



SUPRIM X

DLSS 3 / RAY TRACING / REFLEX / STUDIO

GEFORCE RTX
4070 Ti



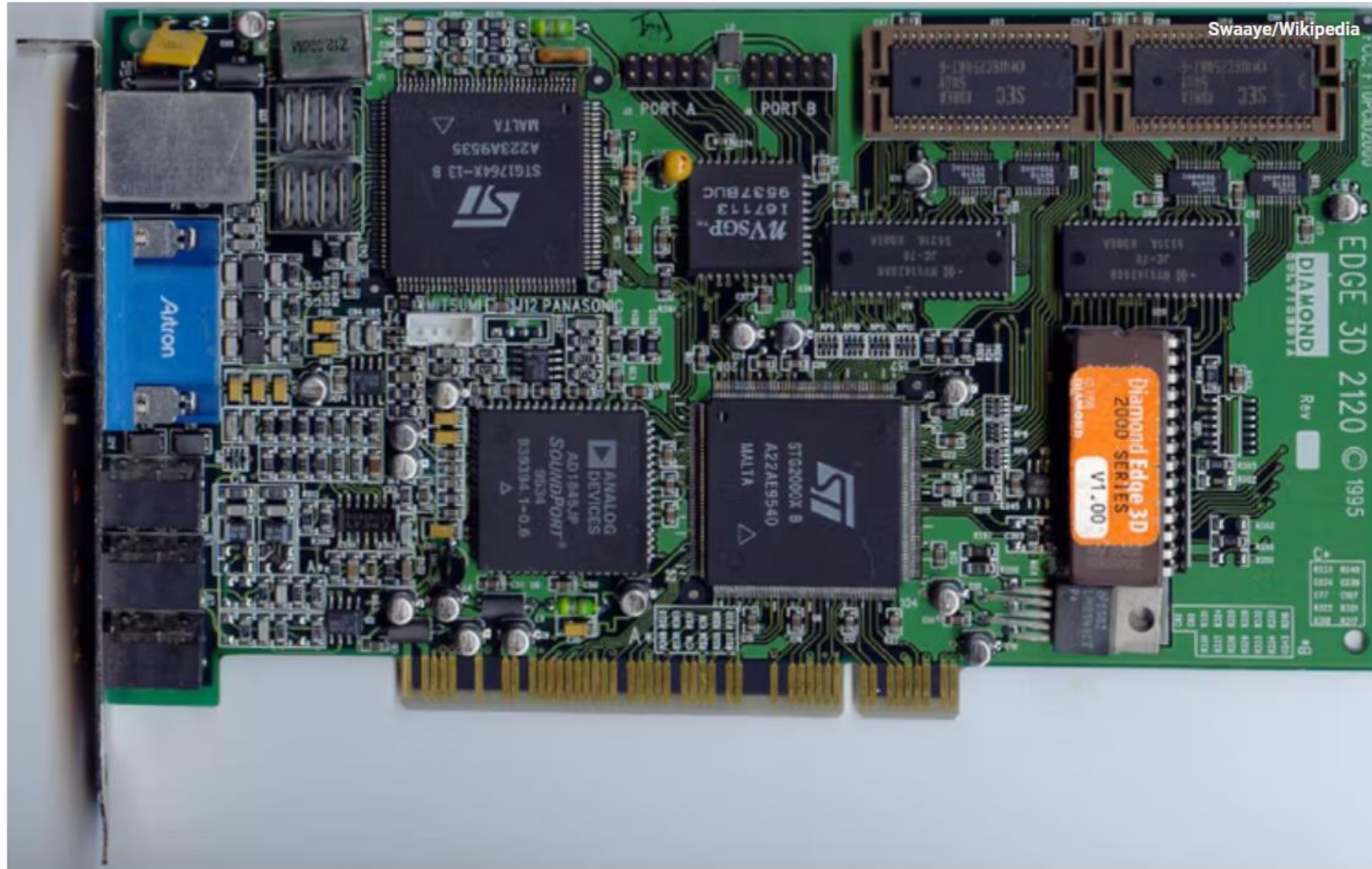
Kelvin Cording
March 2023



This image by Albrecht Dürer from 1532 shows a man using a grid layout to create an image. The German renaissance artist is credited with first describing the technique.

A Little Bit of History

Nvidia NV1



The Nvidia NV1 launched in 1995 and was able to handle both 2D and 3D video.

