

FAQ

Autodesk Media and Entertainment

Autodesk[®] Combustion[®] 4

Autodesk[®] Cleaner[®] 6.5

Autodesk[®] Cleaner[®] XL 1.5

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Combustion Questions

1. Is there a new version of Autodesk Combustion?

Yes, on March 18, 2005, we released Autodesk Combustion 4.

2. What's New in Autodesk Combustion 4?

Here are the Key New features in Combustion 4:

- Discreet Diamond keyer
- Timewarp operator
- Capsules
- GBuffer builder
- B-Spline shapes available in Paint and Mask operators
- New Image Processing filters
- Command line renderer
- Multiple Paint enhancements
- Numerous workflow and interoperability enhancements

3. What is the price of Combustion 4 and what is the upgrade price?

Pricing for the commercial seat remains unchanged, i.e., (SRP) US\$995. The upgrade price from Combustion 3 is (SRP) US\$249 and the upgrade price from Combustion 2 is (SRP) US\$399. All pricing listed is Autodesk Suggested Retail Pricing. Contact an Autodesk authorized reseller for more information and reseller pricing and other terms. A list of resellers is available online at www.autodesk.com.

4. What about educational pricing?

We provide significant discounts to students and multi-pack programs for educational institutions. The standard price for the education version of Combustion 4 software for both Macintosh[®] and Windows[®] operating systems is \$299 US (SRP). All pricing listed is Autodesk Suggested Retail Pricing. Contact an Autodesk authorized reseller for more information and reseller pricing and other terms. A list of resellers is available online at www.autodesk.com.

5. What about the Mac version?

Autodesk is currently planning to ship Combustion 4 for the Macintosh before the end of our fiscal year. Also, please note that Combustion 4 will ship with full support for OSX v10.4 Tiger.

6. Who should buy Autodesk Combustion 4?

Any serious digital media artist working on motion graphics, special effects, animation, or visualization will find a rich feature set and artist-friendly Paint and compositing environment for the desktop that should be part of his or her toolset. This new release is our best so far and continues our commitment to our core markets.

7. How does Apple's Motion compare to Combustion?

Motion is a great motion-graphics application, with an interesting UI designed to service a more entry-level graphics market. It is designed to complement other low-entry tools offered by Apple. It is not designed to be a visual effects/compositing application and lacks the depth and scope of features to be found in products like Autodesk Combustion 4 (e.g., it has no Paint, no 3D space). Motion is priced to be equivalent to a plug-in and serves as a perfect adjunct to products like Autodesk Combustion 4. More importantly, Combustion 4 is interoperable with all the Autodesk M&E products providing facility integration unmet by any other vendor.

8. What is the Diamond Keyer?

The Diamond Keyer makes it fast and easy to pull precise keys from even the most difficult shots. Based on an advanced proprietary keying algorithm extracted from the Colour Warper™ feature, the Diamond Keyer's tools give you a high degree of control when selecting the tolerance and softness range of a key-in source layer.

9. What are Capsules?

In short, Capsules are groups of schematic nodes that can be saved and behave as single operators. Capsules make it easier to build on your expertise, share presets, and manage complex effects pipelines. Once you have created a Capsule, you can expose as few or as many of the controls you need in order to use the effect, thereby simplifying an effect by boiling all its controls down to the important few that you actually need to use. Others might call capsules macros, but this is not a completely accurate description.

10. What is the Timewarp?

The Timewarp operator enables you to perform dynamic slow-motion and speed-up effects on footage or keyframed effects at any point in your Combustion composite. Using an intuitive graphical retime curve, the Timewarp operator enables you to perform advanced manipulation of speed changes using Timing, Speed, or Duration. This makes it simple to create dramatic creative effects or subtle speed changes for editorial purposes such as synchronization.

To enhance your retimed effects, you can use either Blending or Trails. With Blending, you have control for producing smooth interpolation between frames, which is especially useful when creating slow-motion effects, as frame blending can transform the choppy stop-motion type look inherent with slow-downs into graceful flowing movements. With Trails, you can generate weighted trail effects that precede or follow the motion in your composites.

11. What is the GBuffer Builder?

The GBuffer builder is used to combine bitmaps into RPF files that can be used with the Combustion 3D Post operators. In creating RPF files from bitmaps, you essentially have a mechanism for giving 3D attributes to 2D images. These attributes include Z depth, Material ID, Object ID, and so on.

