

# Release Notes

DRIVER VERSION: 27.20.100.8587

DATE: Aug 18, 2020

## HIGHLIGHTS:

- Performance Optimizations for **Wasteland 3\*** and **Crusader Kings III\*** on 10th Generation Intel Core processors with Intel® Iris Plus graphics.

## GAMING HIGHLIGHTS\*1:

- Harness powerful magic to defeat your rivals in **Spellbreak\***, Get immersed in the post-apocalyptic world that you're trying to rebuild in **Wasteland 3\***, gear up to experience the next-generation of football in **Madden NFL 21\***, join a team to perform surgery and try to save lives in **Surgeon Simulator 2\***, unearth the secrets of the Forbidden Islands in your struggle to survive in **Windbound\***, leverage your strategic acumen to safeguard the prosperity of your royal house in **Crusader Kings III\*** and jump into the fray and compete to win in **Fall Guys: Ultimate Knockout\*** on Intel® Iris® Plus graphics or better.

Get a front row pass to gaming deals, contests, betas, and more with [Intel Software Gaming Access](#).

\*2 Are you still experiencing an error preventing the driver update? Look here for [why and a solution](#).

## DEVELOPER HIGHLIGHTS:

- Adds support for the Vulkan\*<sup>3</sup> extension VK\_EXT\_pipeline\_creation\_cache\_control - This Khronos\* extension adds flags to Vk\*PipelineCreateInfo and VkPipelineCacheCreateInfo structures with the goal of providing information about potentially expensive hazards within the client driver during pipeline creation to the application before carrying them out rather than after.

## KEY ISSUES FIXED:

- Intermittent crash or hang seen in Cities Skylines, F1 2020\* (DX12), FIFA20\* (when switching between windowed and full screen) on 10th Generation Intel Core processors with Intel Iris Plus graphics.
- Intermittent crash or hang seen in Rocket League when switching the display from duplicate to extended mode and vice versa on 10th Generation Intel Core processors.
- Minor graphics anomalies may be observed in Tom Clancy's The Division 2\* (DX12), Rise of the Tomb Raider\*(DX12).
- Corruption observed in Microsoft Word / Excel when resizing and toggling between windowed or Fullscreen mode on 10th Generation Intel Core processors with Intel Iris Plus graphics.

This document provides information about Intel Graphics Driver for:

- 10<sup>th</sup> Generation Intel Core processors with Intel Iris Plus graphics and UHD Graphics.
- 9<sup>th</sup> Generation Intel Core processors, related Pentium®/Celeron® processors, and Intel Xeon® processors, with Intel UHD Graphics 630.

- 8<sup>th</sup> Generation Intel Core processors, related Pentium/ Celeron processors, and Intel Xeon processors, with Intel Iris Plus Graphics 655 and Intel UHD Graphics 610, 620, 630, P630.
- 7<sup>th</sup> Generation Intel Core processors, related Pentium/ Celeron processors, and Intel Xeon processors, with Intel Iris Plus Graphics 640, 650 and Intel HD Graphics 610, 615, 620, 630, P630.
- 6<sup>th</sup> Generation Intel Core, Intel Core M, and related Pentium processors, with Intel Iris Graphics 540, Intel Iris Graphics 550, Intel Iris Pro Graphics 580, and Intel HD Graphics 510, 515, 520, 530.
- Intel Xeon processor E3-1500M v5 family with Intel HD Graphics P530
- Pentium/ Celeron processors with Intel HD Graphics 500, 505 and Intel UHD Graphics 600, 605
- Intel® Core™ Processors with Intel® Hybrid Technology