Nvidia GTX 960
(first released 2015)



My first GTX Card



The **GeForce 20 series** is a family of graphics processing units developed by Nvidia. Serving as the successor to the GeForce 10 series, the line started shipping on September 20, 2018, and after several editions, on July 2, 2019, the **GeForce RTX Super** line of cards was announced.

My Nvidia RTX 2070 Super

Nvidia GeForce30 series



The GeForce 30 series succeeded the 20 series and unfortunately became most well-known for simply being impossible to get hold of due to the silicone shortage.

The **GeForce 30 series** is a suite of graphics processing units (GPUs) designed and marketed by Nvidia, succeeding the GeForce 20 series. The GeForce 30 series is based on the Ampere architecture, which feature Nvidia's second-generation ray tracing (RT) cores and third



Released 2021/22

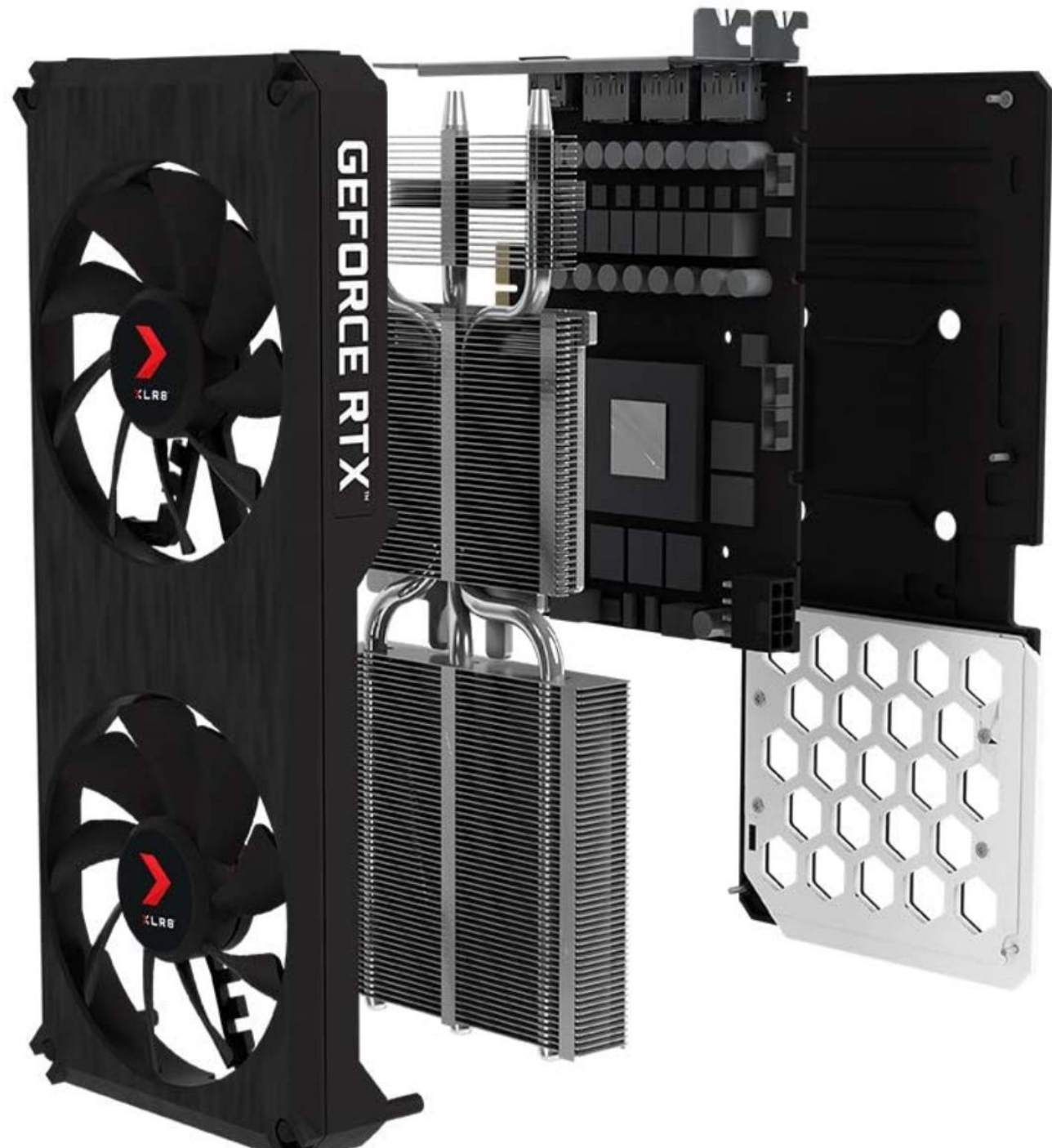


GPU	VRAM	Cores	Boost Clock	Power	MSRP
RTX 3060	12GB	3,584	1.75 GHz	170W	\$329
RTX 3060 Ti	8GB	4,864	1.67 GHz	200W	\$399
RTX 3070	8GB	5,888	1.70 GHz	200W	\$499
RTX 3070 Ti	8GB	6,144	1.77 GHz	290W	\$599
RTX 3080	10GB	8,704	1.71 GHz	320W	\$699
