

# MATRIZ DE COMPARAÇÃO – CINEMA 4D R16

Cor roxa indica novo recurso

Platform	Lite	Prime	Broadcast	Visualize	Studio
Cross-platform support for Mac & Windows	x	x	x	x	x
64-bit architecture	x	x	x	x	x
OpenGL 3.0 support	x	x	x	x	x
Extensive API: C++, Python, C.O.F.F.E.E.		x	x	x	x

Interface & Workflow	Lite	Prime	Broadcast	Visualize	Studio
Context-sensitive, fully-searchable HTML help	x	x	x	x	x
Commander	x	x	x	x	x
To Do List	x	x	x	x	x
Multiple projects open at once	x	x	x	x	x
Customizable toolbars / layouts / menus	x	x	x	x	x
Light and dark interface schemes	x	x	x	x	x
Unlimited view windows	x	x	x	x	x
Heads-up display	x	x	x	x	x
Custom pop-up menu	x	x	x	x	x
Non-modal tools with realtime feedback	x	x	x	x	x
Collapsible Managers & Palettes	x	x	x	x	x
Selection / display filters	x	x	x	x	x
Custom User Data per object	x	x	x	x	x
Doodle viewport annotation tool		x	x	x	x
Layer system for object & material management	x	x	x	x	x
XRef external instancing / referencing system		x	x	x	x
Tablet support for Wacom and other pen tablets	x	x	x	x	x
3dconnexion 3DMouse support		x	x	x	x
Stereo display in Viewport		x	x	x	x
OpenGL Viewport	x	x	x	x	x
Object highlighting	x	x	x	x	x
Available in 11 languages	x	x	x	x	x
Arabic interface support		x	x	x	x
OS X Lion Fullscreen support		x	x	x	x

Retina Icons		x	x	x	x
Solo Button		x	x	x	x
Annotations Tag		x	x	x	x
User Participation		x	x	x	x
New Crashhandler		x	x	x	x
Misc Workflow Enhancements		x	x	x	x

Camera	Lite	Prime	Broadcast	Visualize	Studio
Camera, Target Camera, Stereo Camera	x	x	x	x	x
Motion Camera			x	x	x
Camera Composition Helpers	x	x	x	x	x
Camera Focus Picker	x	x	x	x	x
Camera Calibrator				x	x
Camera Morph			x	x	x
Camera Crane			x	x	x

Data Exchange / Format Support	Lite	Prime	Broadcast	Visualize	Studio
QuickTime support	x	x	x	x	x
AVI support	Win	Win	Win	Win	Win
Image formats - float with layers: PSD, TIFF, OpenEXR	x	x	x	x	x
Image formats - float: HDR, DPX, RLA, RPF	x	x	x	x	x
Image formats: BMP, IFF, JPG, PICT, PNG, TARGA	x	x	x	x	x
Quicktime VR object, panorama	x	x	x	x	x
CINEWARE compatible	x	x	x	x	x
After Effects compositing exchange with 3D data		x	x	x	x
Nuke exchange		x	x	x	x
Photoshop exchange	x	x	x	x	x
Apple Motion compositing exchange with 3D data		x	x	x	x
Apple Final Cut Pro compositing exchange		Mac	Mac	Mac	Mac
Digital Fusion compositing exchange		Win	Win	Win	Win
Shake compositing exchange		x	x	x	x
Support of DXF, DWG, 3DS, DAE, FBX, DEM, LWS, STL, VRML2, OBJ, COLLADA, Alembic	x*	x	x	x	x
IGES importer				x	x

Okino connection - seamless CAD file import via optional PolyTrans software (Windows only)				x	x
BodyPaint 3D exchange - 3ds Max, Maya, Softimage and Lightwave		x	x	x	x
Support of most current FBX and Alembic formats (FBX 2014 & Alembic 1.5)		x	x	x	x

\* Import only

Modeling Tools	Lite	Prime	Broadcast	Visualize	Studio
Parametric object primitives	x	x	x	x	x
Scene Objects: Floor, Sky, Environment, Stage, Foreground, Background	x	x	x	x	x
Parametric spline primitives	x	x	x	x	x
Extrude, Lathe, Loft, Sweep	x	x	x	x	x
Polygonal modeling tools with N-gon support		x	x	x	x
Subdivision surfaces	x	x	x	x	x
Modeling Generators: Metaball, Boolean, Symmetry, Array, Atom Array, Instance, Connect,	x*	x	x	x	x
PolyPen Tool		x	x	x	x
Bevel Deformer		x	x	x	x
Enhanced Cogwheel		x	x	x	x
Improved Symmetry Object		x	x	x	x
Deformer Falloff		x	x	x	x
Mesh Check		x	x	x	x