## CONTENTS OF THE PACKAGE:

- Intel Graphics Driver
- Intel Audio Driver 10.26.0.9 (6<sup>th</sup> Gen and related Pentium Silver and Celeron processors)
- Intel Audio Driver 10.27.0.9 (7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> Gen)
- Intel Audio Driver 11.1.0.17 (10<sup>th</sup> Gen with Iris Plus Graphics)
- Intel Audio Driver 11.2.0.4 (Intel® Core™ Processors with Intel® Hybrid Technology)
- Intel Media SDK Runtime (10.0.0.026)
- Intel Graphics Compute Runtime for OpenCL™ Driver
- Intel Graphics Command Center
- Vulkan\*<sup>3</sup> Runtime Installer
- Intel Graphics Installer (1.7.117)
- OneAPI Level Zero Loader and Validation Layer
- Intel® Graphics Compute Runtime for OneAPI Level Zero specification

### **Note\***<sup>i</sup>

The OneAPI Level Zero Loader relies upon a registry entry to find the path to the Intel® Graphics Compute Runtime driver, which is configured during installation.

A standalone OneAPI Level Zero SDK is not yet available, but the necessary headers and libraries can be downloaded and built from: <https://github.com/oneapi-src/level-zero>

- OneAPI Specification: <https://spec.oneapi.com/versions/latest/introduction.html>
- OneAPI Level Zero Specification: <https://spec.oneapi.com/versions/latest/oneLO/index.html>

## OPERATING SYSTEM SUPPORT:

On 10<sup>th</sup> Generation Intel Core, 9<sup>th</sup> Generation Intel Core, 8<sup>th</sup> Generation Intel Core, 7<sup>th</sup> Generation Intel Core, and 6<sup>th</sup> Generation Intel Core processors, Intel Xeon processors for mobile workstations and related Pentium/Celeron processors:

- Microsoft Windows® 10-64 - Fall Creators Update (1709)
- Microsoft Windows 10-64 - April 2018 Update (1803)
- Microsoft Windows 10-64 - October 2018 Update (1809)
- Microsoft Windows 10-64 – May 2019 Update (1903)
- Microsoft Windows 10-64 – November 2019 Update (1909)
- Microsoft Windows 10-64 – May 2020 Update (2004)

## KNOWN ISSUES:

- Intermittent crash or hang may be seen in Red Dead Redemption 2\* (Vulkan), Call of Duty: Modern Warfare\* (DX12), Tom Clancy's Ghost Recon Breakpoint\* (DX11) on 10th Generation Intel Core processors with Intel Iris Plus graphics.
- Minor graphics anomalies may be observed in Battlefield V\* (DX12), Rage 2\* (Vulkan), Star Wars Battlefront 2\* (DX12), Control\* (DX12).

## SUPPORTED PRODUCTS:

### HARDWARE

All platforms with the following configurations are supported:

Intel Graphics <sup>1</sup>	DirectX*4	OpenGL*	OpenCL	Vulkan*	Intel Quick Sync Video
10 <sup>th</sup> Generation Intel Core processors with Intel Iris Plus Graphics	12	4.6	2.1	1..2	Yes
10 <sup>th</sup> Generation Intel Core processors with Intel UHD Graphics	12	4.6	2.1	1.2	Yes
9 <sup>th</sup> Generation Intel Core processors with Intel UHD Graphics 630	12	4.6	2.1	1.2	Yes
8 <sup>th</sup> Generation Intel Core processors with Intel Iris Plus Graphics 655	12	4.6	2.1	1.2	Yes
8 <sup>th</sup> Generation Intel Core processors with Intel UHD Graphics 610/620/630/P630	12	4.6	2.1	1.2	Yes
7 <sup>th</sup> Generation Intel Core processors with Intel Iris Plus Graphics 640/650	12	4.6	2.1	1.2	Yes
7 <sup>th</sup> Generation Intel Core processors with Intel HD Graphics 610/615/620/630	12	4.6	2.1	1.2	Yes
Intel Xeon processor E3-1500M v5 family with Intel HD Graphics P630	12	4.6	2.1	1.2	Yes
Pentium Processors with Intel HD Graphics 610	12	4.6	2.1	1.2	Yes
6 <sup>th</sup> Generation Intel Core processors with Intel Iris Pro Graphics 580	12	4.6	2.0	1.2	Yes
6 <sup>th</sup> Generation Intel Core processors with Intel Iris Graphics 540/550	12	4.6	2.0	1.2	Yes
6 <sup>th</sup> Generation Intel Core processors with Intel HD Graphics 520/530	12	4.6	2.0	1.2	Yes
Intel Xeon processor E3-1500M v5 family with Intel HD Graphics P530	12	4.6	2.0	1.2	Yes
Intel Xeon processor E3-1500M v5 family with Intel Iris Pro Graphics P580	12	4.6	2.0	1.2	Yes
Intel Core M processors with Intel HD Graphics 515	12	4.6	2.0	1.2	Yes
Pentium and Celeron processors with Intel HD Graphics 500/505/510	12	4.6	1.2	1.2	Yes
Pentium and Celeron processors with Intel UHD Graphics 600/605	12	4.6	1.2	1.2	Yes
Intel® Core™ Processors with Intel® Hybrid Technology	12	4.6	2.1	1.2	Yes