RTX 4070 Ti	12GB	7,680	2.61 GHz	285W	\$799
Radeon 7900 XT	20GB	5,376	2.4 GHz	315W	\$899
Radeon 6900 XT	16GB	5,120	2.25 GHz	300W	\$999
Radeon 7900 XTX	24GB	6,144	2.5 GHz	355W	\$999
RTX 3080 Ti	12GB	10,240	1.67 GHz	350W	\$1,199
RTX 4080	16GB	9,725	2.51 GHz	320W	\$1,199
RTX 3090	24GB	10,496	1.73 GHz	350W	\$1,499
RTX 4090	24GB	16,384	2.52 GHz	450W	\$1,599
RTX 3090 Ti	24GB	10,752	1.86 GHz	450W	\$1,999





My Nvidia RTX 4070ti Card



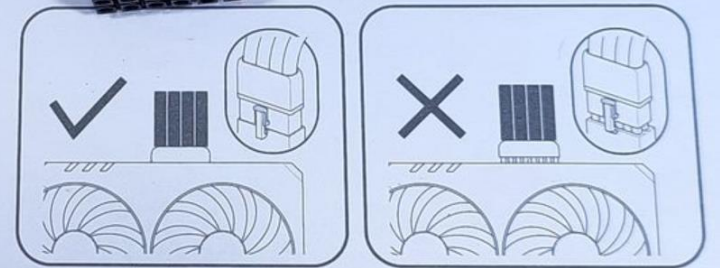


The dual 8-pin to 16-pin cable adapter:



Make sure that the 16-pin cable is fully inserted into a PCI-E port on the graphics card, so that the plastic tab on the top of the cable connector clicks into place.

Do not bend this cable in order to achieve full insertion.



Some Terms

(TFLOPS) 1 teraFLOPS equals one trillion (10^{12}) floating-point operations per second.

A shader –

is a computer program that calculates the appropriate levels of light, darkness, and color during the rendering of a 3D scene.

Ray Tracing-

mathematical method capable of simulating a variety of optical effects such as reflection, refraction, soft shadows, scattering etc

