

# Intel Graphics Articles

## 1. How to Fix a Flickering Screen with Intel® Graphics?

Troubleshooting steps to fix flickering, flashing or intermittent display issues.

### Description

- Screen flicker when using VGA cable.
- After turning on the PC the screen flickers even when using an HDMI connector.
- Laptop screen flickers when is turned on.

### Resolution

Try the following suggestions. Before that check with customer that how and from when the issue is occurring. Suggest customer to undo if there is any changes done to isolate the issue.

- **Update** the Intel graphics driver:
  - For a laptop: **Check** with the [laptop manufacturer](#) to install recommended drivers on your system. If this does not solve the issue, **perform** a [Clean Installation of the Intel Graphics driver](#).
  - For desktop: **Find** the most up-to-date driver for your system on [Download Center](#), or **run** the [Intel® Driver and Support Assistant](#) to automatically detect what device you have and install the latest driver. For more information on how to update your Intel driver, **refer** to the following: [How to Install an Intel® Graphics Driver in Windows® 10 & Windows 11\\*](#)
  - You can also try installing the latest driver using [Windows safe mode](#).
- **Make sure** that the operating system is up to date:
  1. **Click** the Start button.
  2. **Search** for *Windows Update*.
  3. **Click** *Check for Updates* and run all pertinent updates.
- In the case of a multi-monitor set up, **check** if the issue happens when only one display is attached.
- **Try** different monitors and display cables. **Use** straight connections with no video adapters/dongles in between.
- If the issue is with the VGA cable, **use** a different video output like HDMI, VGA, or DisplayPort\* depending on the motherboard/laptop output options.

- **Check** if the flickering issue happens inside the BIOS configuration screen (To access the BIOS, check with the motherboard/laptop manufacturer).
- If the issue happens on the BIOS configuration screen, it could be a processor issue. **Try** using the processor on a different known working and compatible system (applies only on Intel® boxed processors). If issue persists, **contact** [Intel Support](#).
  - In case you have a laptop and the issue is shown on the BIOS, **contact** the [laptop manufacturer](#).
- For laptops: **Disable** the *Panel Self Refresh* setting in the *Intel Graphics Command Center* by following the steps in [How to Enable and Disable Panel Self Refresh](#).
  1. On your IGCC program, **go** to *Displays* and **lower** the resolution to the next setting down.
  2. **Change** the refresh rate to a lower setting.
  3. **Put** system on full power.
  4. **Disable** *Desktop Window Manager*:
    1. **Access** the *Power User* menu by right-clicking the Windows taskbar icon.
    2. **Select** *Run*.
    3. **Type** `services.msc` into the Run dialog box.
    4. **Locate** *Desktop Window Manager Session Manager*.
    5. **Right-click** it and **select** *Stop*.
    6. **Right click** *Desktop Window Manager Session Manager* again.
    7. **Select** *Properties*.
    8. Under the *General* tab, **modify** the start-up type to *Disabled*.
    9. **Press** *OK*.
- If you do not have access to the Intel Graphics Command Center, you can change the refresh rate to a lower setting using Windows Advance Display Settings
  1. **Right-click** the desktop screen and select display settings
  2. **Scroll down** and **press** on **Advance Display Settings**
  3. **Choose** native built in display monitor (If laptop)
  4. Under Refresh rate **Change** the refresh rate to a lower setting.
  5. **Disable** *Desktop Window Manager*:
    1. **Access** the *Power User* menu by right-clicking the Windows taskbar icon.

2. **Select** *Run*.
3. **Type** `services.msc` into the Run dialog box.
4. **Locate** *Desktop Window Manager Session Manager*.
5. **Right-click** it and **select** *Stop*.
6. **Right click** *Desktop Window Manager Session Manager* again.
7. **Select** *Properties*.
8. Under the *General* tab, **modify** the start-up type to *Disabled*.
9. **Press** *OK*.

If the issue persists, **contact** [Intel Support](#).

## 2. Intel® Arc™ A-Series Graphics – Desktop Quick Start Guide

**Thank you for choosing Intel Arc™ graphics. Designed to take your gaming and creation to the next level. Let's Play!**

Intel® Arc™ Graphics products leverage the latest in system technologies to deliver a great gaming and creation experience. To ensure you get the best experiences from Intel® Arc™ A-Series Desktop Graphics, a supported hardware configuration is required, and a few system BIOS settings are critical to configure.

### **System BIOS configuration can have a significant impact on your GPU performance**

System BIOS are designed to support configurations for a broad range of devices, and some default configurations may not be optimal for Intel® Arc™ A-Series Desktop Graphics. Please review the following guide and ensure your system has these options set correctly to get the best performance from your Intel® Arc™ Graphics card.

