



# HOUDINI FX

## FILM, TV & GAMEDEV

Artwork Serjan Burlak



Houdini FX combines superior performance and ease-of-use to deliver a powerful and accessible 3D platform. With a wide range of features, Houdini FX integrates smoothly at any point in your pipeline. Its procedural, non-destructive workflow lets you create more content faster to reduce timelines, allowing for creative iterations at any stage of your project.



*Destruction FX in the motion picture Attraction | Main Road | Post*



*Houdini Cloud FX in Battlefield 1 | EA DICE*

**FILM/TV** | Create more shots under tight deadlines while achieving feature film quality results. From Bullet Rigid Body destruction, to Pyro FX fire and smoke and FLIP fluid liquids, Houdini's procedural workflow lets you work at insanely high levels of detail to create bigger, more explosive visual effects. Houdini's artist-friendly node-based workflow makes it easy to respond to director feedback and make changes at any time, even deep into production.

**GAMES** | The same procedural workflows that make Houdini such an industry leader for film and TV also make it an amazing addition to the game production environment. Game developers and artists love Houdini for its feature film-quality FX, procedural modelling, terrains and environments, asset placement, level building and rapid prototyping - and leverage Houdini Engine to deploy tools built as Houdini Digital Assets to artists throughout the studio.

"Houdini lets you throw data around like nobody's business. You can do things that would take so much more time in other packages. If there is anything that needs to be changed, you can just adjust one node, and you're finished. That's the procedural nature of it."

— Andreas Glad | VFX Artist

[SIDEFX.COM/FX](https://www.sidefx.com/fx)

# FEATURES



**MODEL, RENDER, ANIMATE** | Houdini FX includes end-to-end production-quality features – including modelling, animation, character rigging, lighting, rendering, compositing and volumes. Digital Assets created in Houdini FX can also be opened, animated and rendered in Houdini Core.



**PYRO FX** | With Pyro FX, Fire and Smoke simulations look more realistic and are faster and easier to set up. Fast simulation speeds allow for more iterations. The ability to simulate using the GPU takes things to a whole new level and advances in volume rendering create an impressive final look.



Sandcastle simulation by Jocelyn Strob Simant

**SAND** | Position-Based Dynamics is a multi-physics environment ideally suited to the creation of wet and dry sand. The PBD solver can run on the CPU or on the GPU using OpenCL. In addition to sand effects, artists can create solids, sheets or tethers to generate soft body, cloth and wire-like simulations.

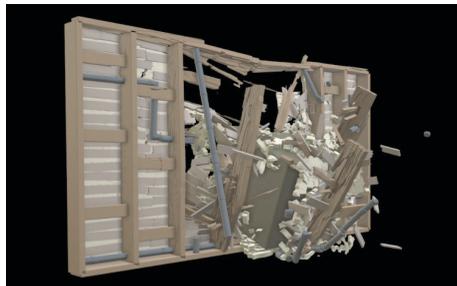


**FLUIDS & OCEAN FX** | Create realistic sims using forces such as surface tension, viscosity, and visco-elasticity. Particle fluids can be surfaced at the geometry level to produce high quality splashes while fluid forces are used to create white water effects.

**FINITE ELEMENTS** | The Finite Element solver analyzes the stresses on an object then either bends or breaks it. FEM can also be used for soft body effects with volume preservation. This solver takes the simulation of digital destruction, and gooey slimy objects, to the next level.



**WIRE & FUR** | Ideally suited to creating hair and fur simulations, the Wire solver in Houdini FX also can be used for other types of thin shapes. Control wires with attributes such as thickness, length, rigidity and curl for added control.



**PARTICLES** | Whether you are creating dust and debris or a flocks of birds, the particle tools in Houdini let you define a clear set of rules using a simple node network made up of sources, forces, attractors and collision objects.

**BULLET RBD** | In Houdini FX, you can use the Bullet Rigid Body solver to create highly complex simulations of large data sets. This solver and Houdini's own solver work with various forces, constraints and collisions for complete control.

**CROWDS** | The crowd tools use artist-friendly shelf tools along with a new packed agent primitive type, a Finite State Machine solver, hardware accelerated display of instanced crowds, controls for crowd layout, steering, collision avoidance, terrain adaptation, motion blending, and look-at targets.



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