Sculpting	Lite	Prime	Broadcast	Visualize	Studio
Sculpt functionality					x
Sculpt Brushes					x
Baking					x
C++ Sculpt Brush API					x
Python Support for lib_sculpt					x
R16 Sculpting					x

UV Editing	Lite	Prime	Broadcast	Visualize	Studio
UV Editor		x	x	x	x
Interactive UV mapping by projection types		x	x	x	x
Optimal UV mapping to automatically remove seams		x	x	x	x

LSCM unwrapping and relaxing	x	x	x	x
ABF unwrapping and relaxing	x	x	x	x

	Lite	Prime	Broadcast	Visualize	Studio
UV Peeler	x	x	x	x	x
UVs for Caps	x	x	x	x	x
UV Enhancements	x	x	x	x	x
<b>Materials &amp; Texturing</b>					
12 standard material channels: Color, Diffusion, Luminance, Transparency, Reflection, Environment, Transparency with absorption, total internal reflections, exit reflections	x	x	x	x	x
Blurry reflections and transparencies	x	x	x	x	x
Normal maps: tangent, object or world	x	x	x	x	x
Displacement: intensity (centered), red/green and RGB	x	x	x	x	x
Choose Photoshop PSD layers per usage	x	x	x	x	x
Animated textures (MOV, AVI, sequence) with viewport preview	x	x	x	x	x
Selectable viewport resolution and channel display per material	x	x	x	x	x
Shading models: Lambertian, Oren-Nayar	x	x	x	x	x
Fresnel Shader incl. physically correct IOR	x	x	x	x	x
Noise Procedural shader with 32 different noise algorithms	x	x	x	x	x
Layer shader	x	x	x	x	x
Proximity-based Proximal shader	x	x	x	x	x
Procedural surface shaders	x	x	x	x	x
Texture baking: surface color, illumination, Ambient Occlusion, Normals, displacement and Sub-polygon displacement	x	x	x	x	x
Sub-Surface Scattering			x	x	x
Terrain Mask shader				x	x
Brick, Wood, Weathering, Pavement and Normalizer Shaders		x	x	x	x
Sketch & Toon Art, Hatch, Spot (halftone) Shaders				x	x
3D Painting with layers, all blend modes and Photoshop file compatibility	x	x	x	x	x
Multi-brush painting of multiple material channels in single stroke	x	x	x	x	x
Raybrush painting directly onto rendered result	x	x	x	x	x
Projection painting	x	x	x	x	x
Exchange projections with Photoshop	x	x	x	x	x
Camera Mapping	x	x	x	x	x
ProjectionMan camera mapping workflow tool	x	x	x	x	x
Texture Manager		x	x	x	x

Grass Material Shader				x	x
Brick Shader Enhancements		x	x	x	x
Reflectance Channel		x	x	x	x

Lighting	Lite	Prime	Broadcast	Visualize	Studio
Light Types: Omni, Spot, Infinite, Area, Square Spot, Parallel Spot, Square Parallel Spot	x	x	x	x	x
Hard, Soft, Area shadows	x	x	x	x	x
Visible, Volumetric and Inverse Volumetric lighting	x	x	x	x	x
Noise within light illumination and/or visibility	x	x	x	x	x
Include/exclude light diffusion, specular, shadow per object	x	x	x	x	x
Custom lens flares	x	x	x	x	x
Caustics				x	x
Color temperature in Kelvin	x	x	x	x	x
Photometric brightness setting in Candela and Lumen	x	x	x	x	x
Support of IES light data				x	x

Rendering	Lite	Prime	Broadcast	Visualize	Studio
Render up to 128,000 pixels square / 32 bits per pixel	800 x 600	x	x	x	x
Bucket rendering	x	x	x	x	x
Render instances	x	x	x	x	x
Color profile support	x	x	x	x	x
Camera white balance	x	x	x	x	x
Linear workflow	x	x	x	x	x
Adaptive antialiasing	x	x	x	x	x
Multi-Pass output	x*	x	x	x	x
Object buffers - specify unique alpha channels per object	x*	x	x	x	x
Ambient Occlusion	x	x	x	x	x
Global Illumination (IR 2.0, QMC, mixed)		x	x	x	x
Physical Renderer with physical camera, high-quality depth of field, high-quality motion blur			x	x	x
Stereo rendering		x	x	x	x
Depth of Field post effect	Pass			x	x
Vector Motion Blur post effect	Pass			x	x
Position Pass	x	x	x	x	x

