

RTX Blackwell for Creators

CES Editor's Day 2025 Session 5

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The Generative AI Era of Content Creation

Compute

Analog Video





Digital Editing



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NVIDIA Blackwell For Creators

9th GEN ENCODERS & 6th GEN DECODERS

4:2:2 & MV-HEVC Support, Improved Quality, AV1 UHQ

4th GEN RT CORES

RTX Mega Geometry

Up to 32GB, World's Fastest Memory

BLACKWELL MAXQ 2X Power Efficiency



Al Models Outpacing GPU Compute and VRAM



2022 Stable Diffusion 1B Parameters



2023 Stable Diffusion XL 3.5B Parameters 2024 Flux 12B Parameters







Flux.dev FP16 RTX 4090 23GB VRAM 15 sec generation

Blackwell FP4 Over 2X performance and half the VRAM with comparable quality

Measured on December 2024 with NVIDIA Driver 570, Intel Core i9 14900K

Flux.dev FP4 RTX 5090 10GB VRAM 5 sec generation



3D Blender Scene







Shutterstock 3D Generator

3D Guided Generative AI Blueprint

Powered by NVIDIA NIM

Available in February from ai.nvidia.com







The Rise of 4:2:2 Video Cameras



2020

Source: RTings.com



Source



4:2:2 Provides 2X the Color Information for 1.3X the RAW File Size

Luminosity



Blueness











Redness



4:4:4 2X RAW File Size 4X Color



4:2:2 1.3X RAW File Size 2X Color



4:2:0

1X RAW File Size 1X Color





4:2:0 8-bit

4:2:2 10-bit





Sharper Text











4:2:2

Blackwell Adds 4:2:2 Decode and Encode Support



Playback up to 9X 4K60 4:2:2 Streams per Decoder



10 min

1 hr 50 min

Encode 4:2:2 up to 11X Faster







Improved AV1 & HEVC Quality New AV1 UHQ Mode

Video Quality measured at 4K60 with multiple gaming sequences | Encode performance measured on DaVinci Resolve with R570 Driver Intel Core i914900K CPU

9th Generation Encoder

Up to 3 encoders with improved quality



Faster Exports with Triple NVENC





Pro-Grade Video Editing with GeForce RTX 50 Series

- Optimized for Generative AI
- 4:2:2 Decode and Encode
- Faster Exports with Multiple Encoders
- Improved Quality and AV1 UHQ mode

Starting in February:

Adobe CapCut DaVinci Resolve









Announcing Streamlabs Intelligent Streaming Assistant



Al sidekick, producer, and technical support

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	ictory	55	
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	gameover	55	
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Scenes

Livestream

Scene 2

Ending Screen

Sources

Facecam

Bar Overlay

Alertbox

Live Demo: Streamlabs Intelligent Streaming Assistant





Streamlabs Intelligent Streaming Assistant Powered by NVIDIA ACE & Inworld





The New NVIDIA Broadcast Your Al-powered home studio

- New Studio Voice and Virtual Key Light
- Updated Noise Removal, Virtual Background, and Eye Contact
- Refreshed UI

Available in February

Studio Voice

Premium audio quality with any microphone

Noise Data

Input Frame

Background

Virtual Key Light

Al face relighting

Relight Streamer

Composition

Relight Frame

Camera Input

Virtual Key Light AI face relighting

NVIDIA Virtual Key Light

Ultimate 3D Rendering

Powered by 4th generation RT cores

- 1.4X performance
- Up to 32GB and Mega Geo for larger 3D scenes
- DLSS 4 for smoother viewports
- RTX Remix with Neural Rendering and DLSS 4

Measured on RTX 5090 and 4090 with Intel Core i9 14900K CPU

Accelerate 3D Workflows with Generative Al 1.5X Performance with GeForce RTX 50 series

Object Generation Stable Fast 3D

Texture Generation RTX Remix

HDRi Generation Stable Diffusion

Animation Generation NVIDIA Audio2Face

Announcing SPAR3D model from Stability AI Generate 3D meshes in seconds with RTX AI PCs

Available in HuggingFace today; NIM coming soon

Generative Al 2X Performance and Half the Size with FP4

GeForce RTX 50 Series

Built for the GenAl content creation era

Pro-Grade Video Editing

4:2:2 Support and Faster Exports

NVIDIA Broadcast $\mathbf{\Omega}$ Video Audio 🗔 My Webcam Video Effects \$ > Virtual Background Blur, remove or replace your background > Auto Frame Keeps camera zoomed and centered on you while you move Video Noise Removal Reduces video noise typically found in low light situations Eye Contact Redirects your gaze toward the camera > Vignette Darkens the corners of the frame

AI Livestreaming Streaming Assistant and NVIDIA Broadcast

AI 3D Rendering DLSS 4 and 4th Gen RT Cores

Thank You

