Electrical service type	NEMA 5-20 (120 V) or NEMA 6-15 (208 V) (U.S. only)	NEMA 5-20 (120 V) or NEMA 6-15 (208 V) (U.S. only)	NEMA L6-30 (U.S. only)	NEMA L6-30 (U.S. only)
Noise	50 dBa	50 dBa	65 to 70 dBa	65 to 70 dBa

I/O Networking and Communication

Standard data	40MB/sec Ultra SCSI, 10Base-T/100Base-TX Ethernet, 4 460 kbaud asynchronous serial ports, 2 keyboard ports, 2 mouse ports, parallel port
Standard audio	2.75 ohm BNC AES/EBU stereo in/out, 2 optical ADAT 8-channel in/out, RCA phono jack stereo line-level input output, 3.5 mm stereo analog headphone output, mono microphone input jack
Optional data	XIO to PCI adapter (1 full-height, 2 double-height slots, 132MB to 264MB/sec), XIO to VME adapter (6U, 9U), FDDI single attach, FDDI dual attach, UTP FDDI, Token Ring, ISDN, high-speed synchronous serial, 100MB/sec Fibre Channel (2 ports), 40MB/sec Ultra SCSI (4 ports), 100Base-TX (4 ports) combined with 460 kbaud asynchronous serial (6 ports), ATMOC3 (4 ports), and ATMOC12, DIVO in/out (CCIR601, SMPTE 259)

Removable Media

Standard	CD-ROM
Optional	DDS-2 (DAT), 8 mm Exabyte, DLT tape

Environmental (nonoperating)

Temperature	-20 to +60°C (-4 to +140°F)
Humidity	10% to 95% noncondensing
Altitude	40,000 MSL

Environmental (operating)

Temperature	+5 to +35°C (+41 to +95°F) altitude 5,000 MSL +5 to +30°C (+41 to +86°F) altitude 10,000 MSL
Humidity	10% to 90% noncondensing

*Onyx2 Reality with 2 Raster Managers and 2 node boards or Onyx2 InfiniteReality Deskside with 2 Raster Managers or 2 node boards requires 200 VAC or greater

† 2 Raster Managers per pipe and DPLEX option

† 1 analog and 1 digital with DPLEX

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