

MATRIZ DE COMPARAÇÃO – CINEMA 4D R13

Purple color indicates new feature	Prime	Broadcast	Visualize	Studio
Platform				
Cross-platform support for Mac & Windows	x	x	x	x
64-bit architecture	x	x	x	x
Outstanding stability	x	x	x	x
OpenGL 3.0 support (Windows only, needs compatible driver and hardware)	x	x	x	x
Extensive API: C++, Python, C.O.F.F.E.E.	x	x	x	x

Interface & Workflow	Prime	Broadcast	Visualize	Studio
Context-sensitive, fully-searchable HTML help	x	x	x	x
Multiple projects open at once	x	x	x	x
Customizable toolbars / layouts / menus	x	x	x	x
Light and dark interface schemes	x	x	x	x
Unlimited view windows	x	x	x	x
Head-up display	x	x	x	x
Custom pop-up menu	x	x	x	x
Non-modal tools with realtime feedback	x	x	x	x
Collapsible Managers & Palettes	x	x	x	x
Selection / display filters	x	x	x	x
Custom User Data per object	x	x	x	x
Doodle viewport annotation tool	x	x	x	x
Layer system for object & material management	x	x	x	x
Enhanced XRef external instancing / referencing system	x	x	x	x
Tablet support for Wacom and other pen tablets	x	x	x	x
3dconnexion 3DMouse support	x	x	x	x
Stereo Display in Editor	x	x	x	x

Data Exchange / Format Support	Prime	Broadcast	Visualize	Studio
Quicktime support	x	x	x	x
AVI support	Win	Win	Win	Win
Image formats - float with layers: PSD, TIFF, OpenEXR	x	x	x	x
Image formats - float: HDR, DPX, RLA, RPF	x	x	x	x
Image formats: BMP, IFF, JPG, PICT, PNG, TARGA	x	x	x	x
Quicktime VR object, panorama	x	x	x	x
After Effects compositing exchange with 3D data	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
Combustion compositing exchange	x	x	x	x
Digital Fusion compositing exchange	Win	Win	Win	Win
Shake compositing exchange	x	x	x	x
Support of DXF, DWG, 3DS, DAE, FBX , DEM, LWS, SRL, VRML2, OBJ formats, COLLADA	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	x	x	x	x
BodyPaint 3D exchange - Maya	x	x	x	x
BodyPaint 3D exchange - Softimage	x	x	x	x
BodyPaint 3D exchange - LightWave 3D	x	x	x	x

Modeling Tools	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
Parametric object primitives	x	x	x	x
Parametric spline primitives	x	x	x	x
Extrude, Lathe, Loft, Sweep NURBS	x	x	x	x
Polygonal modeling tools with N-gon support	x	x	x	x
HyperNURBs subdivision surfaces	x	x	x	x
Modeling Generators: Metaball, Boolean, Symmetry, Array, Atom Array, Instance, Connect	x	x	x	x
Deformers: Bend, Twist, Bulge, Shear, Taper, FFD, Formula, Wind, Explosion, Melt, Shatter, Wrap, Polygon Reduction, Spherify, Spline Rail, Spline Deformer	x	x	x	x
Displacement Deformer	x	x	x	x
Collision Deformer	x	x	x	x
Camera Deformer	x	x	x	x
Smoothing Deformer	x	x	x	x
Spline Wrap Deformer	x	x	x	x
Shrinkwrap Deformer	x	x	x	x

UV Editing	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
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

Materials & Texturing	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
14 standard material channels: Color, Diffusion, Luminance, Transparency, Reflection, Environment, Fog, Bump, Normal, Alpha, Specular, Specular Color, Glow, Displacement	x	x	x	x
Transparency with absorption, total internal reflections, exit reflections	x	x	x	x
Blurry reflections and transparencies	x	x	x	x
Normal Maps: tangent, object or world	x	x	x	x
displacement: intensity (centered), red/green and RGB	x	x	x	x
Choose Photoshop PSD layers per usage	x	x	x	x
Animated textures (MOV, AVI, sequence) with viewport preview	x	x	x	x
Selectable viewport resolution and channel display per material	x	x	x	x
Shading Models: Phong, Blinn, Oren-Nayar	x	x	x	x
Fresnel Shader incl. physical correct IOR	x	x	x	x

Noise Procedural Shader with 32 different noise algorithms	x	x	x	x
Layer Shader	x	x	x	x
Proximity-based Proximal Shader	x	x	x	x
Procedural surface shaders	x	x	x	x
Texture baking: surface color, illumination, ambient occlusion, normals, displacement and more	x	x	x	x
Sub-polygon displacement			x	x
New Sub-surface scattering		x	x	x
Terrain Mask Shader			x	x
Brick Shader	x	x	x	x
Pavement Shader	x	x	x	x
Sketch & Toon Art Shader			x	x
Sketch & Toon Hatch Shader			x	x
Sketch & Toon Spots (Halftone) Shader			x	x
3D Painting with layers, all blend modes and Photoshop file compatibility	x	x	x	x
Multibrush painting of multiple material channels in single stroke	x	x	x	x
Raybrush painting directly onto rendered result	x	x	x	x
Projection painting	x	x	x	x
Exchange projections with Photoshop	x	x	x	x
camera mapping	x	x	x	x
ProjectionMan camera mapping workflow tool	x	x	x	x