Tensor Core –

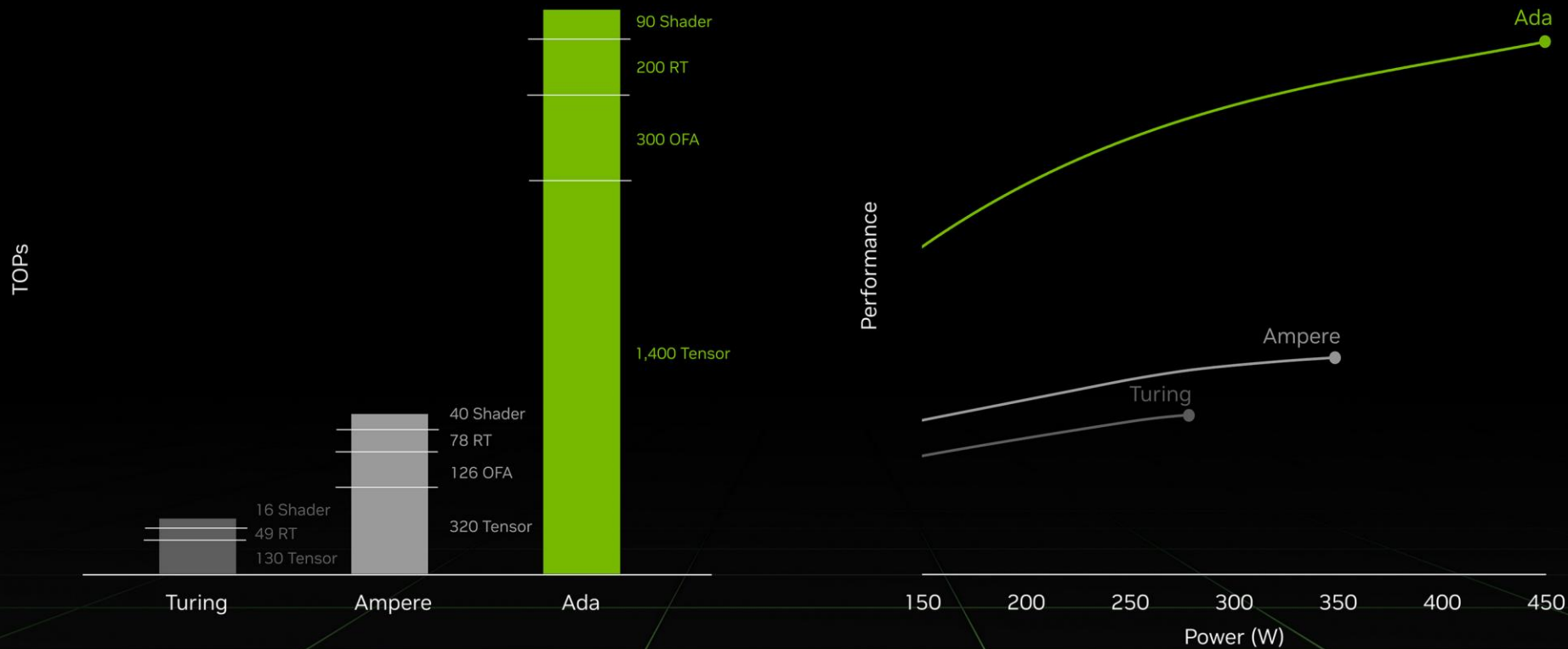
specialized processing subunits,

Optical Flow Analysis(OFA)

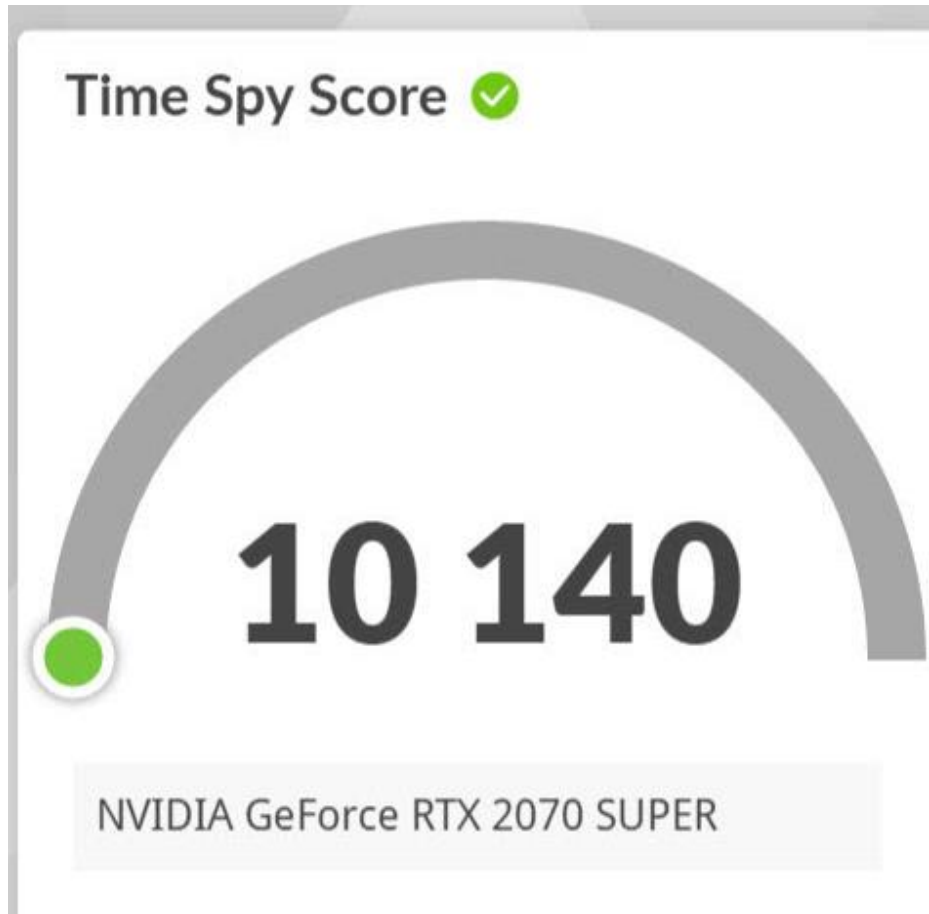
is a technique used to describe image motion. It is usually applied to a series of images that have a small time step between them, for example, video frames. Optical flow calculates a velocity for points within the images, and provides an estimation of where points could be in the next image sequence. Can double the frame rate of a video.