12. What are the multiple Paint enhancements?

- A new B-Spline tool is available in both Paint and the Mask operator for smoother control when rotoscoping and creating shapes. In addition, the B-Spline mask shape has multiple edge softness options including 3-spline edge gradients, which gives you very fine control over edge softness.
- Grids, Guides, and Rulers
- Control point grouping allows you to select a subset of object control points and group them into a single entity that you can animate independently from the rest of the object.
- You can now load a reference image from any operator into the color mixer.
- Integrated pivot point adjustment allows you to quickly move the position of the pivot point directly in a vector shape without switching tools.
- The New Corner Radius tool allows you to specify a corner curvature value for rectangle shapes.
- Improved system performance in Paint makes it easier to work on higher-resolution images such as 2K film files.

13. What are the new image processing filters?

To improve the speed and/or the quality of frequent operations, we have added 3 new image processing operators:

- Fast GBlur operator for Gaussian-quality blurring. It processes at the same speed regardless of the blur radius, making it significantly faster than Gaussian blurs (and yet still high quality) when creating effects with a lot of blurring.
- Resize operator for high-quality image resizing using a selectable image resize filter (such as Mitchell and Lanczos3).
- Merge operator for simple node two layer composites using common image transfer modes or a layer's existing alpha channel. This straightforward tool gives you an easy mechanism for quickly combing two branches of a schematic together.

14. What makes Combustion 4 software the “must have” desktop software for effects and postproduction compositing professionals ?

Where do we start... Combustion 4 software is so feature rich, deep and complete, it provides artists with a user interface tailored to their needs within an integrated environment providing all the essential (vector paint, effects, editing and compositing) tools needed to achieve their vision.

The user interface is extremely efficient and visual – tools are easy to manipulate, the image is not obscured by the tools and manipulations are almost always in context.

The Combustion non-destructive workspace makes it so much easier for artists to fine-tune results at any point in the creative process.

The Combustion toolset features special effects technology from Autodesk's Academy Award®-winning Discreet® Flame® and Discreet® Inferno® effects systems. This technology has been fine-tuned through years of research and development dedicated exclusively to providing the world's top visual effects creators with the best tools possible. Combustion 4 software leverages these efforts to provide a rich feature set combined with the best quality and performance. Tools included from the Flame and Inferno systems include advanced tracking, keying, color correction, film tools, and garbage masks. These tools are artist friendly and intuitive to use.

Unbeatable ROI. At (SRP) US\$995, we would not be surprised to hear that it paid for itself with your first project.

15. Which market segments we are trying to reach with Combustion 4 ?

Editors/DV professionals: Editors often feel a bit limited on certain effects and would love to be able to use Combustion to take their projects further. With the recent release of the Automatic Duck import plug-in, importing timeline effects from Avid, FCP, and Premiere Pro has never been easier.

Animators: especially Autodesk® 3ds Max® users: Combustion is a wonderful environment to enhance, tweak, and finish animation projects in a more productive manner. Its support for render elements, RPF files and its live connection with the 3ds Max material editor, are just a few reasons to revisit how to address 3D projects and make sure Combustion is built into the process.

Paint/Roto artists: Combustion has a very powerful vector Paint and a whole palette of tools that make roto work easy.

16. Will Combustion eventually evolve into a 64-bit application ?

Combustion 4 is a 32-bit application which currently offers the best price/performance ratio for a product in this category. As 64-bit technology matures we will evaluate its usefulness to applications of this nature. Today there is very little added advantage, other than access to more memory, to offset the costs of a 64-bit application.

17. What are you doing to optimize performance in Combustion ?

We have had support for multi-processors and OpenGL® for years. Now, for this version we decided to address specific items such as providing faster image processing nodes and revisiting some of the workflow issues that make users lose time on a regular basis. Small items like the workspace panel window, channel filtering in the timeline view, or the much improved roto UI make a huge difference at the end of the day and make the artist a lot more productive.

It's also important to note that with Autodesk® Backburner™ rendering software, you can use a number of CPUs to render your Combustion jobs at no additional cost.