### **System Requirements**

#### **Automatic System Support Detection**

Use the Intel® Driver and Support Assistant (Intel DSA) to quickly automatically detect if your system is ready for [Intel® Arc™ discrete graphics](#).

Download the [Intel® Driver & Support Assistant](#).

#### **Supported Hardware Configurations**

Resizable BAR or Smart Access Memory must be enabled for optimal performance in all applications using Intel® Arc™ A-Series Graphics. Platforms supported are listed below.

CPU	Motherboard
<ul style="list-style-type: none"> <li>14th Gen Intel® Core™ Processors</li> </ul>	<ul style="list-style-type: none"> <li>Intel 700/600 Series motherboard with Resizable BAR support enabled</li> </ul>
<ul style="list-style-type: none"> <li>13th Gen Intel® Core™ Processors</li> </ul>	<ul style="list-style-type: none"> <li>Intel 700/600 Series motherboard with Resizable BAR support enabled</li> </ul>
<ul style="list-style-type: none"> <li>12th Gen Intel® Core™ Processors</li> </ul>	<ul style="list-style-type: none"> <li>Intel 600 Series motherboard with Resizable BAR support enabled</li> </ul>
<ul style="list-style-type: none"> <li>11th Gen Intel® Core™ Processors</li> <li>10th Gen Intel® Core™ Processors</li> </ul>	<ul style="list-style-type: none"> <li>Intel 500 Series motherboard with Resizable BAR support enabled<sup>1</sup></li> <li>Intel 400 Series motherboard with Resizable BAR support enabled<sup>1</sup></li> </ul>
<ul style="list-style-type: none"> <li>AMD Ryzen™ 7000 Series Processors</li> </ul>	<ul style="list-style-type: none"> <li>AMD 600 Series motherboard with Smart Access Memory enabled</li> </ul>
<ul style="list-style-type: none"> <li>AMD Ryzen™ 5000 Series Processors</li> <li>Most AMD Ryzen™ 3000 series Processors (excludes AMD 3000G-series Processors)</li> </ul>	<ul style="list-style-type: none"> <li>AMD 500 Series motherboard with Smart Access Memory enabled</li> </ul>

<sup>1</sup>Refer to your system manufacturer's support page to confirm Resizable BAR support.

Additional information: Having an integrated graphics card or not (for example: an Intel® Core i9-13900KF processor) does not affect the functionality or availability of Resizable BAR. Refer to your motherboard manufacturer's support page to confirm Resizable BAR support.

*Additional platforms/motherboards not listed below and with Resizable BAR / Smart Access Memory enabled may also support Intel® Arc™ A-Series graphics.*

## Operating System Requirements

- Windows® 10 64-bit 20H2 or newer
- Windows 11\* 64-bit
  - Confirm the Operating System is using the GPT partition type:
    - For Windows 11, this mode is configured by default.
    - For Windows 10, the partition type can be converted if installed with an MBR partition type.
    - Refer to the [Microsoft Tool & Guide](#) for more information.

- Ubuntu\* 22.04

## Motherboard Requirements

- Full-size PCI Express 3.0 (or newer) x16 slot
- Resizable (Re-Size) BAR

Steps to Enable Resizable BAR:

1. **Enter** the system's BIOS/UEFI firmware configuration menu.
  1. **Access Windows Settings.** **Click** the Windows start menu and **select Settings** on the left panel. You may also use the Windows + I keyboard shortcut.
  2. For Windows 10: **Select Update & Security.**
  3. **Select Recovery.**
  4. **Click Advanced startup.**
  5. **Select Restart now** under *Advanced Startup*.
  6. **Select Troubleshoot.** In this window, **select Advanced options**, then *UEFI Firmware Settings*. The system will now enter the BIOS menu.
2. *Compatibility Support Module (CSM)* or *Legacy Mode* must be **disabled**, and *UEFI boot mode* must be **Enabled**.
3. **Ensure** the following settings are set to *Enabled* (or *Auto* if the Enabled option is not present):
  - *Above 4G Decoding*
  - *Re-Size BAR Support*
4. Use the [Intel® Driver and Support Assistant \(Intel DSA\)](#) to confirm that Resizable BAR is enabled on your system.

*The Resizable BAR option may be described as Re-Size BAR, Smart Access Memory, or Clever Access Memory. Contact the system manufacturer for specific details.*

Use your system's latest motherboard firmware supporting Resizable BAR.

Refer to your [system manufacturer's support page](#) for further details.

## Power Supply Requirements

Power supply requirements may vary, check the manufacturer for specific details.