NVIDIA ADA LOVELACE

Giant Leap in Processing Throughput and Energy-Efficiency

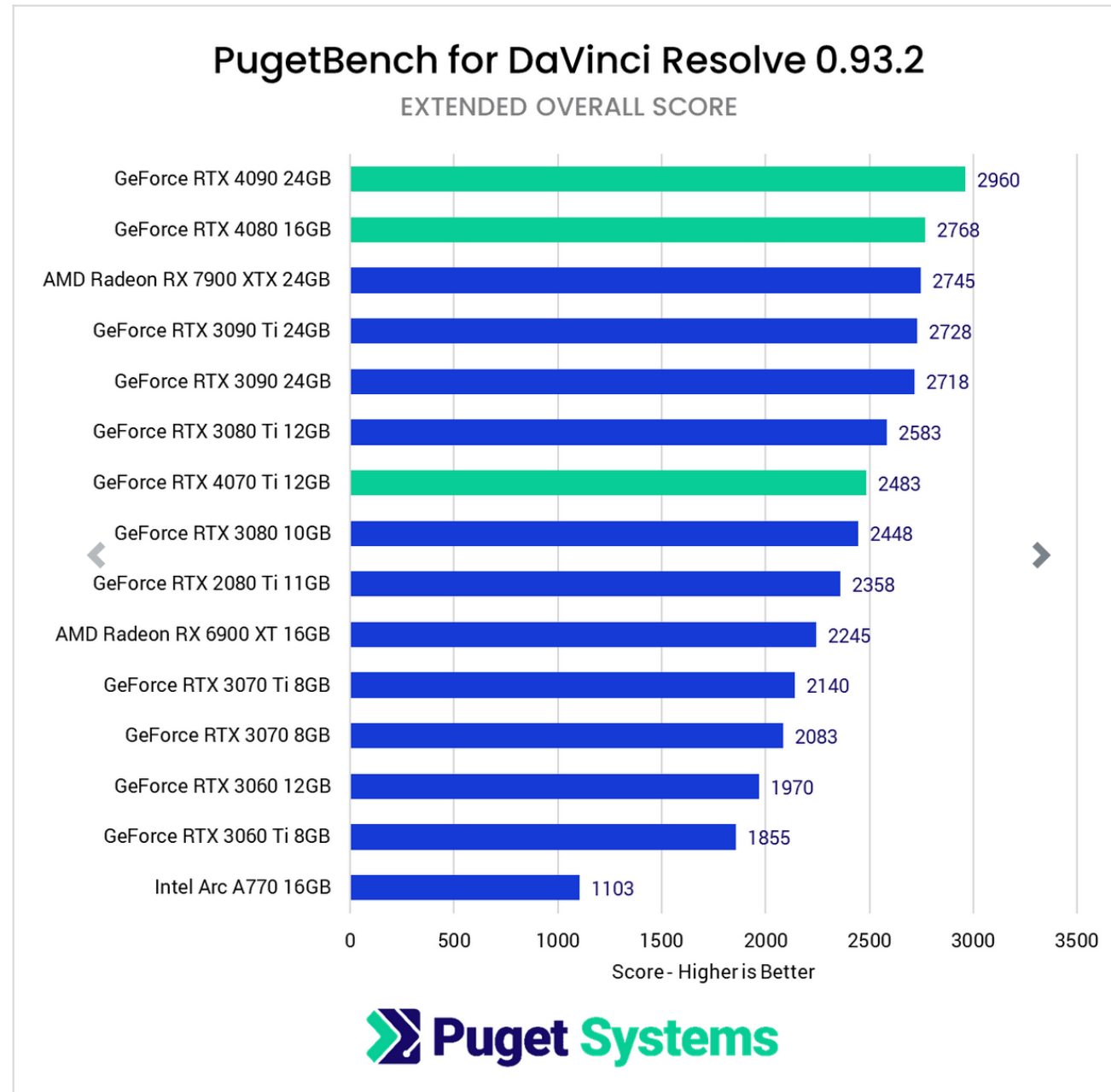


The Nvidia GeForce RTX 4070 Ti is a high-end card with up to **40 TFLOPs** of compute performance, 7680 CUDA cores and 12GB of GDDR6X memory clocked at 21 Gbps.

