Solution Brief

Advanced Photo Editing
Visual Computing

intel

Harnessing New Hybrid Architecture from Intel to Accelerate Capture One Features

Capture One, a top-notch photo editing application geared to the needs of professionals, speeds up workload throughput with the 13th Gen Intel® Core™ Processor Family.

"With 13 Gen Intel Core Processors, we are seeing a 20% to 30% speedup on image import and export workloads compared to 12th Gen Intel Core Processors. Comparing with earlier generations, of course, shows even more speedups."
– Daniele Brazzolotto, Engineering Manager, Capture One

Any photographer working with large-scale collections of images knows the importance of maximizing compute performance for speed and efficiency. The latest release of the Capture One 23 RAW converter and editing application capitalizes on the capabilities of 12th and 13th Gen Intel Core processors for faster, more rewarding image editing, organizing, importing and exporting. Users gain the advantages of creative editing tools and content management options, as well as benefitting from higher productivity through access to intelligently accelerated features and expanded functionality.

Professional photographers as well as prosumers typically gravitate toward photo applications with a user interface (UI) organized to best support daily workflow patterns. Designed to complement professional requirements, Capture One enables workflows that streamline common tasks and provide easy access to specialized editing tools for precisely adjusting and processing images in a logical and convenient way.

Working together closely, Intel and Capture One have co-engineered the application to take advantage of the hybrid architecture of recent Intel Core processors, using the P and E cores (Performance and Efficiency Cores) to maximize efficiency. Intel Thread Director has been optimized to work in concert with Microsoft Windows 11 scheduler to allocate threads for intelligent workload distribution and top performance.

Next Generation Processing Power

Capture One—notable for its exceptional handling of RAW image files—excels at intensive graphics processing operations. The next-level performance of 13th Gen Intel Core processors strengthens this capability further. An increase in the Intel Smart Cache (L3) and additional E-cores in the select desktop processors delivers more efficient processing of larger data sets and improved performance. Up to 24 cores are available (8 Performance-cores and 16 Efficient-cores). Performance cores can reach 5.8 GHz with Intel Thermal Velocity Boost. Lightly threaded performance can be boosted by Intel Turbo Boost Max Technology 3.0, selecting top-performing Performance-cores.

For focused photo editing sessions, Enhanced Intel UHD Graphics can feed up to four 4K60 displays or an 8K60 HDR video display. Supported by Intel Xᵉ Architecture, responsive, high-quality video can be tapped for a premium visual experience.

Rapid handling of large graphics files is aided by PCIe 5.0 (up to 16 lanes) with readiness up to 32 GT/s to maximize access to discrete graphics, storage and connected devices. Capture One benefits a lot from these new features, and the photograher will clearly notice a faster workflow.

For image processing operations that use artificial intelligence and machine learning (AI/ML) in their applications, Intel Arc series solutions include AI acceleration via 1024-bit Matrix Engines or Xᵉ Matrix eXtensions. Capture One is actively exploring AI possibilities for present and future solution releases.

Capture One Pro 23 Overview

The company's flagship image-editing solution, Capture One Pro 23, delivers an extensive portfolio of tools enabling professional photographers to manage four key applications: RAW converting, images adjustments in layers, wired and wireless camera tethering and organization of content.

Key Program Features

Other key features of Capture One Pro 23 include:

- **Smart Adjustments** – Reduce editing time massively with Smart Adjustments. Get a similar look across photos that are shot under different lighting conditions by automatically adjusting Exposure and White Balance — optimized for portraits, weddings or other jobs featuring people.
- **Faster culling** – Sort and select images even faster. Rate and tag images directly in the importer or using the dedicated cull view once images are already in Capture One Pro. Get an easier overview of similar images with automatic group view. Plus, instant browsing allows you to click through images with zero delay.
- **Layers in Styles** – Have more control over editing and full flexibility over your Style workflow with the ability to include Layers in Styles. Apply edits to multiple Layers from a single Style, allowing for easier opacity control and versatility. Save your own styles with Layers in them or get layered version of Capture One Style Packs.
- **Advanced color editing** controls colors precisely, providing color isolation for fine tuning or dramatic image changes, management of color gradations for exact skin tones or a specific look, concurrent changes to multiple elements of a photo and more
- **Extensive RAW support**, including compatibility with over 600 individual cameras and RAW file types, with true-to-life color processing for rich, vibrant colors hand-matched to selected cameras

Delivering Speed and Efficiency with Intel Deep Link Technology

Intel and Capture One engineers collaborated on integrating Intel Deep Link technology into the application. Intel Deep Link Technology effectively equips Intel computing components to operate together fluidly, harnessing the capabilities of available processing units to improve speed and efficiency of graphics tasks without incurring undue overhead.