Intel® Arc™ A770 Limited Edition and A750 Limited Edition Graphics:

- Minimum 600W power supply with two PCIe power connectors – 1x8-pin & 1x6-pin

## For Intel Arc A770 Graphics Limited Edition Graphics Cards

### How to Set Up the RGB Controller

1. Locate and remove the RGB control cable from the box beneath the graphics card in the original packaging.

2. **Connect** the RGB control cable to the 1 x 3-pin connector on the graphics card (shown below) and the available USB pin header on the motherboard.

**Note** The location of the USB pin header varies per motherboard. Contact your motherboard manufacturer for more information on the header location.

3. **Download** and **install** the [Intel® Arc™ RGB Controller](#).

**Q: What warranty is offered with Intel® Arc™ A-series Graphics?**

A: Warranty terms vary by manufacturer, check with your manufacturer for warranty coverage.

For Intel® Arc™ A770 & A750 Limited Edition Graphics:

The Intel® Graphics Card three-year limited warranty applies to eligible Intel® Graphics Cards that are packaged in authentic Intel packaging and sold to end customers as standalone components. Intel® Graphics Cards contained within Original Equipment Manufacturer (OEM) systems are subject to OEM manufacturer warranties and generally are not supported directly by Intel. For more information, please visit [Intel® Arc 7 Graphics Cards Three-Year Limited Warranty Terms and Conditions](#).

**Q: My system/motherboard manufacturer has provided a firmware update enabling support for Resizable BAR, but I still cannot see the Resizable BAR option!**

A: For some systems, you may need to first enable 'Above 4G decoding', save the configuration, and restart, before the Resizable BAR option will be shown.

**Q: I am on a 10th Gen Intel® Core™ Processor. Does my motherboard support Resizable BAR?**

A: Support for resizable BAR on 10th Gen platforms will vary. Please contact your system/motherboard manufacturer for specific support.

**Q: Why do I need to enable Resizable BAR?**

A: Resizable BAR must be enabled for optimal performance in all applications using Intel® Arc™ A-Series Graphics.

**Q: Do I need to update the firmware on my Intel® Arc™ A-Series graphics card?**

A: No, the graphics card will not require a firmware update. However, if using a 10th Gen Intel® Core™ Processor based system, a firmware update for your system platform/motherboard will be required. The latest graphics driver is always recommended, please visit [support.intel.com](#) for the latest graphics driver.

**Q: How do I check if Resizable BAR has been enabled once I've installed my new Intel® Arc™ A-Series graphics card?**

A: You can use Intel® Arc™ Control or the Intel® Driver & Support Assistant Tool.

**Q: Is my Operating System boot mode is configured correctly for Intel® Arc A-Series Graphics?**

A: Ensure the operating system is using the UEFI boot mode & GPT partition style. For Windows, it is possible to switch firmware modes using the [MBR2GPT tool](#). Compatibility Support Module (CSM) must be disabled and UEFI boot mode must be enabled.

**Q: Which video output supports variable refresh rate for gaming?**

A: The preferred video outputs for gaming are the DisplayPort outputs. All DisplayPort outputs support Adaptive Sync for smooth, tear-free gaming. HDMI output capabilities may vary, please check the manufacturer for specific details. The Intel® Arc™ A770 Limited Edition and A750 Limited Edition Graphics offer an HDMI 2.1 output with support for variable refresh rate.

**Q: What should I do if my system configuration is not listed?**

For configurations not listed in this guide, there may be performance or stability issues. We recommend updating to one of the configurations listed for optimal performance with Intel® Arc™ Graphics.

### 3. How To Set the Default GPU for Applications and Games?

## Summary

Instructions on how to force apps or games to use dedicated graphics or integrated graphics.

### Description

How do I set my GPU to run my applications and games?

### Resolution

First, make sure your discrete graphics card is the main source of display

1. **Verify** in Device Manager/Display Adapters if Discrete Graphics Card is grayed out. Make sure to **enable** it in the BIOS settings or video card settings.
2. **Connect** the video cable to the Discrete Graphics Card's port instead of the motherboard's back panel.

To set the default GPU for your application or game, you'll need to associate your games with it so your computer will know which GPU to use. (by default the option set is *Let Windows decide*)



1. From Start Icon, **type** "Graphics Settings" and **Click** the results from *System Settings*.
2. **Click** *Desktop App*.
3. **Browse** your application. If your application is not on the list, you will need to browse for the folder where the .exe file is located.
4. **Click** on the application name/icon.
5. **Click** *Options*.
6. Set the application to your preferred GPU.
7. **Click** *save*.

Certain gaming functionality may not work correctly unless your platform is updated to the latest graphics driver. To see how to update your graphics driver, visit [How to Install an Intel® Graphics Driver in Windows® 10 & Windows 11\\*](#).