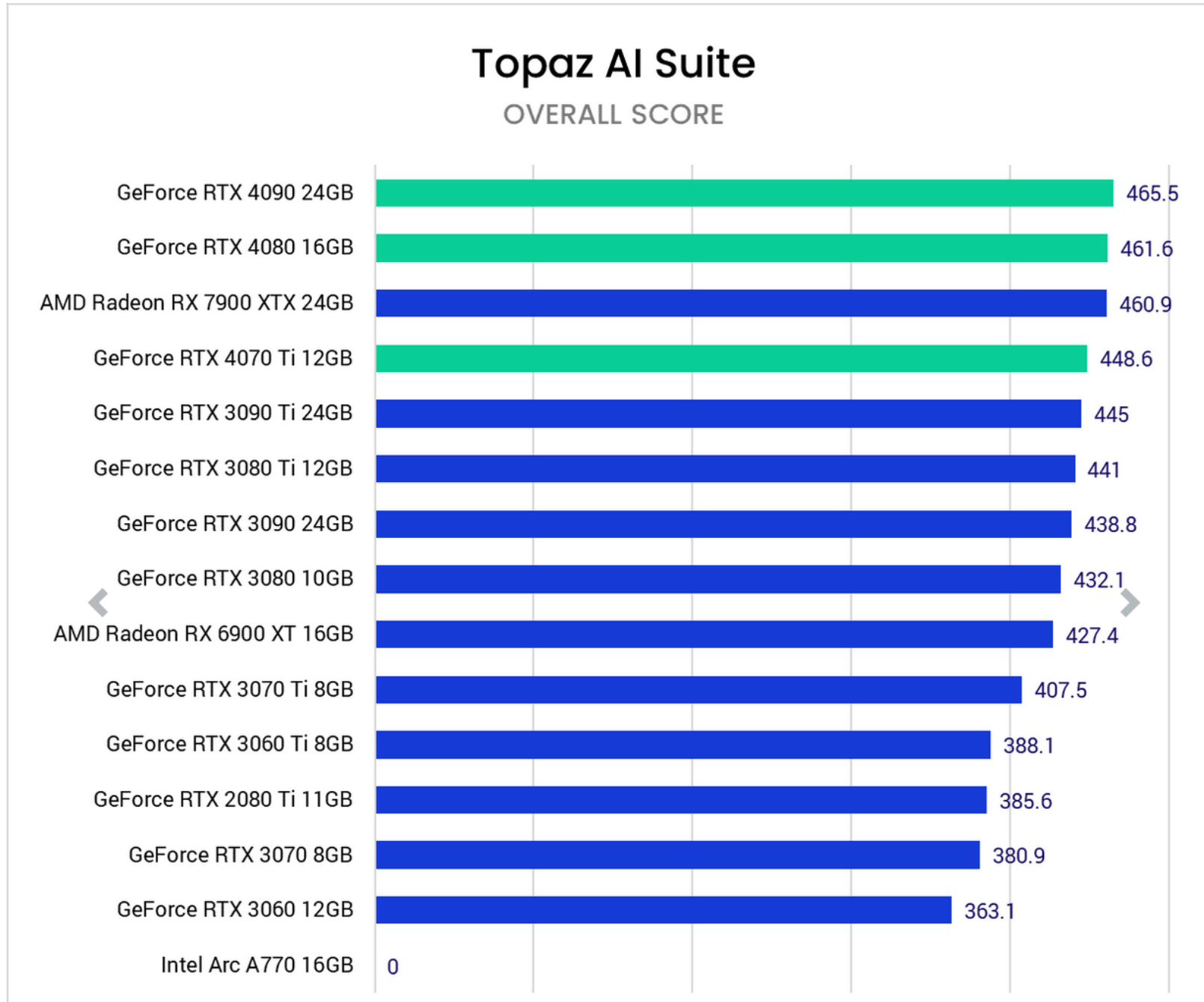


Benchmark - Performance

Overall DaVinci Resolve Studio Performance Analysis



Overall Topaz AI Performance Analysis



[Watch this Video](#)