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

Rendering	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
Render up to 128,000 pixels square / 32 bits per pixel	x	x	x	x
Bucket rendering	x	x	x	x
Render Instances	x	x	x	x
Color profile support	x	x	x	x
Camera White Balance	x	x	x	x
Linear Workflow	x	x	x	x
Adaptive anti-aliasing	x	x	x	x
Multi-Pass output	x	x	x	x

Object buffers - specify unique alpha channels per object	x	x	x	x
Ambient Occlusion	x	x	x	x
Global Illumination (IR, QMC, Mixed)		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			x	x
Vector Motion Blur post effect			x	x
CineMan Renderman-compliant bridge			x	x
Sketch and Toon non-photorealistic rendering			x	x
Pyrocluster volumetric particle rendering			x	x
Physical Sky - realistic sky shading with 2D and 3D clouds, accurate sun and star positions, fog and atmosphere effects			x	x
3D Sound Rendering	x	x	x	x
Picture Viewer with RAM playback (including sound), history, AB compare, new animation AB compare, histogram, layer view, color correction, subsequent stereoscopic editing, full screen mode	x	x	x	x
Watermark post effect	x	x	x	x
Render Queue batch rendering system	x	x	x	x
Network rendering clients		3	3	unlimited

Animation	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
Easy one-click record button to keyframe Position, Scale, Rotation, Point Level animation and user-defined parameters	x	x	x	x
Record-dot animation of all animatable parameters	x	x	x	x
Automatic keyframing	x	x	x	x
Cappucino - realtime keyframing				x
PowerSlider animation toolbar for playback and keyframe manipulation	x	x	x	x
Timeline - up to four timelines windows with customizable track display and dopesheet or F-Curve view modes	x	x	x	x
F-Curve Snapshots and Reduced Modification Curves	x	x	x	x
Constant Velocity option per track	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
Virtual Walkthrough tool - first-person scene navigation and animation			x	x

Dynamic Animation	<u>Prime</u>	<u>Broadcast</u>	<u>Visualize</u>	<u>Studio</u>
Basic particle system	x	x	x	x
Thinking Particles node-based particle system				x
Rigid Body dynamics (limited to MoGraph objects)		x		x

Rigid Body Dynamics				x
Joints, Springs, Motors				x
Soft Body Dynamics				x
Cloth dynamics & dressing functions				x
Hair dynamics				x
Spline dynamics				x

MoGraph Tools	Prime	Broadcast	Visualize	Studio
Cloner object		x		x
Fracture object		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
Effect Position, Scale, Rotation, Color, Time via Falloff, Shader, Random, Formula, Delay, C.O.F.F.E.E., Inheritance, Sound, Spline, Step, Target, Time or Volume		x		x
PolyFX polygon fracture deformer		x		x
MoGraph Selection tag		x		x
Beat Shader		x		x
Multi-shader - affect texture based on clone color		x		x
Extrude Deformer		x		x

Character Animation Tools	Prime	Broadcast	Visualize	Studio
Character Object / Autorigger				x
CMotion - parametric walk system				x
Joints with full dynamic IK	x	x	x	x
Skin Deformer supporting linear, spherical and blended deformation based on joints	x	x	x	x
Weighting Manager and tools	x	x	x	x
Auto Weighting	x	x	x	x
PoseMorph morphing and hierarchical mixing system				x
Mirror tool	x	x	x	x
Naming tool	x	x	x	x
Paint tool	x	x	x	x
Weight Effector	x	x	x	x
VAMP tool for translating weights, morphs, selection, textures, Uvs and vertex maps between different geometry				x
Cluster Deformer	x	x	x	x
Morph Deformer				x
Jiggle Deformer	x	x	x	x
Tension tag				x
Quaternion tag				x
Point Cache tag	x	x	x	x

Muscle Deformer				x
Point Cache Deformer	x	x	x	x
Correction Deformer	x	x	x	x
Surface Deformer	x	x	x	x
Mesh Deformer	x	x	x	x
Squash & Stretch Deformer	x	x	x	x
New Visual Selector				x

Hair Simulation and Rendering	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 Guides, Mirror, Set Roots				x
Hair dynamics				x
Hair shading system with multiple speculars, texture-defined root and tip colors, and variable transparency, thickness, length, scale, frizz, kink, density, clump, tighten, displace, bend, curl, twist, wave, straighten				x

Content	Prime	Broadcast	Visualize	Studio
Essential presets and demo scenes	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