

Release Notes

DRIVER VERSION: 25.20.100.6577

DATE: February 25th, 2019

HIGHLIGHTS:

- **Launch Driver**
 - [Dirt Rally 2.0](#)*
 - [Sid Meier's Civilization VI: Gathering Storm](#)*
 - [Apex Legends](#)*
- **Performance improvements for [Arma 3](#)***
- **Enhanced support for DirectML**

GAMING HIGHLIGHTS:

This is the Production release of the Beta driver previously of the same version which contains playability improvements for [Sid Meier's Civilization VI: Gathering Storm](#)* on 6th Generation Intel® Core processors or higher.

Carve your way off-road in [Dirt Rally 2.0](#)* or enjoy the second expansion in [Sid Meier's Civilization VI: Gathering Storm](#)* on Intel® UHD Graphics 620 or better.

Become the lone swordsman in [Onimusha: Warlords](#)* or the adventurous heroes in [Unruly Heroes](#)* or enjoy the latest entry in love simulation series, [Corda Octave](#)* on Intel® UHD Graphics 620 or better.

Strap yourself in the cockpit in [Ace Combat 7: Skies Unknown](#)* or team up for battle in [Apex Legends](#)* on Intel® UHD Graphics 630 or better.

DEVELOPER HIGHLIGHTS:

- **DirectML Metacommands** - this driver release contains functional fixes and performance improvements while adding support for few features:
 - Improved GPU frequency ramp speed giving performance boost to Metacommand enabled workloads
 - Support for Softplus activation
 - Support for fused operations to improve performance.
 - Support for Pooling Metacommand - this operation now uses metacommands for both FP32 and FP16 datatypes and is common in many topologies like Squeezenet*, Resnet*, Inception* etc.
- Enables Indigo benchmark application to run.
- Adds compiler API for DX11* and DX12* shaders to allow compiling shaders offline to analyze the ISA (native code) generated. This can run independently of the runtime driver and is expected to understand shader performance.

This document provides information about Intel's Graphics Driver for:

- 9th Generation Intel® Core processors, related Pentium®/Celeron® Processors, and Intel® Xeon processors, with Intel® UHD Graphics 630.
- 8th 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.
- 7th 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.
- 6th Generation Intel® Core processors, 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
Pentium®/Celeron® Intel UHD 600, 605

Be sure to check out gameplay.intel.com, where you'll find recommended game settings for many more of your favorite PC games.

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

CONTENTS OF THE PACKAGE:

- Intel® Graphics Driver
- Intel® Display Audio Driver (10.26.00.06)
- Intel® Media SDK Runtime
- Intel® OpenCL* Driver
- Intel® Graphics Control Panel

OPERATING SYSTEM SUPPORT:

On 9th Generation Intel® Core processors, 8th Generation Intel® Core processors, 7th Generation Intel® Core processors, 6th Generation Intel® Core and Intel® Mobile Xeon processors and related Pentium/Celeron:

Microsoft Windows* 10-64 - Fall Creators Update (1709)

Microsoft Windows* 10-64 - April 2018 Update (1803)

Microsoft Windows* 10-64 - October 2018 Update (1809)

NEW FEATURES:

- Performance improvements and optimizations for [Arma 3](#)* on 6th Generation Intel® Core processors or higher.
- Power and performance benefits for DX12* games and applications using placed resources.

KEY ISSUES FIXED:

- Intermittent crashes or hangs may occur in Cinema4D*, [Sid Meier's Civilization VI: Gathering Storm](#)*, vkQuake2*
- Minor graphics anomalies may be observed in [Final Fantasy XV](#)* and Microsoft* Edge browser.
- OpenGL stability fixes for background applications.
- Few Internal panels may show black screen after installing graphics driver.
- Content protection may not enable when resuming from sleep after connecting display port monitor.
- Rotation may not be persistent when swapping displays in multi-monitor configurations.
- Aspect ratio options may be missing in Intel® Graphics Control Panel for HDMI displays
- Garbage may be seen while using Multi Stream Transport (MST) monitors.

KNOWN ISSUES:

- Minor graphics anomalies may be observed in Battlefield V* (DX11*), Apex Legends* (6th Generation Processors only), Arma 3* (6th Generation Processors only), Re-Legion* and other games.
- Intermittent crashes or hangs may occur in Crackdown 3*, and other games.
- Corruptions may be seen in video recorded by Cyberlink* screen recorder.
- Color band may be observed on either side of Netflix* playback on HDR displays.

SUPPORTED PRODUCTS:

HARDWARE

All platforms with the following configurations are supported:

Intel® Graphics ¹	DirectX* ²	OpenGL*	OpenCL*	Vulkan*	Intel® Quick Sync Video
9 th Generation Intel® Core™ processors with Intel® UHD Graphics 630	12	4.5	2.1	1.1.97	Yes
8 th Generation Intel® Core™ processors with Intel® Iris® Plus Graphics 655	12	4.5	2.1	1.1.97	Yes
8 th Generation Intel® Core™ processors with Intel® UHD Graphics 610/620/630/P630	12	4.5	2.1	1.1.97	Yes
7 th Generation Intel® Core™ processors with Intel® Iris® Plus Graphics 640/650	12	4.5	2.1	1.1.97	Yes
7 th Generation Intel® Core™ processors with Intel® HD Graphics 610/615/620/630	12	4.5	2.1	1.1.97	Yes
Intel® Xeon® processor E3-1500M v5 family with Intel® HD Graphics P630	12	4.5	2.1	1.1.97	Yes
Pentium Processors with Intel® HD Graphics 610	12	4.5	2.1	1.1.97	Yes
6 th Generation Intel® Core™ processors with Intel® Iris® Pro Graphics 580	12	4.5	2.0	1.1.97	Yes
6 th Generation Intel® Core™ processors with Intel® Iris® Graphics 540/550	12	4.5	2.0	1.1.97	Yes
6 th Generation Intel® Core™ processors with Intel® HD Graphics 520/530	12	4.5	2.0	1.1.97	Yes
Intel® Xeon® processor E3-1500M v5 family with Intel® HD Graphics P530	12	4.5	2.0	1.1.97	Yes
Intel® Xeon® processor E3-1500M v5 family with Intel® Iris Pro Graphics P580	12	4.5	2.0	1.1.97	Yes

Intel® Core™ M processors with Intel® HD Graphics 515	12	4.5	2.0	1.1.97	Yes
Pentium® and Celeron® Processors with Intel® HD Graphics 500/505/510	12	4.5	1.2	1.1.97	Yes
Pentium® and Celeron® Processors with Intel® UHD Graphics 600/605	12	4.5	1.2	1.1.97	Yes

Note:

1. 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.
2. In the Intel® Iris®, UHD, and HD Graphics Control Panel (under Options > Options menu > Information Center), the 'Installed DirectX* version' refers to the operating system's DirectX version. The Information Center's 'Supported DirectX* Version' refers to the Intel® Graphics Driver's supported 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.

More on Intel® Core™ processors

For more information on the Intel® Core™ processor family, Intel® Xeon® processor E3 family, and 9th Generation Intel® Core processors, please visit:

[Intel® 9th 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, Iris® Graphics, Iris® Plus Graphics, and 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.

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](#).

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