18. What are the minimum system requirements for Combustion 4 ?

The following describes the minimum working system required for Combustion 4 for Microsoft® Windows®:

- Intel® Pentium® III, Pentium 4 or AMD® Athlon™
- XP CPU (850Mhz or higher)
- Microsoft® Windows® XP Professional SP2 (recommended), Windows XP Home Edition SP2, or Windows 2000 SP4
- 20 GB main hard drive with ~ 142 MB free space (100 MB for the software, 42 MB for help)
- 512 MB of RAM
- Video display card with 32 MB of VRAM (1024x768 display with 24-bit color minimum)
- Microsoft Windows Media® Player or Apple® QuickTime® support
- Macromedia® Flash® Player
- Microsoft DirectX®

19. What are the minimum system requirements for Combustion 4 on Mac?

(Combustion 4 on Mac is expected to ship in Q4)

- Power Mac® G4, 800Mhz or higher
- Mac OS X 10.3. or 10.4
- 20GB main hard drive with ~120MB free space (70MB for the software, 45MB for help)
- 512MB of RAM
- Video display card with 4MB (32 recommended) of VRAM (1024x768 display with 24-bit color minimum)

20. Which graphic cards are you supporting?

We no longer go through a certification process of graphic cards or any other specific hardware. They change too often and that puts too much of a burden on our QA resources which needs to focus on the application. Instead, graphics cards manufacturers can join our tech beta at any time and validate their hardware.

Cleaner and Cleaner XL Questions

21. We heard that development of Cleaner had stopped?

This is not true. The development of our encoding products was interrupted for a short period during which we transitioned the development team to Montreal. We are happy to say that this transition has been completed and we are now back on track with Cleaner development. In addition we can also say that we are evaluating additional codecs for the product and making it a more integral part of Autodesk's infrastructure solutions. To that effect, there was a technology demo at NAB showing how encoding (through Cleaner) is part of the systems workflow.

22. What's New in Autodesk Cleaner 6.5 and when does it ship?

Here are the Key New features in Cleaner 6.5, which will ship in December 2005:

- **Export to flv & swf** (flash video exporter) The Macromedia Flash player is ubiquitous on the Internet and the ability to output files directly from Cleaner to the Flash format is an important and valuable feature.
- **Updated Kinoma[®] v3 exporter** for formats adapted to portable devices (PDAs) including support for:

High quality codecs

- MPEG-4 Video – simple profile
- AAC LC audio

Standard file formats

- MPEG-4 files
- iTunes[®] M4A files (unprotected)
- 3GP files (limited)
- Sony[®] MQV files
- QuickTime files (limited)

- **DivX pro coder** (v 6.0) This new format is now widely adopted.
- **Quicktime 7** support which gives you access to multiple codecs including the long-awaited h.264.

23. What's New in Autodesk Cleaner XL 1.5 and when does it ship?

Here are the Key New features in Cleaner 1.5, which ships on November 16th, 2005:

- **Export to flv & swf** (flash video exporter) The Macromedia Flash player is ubiquitous on the Internet and the ability to output files directly from Cleaner to the Flash format is an important feature.
- **Updated Kinoma v3 exporter** for formats adapted to portable devices (PDAs) including support for:

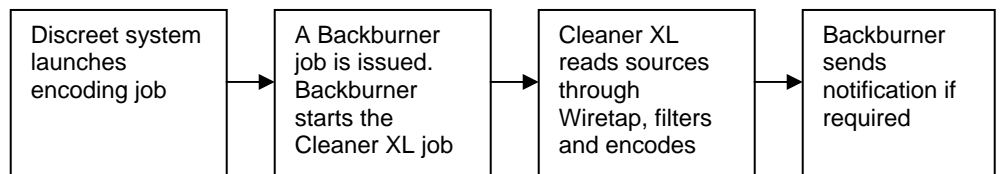
High quality codecs

- MPEG-4 Video – simple profile
- AAC LC audio

Standard file formats

- MPEG-4 files
- iTunes M4A files (unprotected)
- 3GP files (limited)
- Sony MQV files
- QuickTime files (limited)
- **DivX pro coder** This new format is now widely adopted
- **Quicktime 7** support which gives you access to multiple codecs including the long-awaited h.264.(we are certifying it during the pre-release process. As Apple releases Quicktime 7 for the Windows platform, Cleaner XL should be ready to support this)
- **New updated pre-sets** that make it easy for you to get good results quickly
- **New image input formats** allow for greater interoperability. Cleaner XL users can now input Autodesk Discreet Systems files into Cleaner XL
 - Support for DPX, Cineon™, SGI, OpenEXR
- **Wiretap support** for greater interoperability and improved workflow with Autodesk Discreet Systems products. Wiretap support features read capabilities for video and audio files.
- **New Autodesk Backburner support** for greater interoperability with Autodesk® Discreet® Systems products, including the ability to automatically launch jobs without systems products
 - New plug-in for compatibility with Backburner
 - New installer to include Backburner

The diagram below illustrates how Cleaner XL uses Wiretap to read sources sitting on Discreet storage.