If you are uncertain of which Intel processor is in your computer, Intel recommends using the [Intel Processor Identification Utility](#) or Install the [Intel Driver & Support Assistant](#) (previously called Intel Driver Update Utility) to identify your Intel processor.

## More on Intel Core Processors

For more information on the Intel Core processor family, Intel Xeon E processor family, and 10<sup>th</sup> Generation Intel Core processors, please visit:

[Intel 10<sup>th</sup> Generation Core Processors](#)

<http://www.intel.com/content/www/us/en/processors/core/core-processor-family.html>

<http://www.intel.com/content/www/us/en/processors/xeon/xeon-processor-e3-family.html>

<http://www.intel.com/graphics>

*Work and play in high resolution with Intel UHD Graphics, Intel Iris Graphics, Intel Iris Plus Graphics, and Intel Iris Pro Graphics. Watch captivating 4K Ultra HD (UHD) video on up to three screens, edit photos and videos like a pro, and immerse yourself in vividly rendered, seamless 3D gameplay - all with the added power boost of an Intel Core processor. Intel Graphics bring stunning visuals to thinner and lighter portable devices, like laptops, 2 in 1s, and desktop computers.*

Be sure to check out [gameplay.intel.com](http://gameplay.intel.com), where you'll find recommended in-game settings for your Intel Graphics system for many more of your favorite games.

We continuously strive to improve the quality of our products to better serve our users and appreciate [feedback](#) on any issues you discover and suggestions for future driver releases. If you have an issue to submit, **please follow the guidance found here** [Default level information for reporting Graphics issues](#).

Intel, the Intel logo, Celeron, Intel Core, Iris, Pentium and Xeon are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

\* Other names and brands may be claimed as the property of others.

\*<sup>1</sup> Intel Labs conducts independent testing of supported titles on Intel platforms to ensure playability. Please refer to publisher system requirements to ensure compatibility with your system.

\*<sup>2</sup> Graphics Driver Smart Installer Enhancement allows end-users to upgrade systems with OEM DCH drivers to newer Intel generic DCH drivers. OEM customizations are preserved during this upgrade process, in accordance with Microsoft\* DCH driver design principles (refer to Microsoft documentation, "Extension INF Publishing Whitepaper" to learn more). The installer will continue to restrict OEM non-DCH to Intel Generic non-DCH upgrades as well as OEM non-DCH to Intel Generic DCH driver upgrades. End-users will continue to be referred to OEM websites.

WARNING: Installing this Intel generic graphics driver will overwrite your Computer Manufacturer (OEM) customized driver. OEM drivers are handpicked, customized, and validated to resolve platform-specific issues, enable features and enhancements, and improve system stability. The generic driver's intention is to temporarily test new features, game enhancements, or check if an issue is resolved. Once testing is complete Intel advises reinstalling the OEM driver until they validate it and release their own version.