Depending on the system configuration in use—whether powered by a 13th Gen Intel Core processor with GPU resident on the SOC or a system containing a discrete Intel A300 or A700 series GPU—Intel Deep Link makes intelligent use of available GPUs. For systems without a strong GPU, the CPU can be selected for fast, efficient Export operations using Deep Link technology. Deep Link also delivers more responsive rendering to the Capture One Viewport.

The capabilities of Intel Deep Link and support for executing OpenCL applications provide an optimal environment for fast graphics performance.

Fast, Advanced Image Editing

The hardware capabilities of 13th Gen Intel Core processors and Intel Arc graphics solutions enhance the performance and efficiency of software tools included in the Capture One Pro 23 photo editing application. Optimized and tuned hardware and software components—smart solutions built on the collaborative work between Intel and Capture One—bring new opportunities to the photography community for creating stunning, powerful images and making advanced editing fast and accessible for everyone.

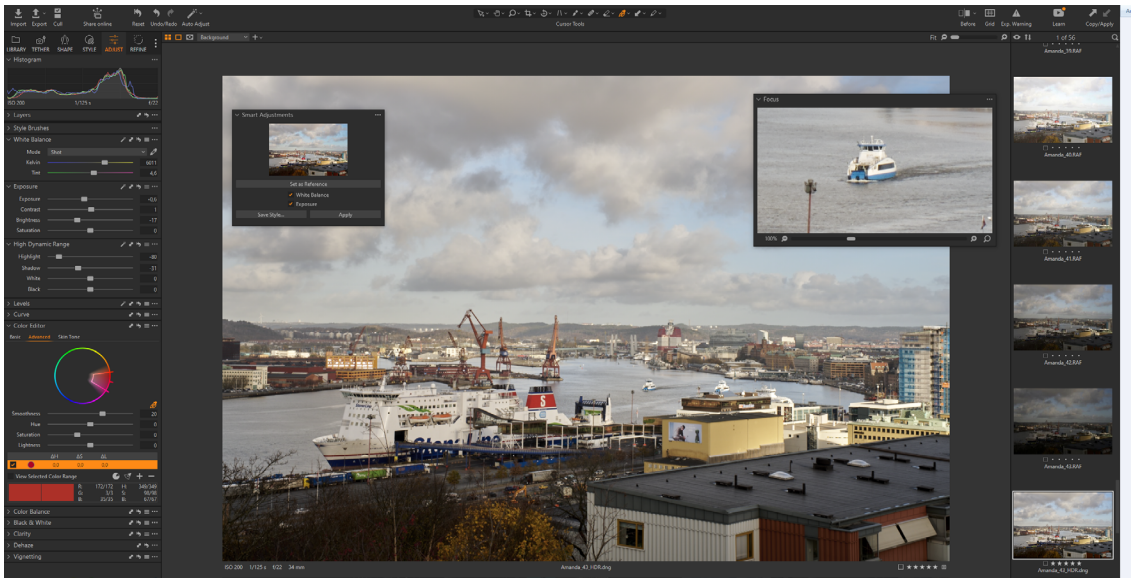

Figure 1. A customizable UI adapts to individual preferences.

Resources

Learn more about Intel Deep Link technology and the ways in which it can improve content creation and productivity.

Explore the current and upcoming excitement building around Intel Arc graphics solutions.

Explore the latest features of Capture One and tap into the creative options available.

Intel Create and Intel Arc Graphics

Expand your creative skills and learn more about the latest Intel Graphics technologies, including Intel Arc and the ways it has enhanced the performance and capabilities of many applications that empower artists, animators, filmmakers and photographers.

Learn more ›

About Capture One

Based in Copenhagen, Denmark, Capture One creates world-class tools for editing, organizing, and working with photos. What started as an application for powerful Phase One cameras led to an award-winning software application used by photographers and studios worldwide. In collaboration with a team of global partners, Capture One innovates constantly to empower image creators everywhere to keep photography for customers one step ahead.

Capture One

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