- **Command line support** so encoding can now be scripted and automated
- **Many enhancements and Codec upgrades**
 - MPEG-2 support: add 4:2:2 and two pass encoding
 - (As soon as Apple officially releases Quicktime 7) MPEG-4 support: provide H.264 encoding through Quicktime 7
 - Real: upgrade to Real 10

24. What is the price of Cleaner 6.5 and what is the upgrade price?

Pricing for the commercial seat remains unchanged, i.e., (SRP) US\$595. The upgrade price from Cleaner 6 is (SRP) US\$125 and the upgrade price from Cleaner 5 is (SRP) US\$179. All pricing here is Autodesk Suggested Retail Pricing. Contact a Discreet authorized reseller for more information and reseller pricing and other terms. A list of resellers is available online at www.discreet.com.

25. What is the price of Cleaner XL 1.5 and what is the upgrade price?

Pricing for the commercial seat remains unchanged, i.e., (SRP) US\$595. The upgrade price from Cleaner XL 1 is (SRP) US\$125. It is also possible to upgrade from Cleaner 4 & 5 for an upgrade price of (SRP) US\$179. All pricing here is Autodesk Suggested Retail Pricing. Contact an Autodesk authorized reseller for more information and reseller pricing and other terms. A list of resellers is available online at www.autodesk.com.

26. What about educational pricing ?

We provide significant discounts to students and multi-pack programs for educational institutions. The standard price for the education version of Cleaner 6.5 software is \$299 US (SRP). All pricing here is Autodesk Suggested Retail Pricing. Contact a Discreet authorized education reseller for more information and reseller pricing and other terms. A list of resellers is available online at www.discreet.com

27. Does Cleaner Support Windows Media 9?

Unfortunately, Microsoft stopped publishing a Mac SDK after Windows Media 7. So this version of Cleaner has not updated its Windows Media support. Many (see Popwire or Telestream) companies offer standalone Quicktime exporters that work well with the Cleaner pipeline.

28. Why are you revitalizing the Cleaner product line with this upgrade?

Encoding is a key component of delivering high-quality media and this is fundamental for Autodesk and our customers. We have redefined how Cleaner fits into the complete product line and this upgrade has new features designed to address the Cleaner role in the facility workflow. For more information on Cleaner and Cleaner XLs new features, please refer to the What's New document.

29. Who should buy Autodesk Cleaner and Cleaner XL?

Anyone who creates digital media and cares about giving their viewers the best possible playback experience is a potential buyer for Cleaner (Mac) and Cleaner XL (Windows).

Market Segments

- Corporate
- News and information
- Learning and training
- Entertainment

Job Functions

- Video editors
- DVD and CD-ROM creators
- Web designers
- Design professionals

30. When is the next Cleaner release and what new features will it have?

We cannot make any public statements about future versions and/or features but we are actively working on new Cleaner features and evaluating how Cleaner XL fits into the facility workflow.

31. How will you be able to deliver new features in the future?

We now have a team in place in Montreal dedicated to Cleaner and its ongoing product development.

32. What are the minimum system requirements for Cleaner XL 1.5?

Minimum System Requirements:

- Pentium 3 or 4, 800Mhz or better
- Microsoft Windows XP (Professional and Home Edition) or Windows 2000 with SP4
- QuickTime 6.5 or 7.0 (when released)
- QuickTime 6.5 or later
- Windows Media 9
- DirectX 8.1 or greater
- 256 MB RAM
- 200 MB available hard disk space

In general, system performance parameters such as processor type, quantity, cache size, disk drive type and size, and graphics card type and settings will affect overall system performance when using Cleaner XL. Faster multiple CPUs will increase encoding performance. Adequate RAM, disk performance, and storage capacity should be considered for media type, size, and workflow demands. In general, hardware that is faster with higher capacity is usually better.

33. What are the minimum system requirements for Cleaner 6.5?

Minimum System Requirements:

- Apple Macintosh computer with PowerPC® G4 or faster processor (recommended: G5 or G5 dual processor)
- Mac OS X 10.3. or 10.4
- QuickTime 6.5 or 7
- 128 MB of RAM (recommended: 256 MB of RAM)
- Display card supporting 1024x768 resolution and 16-bit color (24-bit color recommended)
- CD-ROM drive
- 35 MB of available hard drive space

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