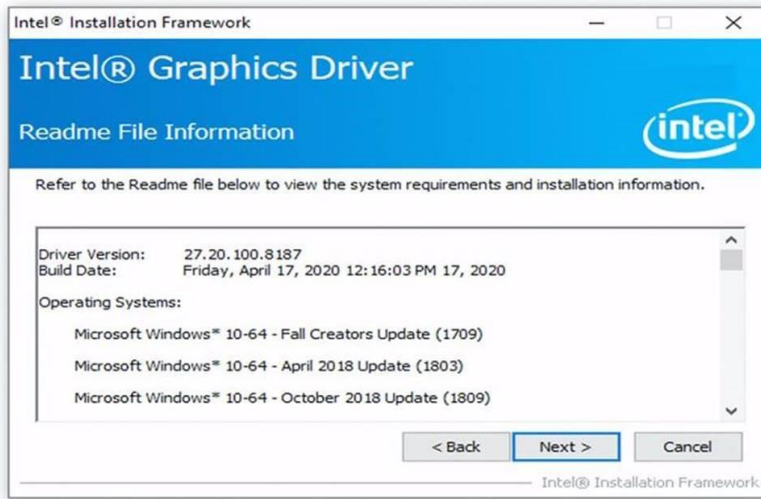
Any graphics issues found using Intel generic graphics drivers should be [reported directly to Intel](#). Corporate customers should always use OEM drivers and report all issues through the vendor they purchased the platforms and support through.

\*<sup>3</sup> Product is conformant with the Vulkan\* 1.2 specification. Vulkan\* and the Vulkan\* logo are registered trademarks of the Khronos Group Inc\*.

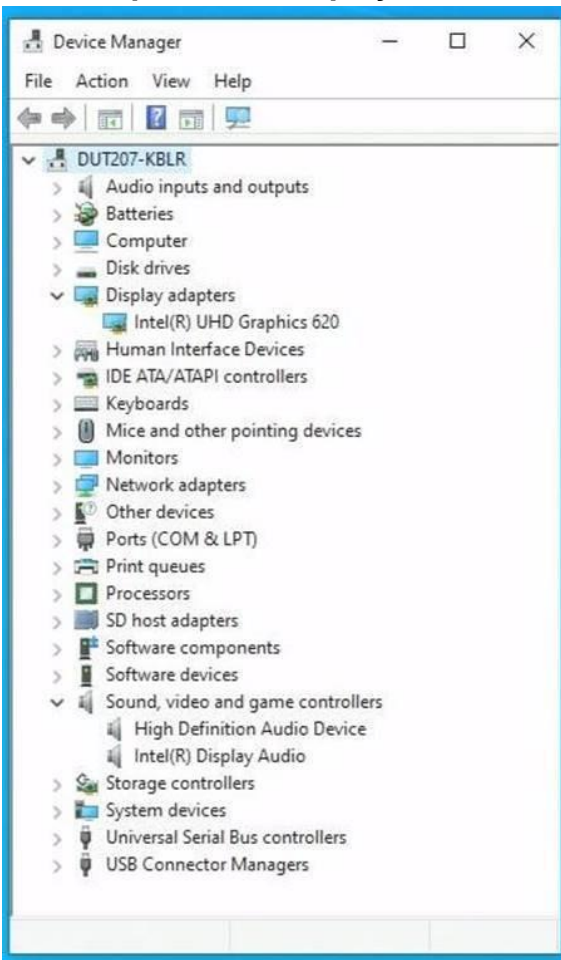
\*<sup>4</sup> In the Intel Graphics Command Center (System > Driver), the 'Microsoft DirectX\*' version refers to the operating system's DirectX version. The DirectX 12 API is supported but some optional features may not be available. Applications using the DirectX 12 API should query for feature support before using specific hardware features. Please note that DirectX12 is only supported on Windows 10 and DirectX11.3 support is also available on supported Microsoft\* operating systems.

\*5 Starting with driver 27.20.100.8190, there will no longer be an Intel Graphics Driver entry in Add or Remove Programs as recommended by Microsoft. Additionally, Graphics and Audio drivers must be uninstalled separately and only from Device Manager, as shown in the screenshots below.