CineMan Renderman-compliant bridge				x	x
Sketch and Toon non-photorealistic rendering				x	x
Pyrocluster volumetric particle rendering				x	x
Physical Sky				x	x
3D Sound Rendering	x	x	x	x	x
Picture Viewer : RAM player, color correction, image merge, anaglyph preview and more	x	x	x	x	x
Watermark post effect		x	x	x	x
Render Queue batch rendering system		x	x	x	x
Universal Sampler (GI-QMC)		x	x	x	x
Radiosity maps		x	x	x	x
Subsurface-Scattering			x	x	x
Embree Integration			x	x	x
Light Mapping		x	x	x	x
Normal Pass		x	x	x	x
Team Render (Number of Nodes)			x (3)	x (3)	x (unlimited)
Team Render Server (Number of Nodes)			x (3)	x (3)	x (unlimited)
BiRender - Non-Photorealistic Rendering (Sketch and Toon & Hair)				x	x

\* Only available thru AE CINEMA 4D Layer

Animation	Lite	Prime	Broadcast	Visualize	Studio
Easy one-click record button to keyframe Position, Scale, Rotation, Point Level animation and user-Record dot animation of all animatable parameters	x	x	x	x	x
Automatic keyframing	x	x	x	x	x
Cappuccino - realtime keyframing					x
PowerSlider animation toolbar for playback and keyframe manipulation	x	x	x	x	x
Timeline - up to four timeline windows with customizable track display and dopesheet or F-Curve Snapshot and Reduced Modification curves	x*	x	x	x	x
Constant Velocity option per track	x	x	x	x	x
Keyframe reduction		x	x	x	x
Keyframe baking		x	x	x	x
ASCII animation import		x	x	x	x
Non-linear animation / motion mixing system		x	x	x	x
Constraints: PSR, Up-Vector, Clamp, Mirror, Parent, Aim, Spring		x	x	x	x
Driver tag					x
XPresso - node-based Expression Editor	x**	x	x	x	x

Virtual Walkthrough tool - first-person scene navigation and animation				x	x
Interaction Tag		x	x	x	x
Animation Dots		x	x	x	x
Motion Tracker					x

\* One Timeline window only

\*\* Does not include the Python Node

Dynamic Animation	Lite	Prime	Broadcast	Visualize	Studio
Basic particle system		x	x	x	x
Thinking Particles node-based particle system					x
Rigid Body dynamics for MoGraph objects			x		x
Rigid Body dynamics					x
Joints, Springs, Motors					x
Soft Body dynamics					x
Aerodynamics forces					x
Plastic & Breaking Springs					x
Breaking Connectors					x
Cloth dynamics & dressing functions					x
Hair dynamics					x
Spline dynamics					x

MoGraph Tools	Lite	Prime	Broadcast	Visualize	Studio
Cloner object			x		x
Fracture object	x*		x		x
Matrix object			x		x
MoInstance object			x		x
MoText object			x		x
Tracer object			x		x
Spline Mask object		x	x	x	x
MoSpline parametric spline generator with L-system functionality			x		x
Effectors for Position, Scale, Rotation, Color, Time using Falloff, Shader, Random, Formula, Delay,	x*		x		x
PolyFX polygon fracture deformer			x		x
MoGraph Selection tag			x		x

Beat Shader			x		x
MoGraph Multi-shader			x		x
MoExtrude			x		x

\* Fracture Object, Plain and Random Effectors only after registration

Character Animation Tools	Lite	Prime	Broadcast	Visualize	Studio
Character object / autorigger					x
CMotion - parametric walk system					x
Joints with full dynamic IK		x	x	x	x
Skin Deformer supports linear, spherical and blended deformation based on joints		x	x	x	x
Weight Manager and tools		x	x	x	x
Auto weighting		x	x	x	x
PoseMorph morphing and hierarchical mixing system					x
Mirror, Naming and Paint Tools		x	x	x	x
Weight effector		x	x	x	x
VAMP tool for translating weights, morphs, selection, textures, Uvs and vertex maps between					x
Tension tag					x
Quaternion tag					x
Point Cache tag		x	x	x	x
Muscle deformer					x
Visual Selector					x

Hair Simulation and Rendering	Lite	Prime	Broadcast	Visualize	Studio
Guide-based Hair system					x
Hair instancing					x
Feather object					x
Fur system					x
Hair styling tools: Move, Scale, Rotate, Brush, Comb, Clump, Curl, Cut, Push, Straighten, Add					x
Hair dynamics					x
Hair shading system with multiple speculars, texture-defined root and tip colors, and variable					x



Content	Lite	Prime	Broadcast	Visualize	Studio
Essential presets and demo scenes	x	x	x	x	x
Advanced presets and demo scenes					x
Broadcast Library, incl. materials, cameras and objects			x		x
Visualization Library, incl. materials, presets and architectural objects*				x	x
Lite Library, incl. materials, cameras and objects	x				x
Completely reworked Content Library		x	x	x	x

\*Some advanced procedural presets like Door, Window, and Staircase Builder are based on