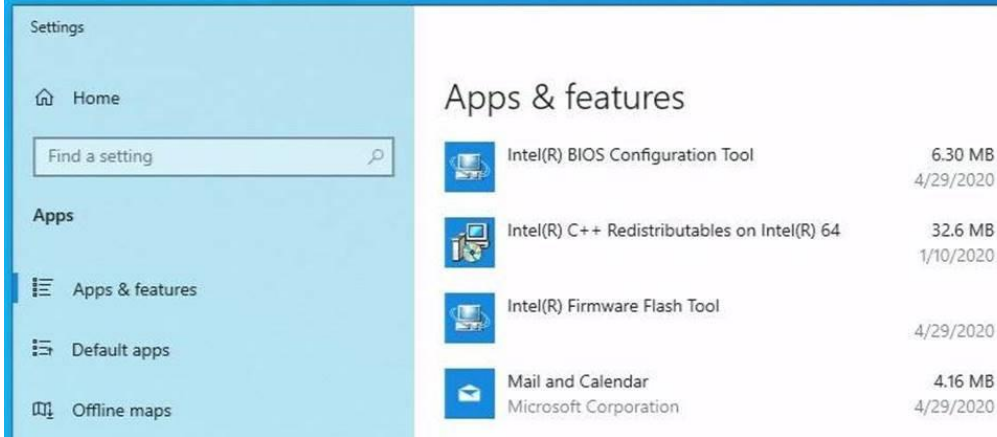
## Installation Process



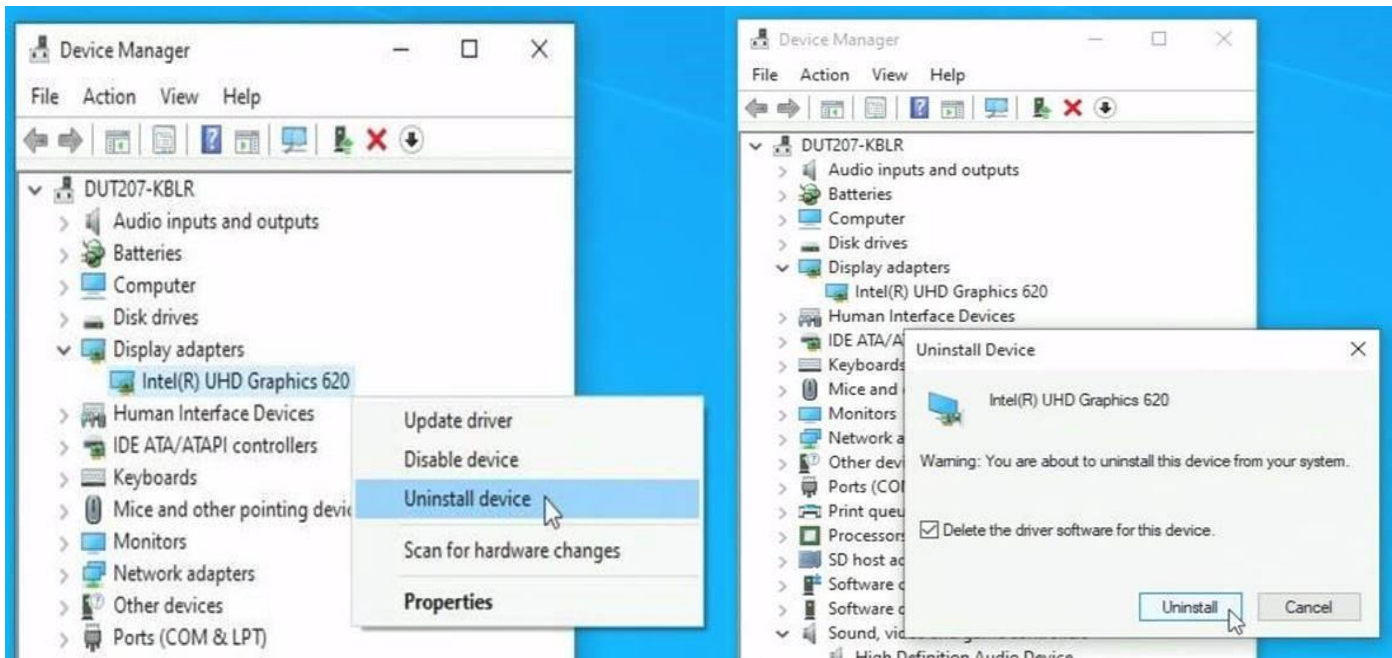
## Intel Graphics and Display Audio Drivers Installed



## Intel Graphics drivers from 27.20.100.8190 do not create "Add or remove programs" entry

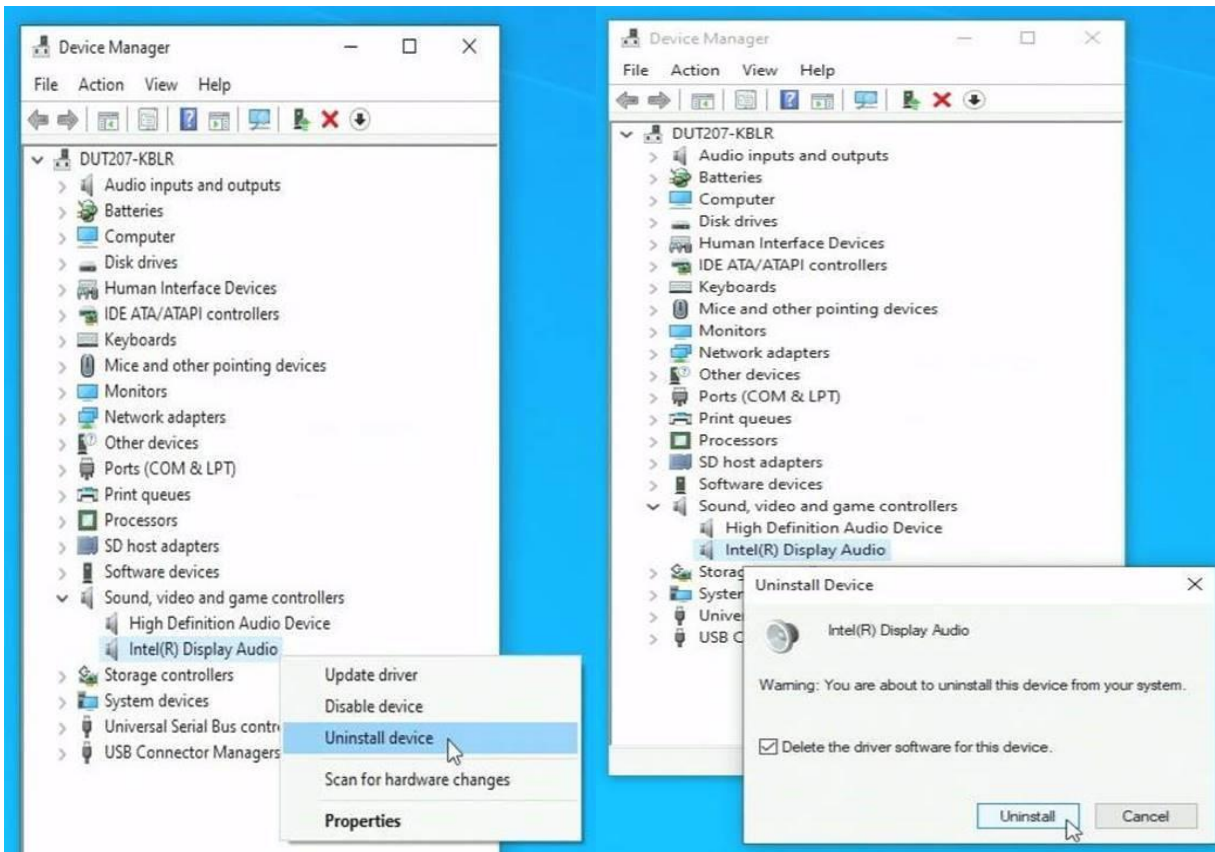


## Uninstalling Intel Graphics Driver





## Uninstalling Intel Display Audio Driver



## Intel Graphics and Display Audio Drivers Uninstalled

