

**GPU SOLUTIONS**  
PRESENTS

# How to Diagnose a Faulty GPU

The Complete Beginner's Guide

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Step-by-step instructions to identify graphics card problems  
— no technical experience required.

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## Introduction — What Does a GPU Do?

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Welcome to the GPU Solutions beginner's guide to diagnosing a faulty graphics card. Whether your screen is flickering, your PC keeps crashing, or your games look strange, this guide will walk you through exactly what to check — in plain, simple English.

A **GPU (Graphics Processing Unit)** is the component inside your computer responsible for everything you see on screen. It handles games, videos, photos, and your everyday desktop. When it starts to fail, the signs can range from subtle (a few coloured dots on screen) to dramatic (your PC refusing to start at all).

### What You Will Learn in This Guide

- How to recognise the most common signs of GPU failure
- Simple checks you can do right now — no tools required
- How to use free software to test your GPU
- What your results mean and what to do next
- When to repair, when to replace, and when to ask for help

**No experience needed.** This guide is written for complete beginners. We will explain every term as we go. Take it one step at a time and you will be fine.

## Common Symptoms of a Faulty GPU

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Before diving into tests, let's look at the most common warning signs. Read through this list and tick any that sound familiar — the more boxes you tick, the more likely your GPU is the culprit.

### ■ Screen Artefacts (Weird Visual Glitches)

Strange coloured dots, lines, triangles, or 'corruption' appearing on your screen — especially during games or when watching videos. These are often the very first sign that something is wrong with your graphics card.

### ■ Random Crashes or Blue Screen of Death (BSOD)

Your PC suddenly freezes or restarts, sometimes showing a blue error screen. If this happens mainly during games or GPU-heavy tasks, your graphics card is a prime suspect.

### ■ Black Screen on Startup

Your PC turns on (you can hear the fans) but the screen stays black. This can mean the GPU is no longer sending a signal to your monitor.

### ■ Fan Making Loud or Strange Noises

GPU fans that are dying can produce grinding, rattling, or squealing sounds. Alternatively, the fans may stop spinning entirely, causing the card to overheat.

### ■ PC Overheating During Light Tasks

If your computer gets very hot just browsing the web or watching YouTube, your GPU's cooling system may be struggling — often due to dried-out thermal paste or blocked fans.

### ■ Games Running Much Slower Than Usual

A sudden drop in performance (low frame rates, stuttering) without any other changes to your system can indicate the GPU is throttling itself due to heat or hardware damage.

### ■ Display Driver Crashes (Screen Goes Black Briefly)

Windows shows a message saying 'Display driver stopped responding and has recovered.' This is your GPU's software crashing and restarting — a common early warning sign.

## Before You Start — Safety First

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Most of our diagnosis steps do not require opening your PC. However, if any step does involve touching the hardware, follow these simple safety rules first.

### ✓ POWER OFF YOUR PC

Always shut down completely and unplug the power cable from the wall before touching any internal components.

### ✓ AVOID STATIC ELECTRICITY

Touch a metal part of your PC case (or wear an anti-static wristband) before touching any components. Static can damage parts silently.

### ✓ DO NOT FORCE ANYTHING

Components are designed to slot in and out easily. If something doesn't move, stop and check before pushing harder.

### ✓ WORK IN GOOD LIGHTING

Make sure you can clearly see what you're doing. A torch or lamp helps prevent mistakes.



**When in doubt — stop.** If you're unsure about any physical step, skip it and stick to the software tests in Chapter 5. You can diagnose most GPU problems without ever opening your case.

## Step-by-Step Diagnosis (No Tools Needed)

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Work through each step in order. After each one, check if the problem goes away. If it does, you have found the cause. If not, move to the next step.

### 1 Check Your Monitor and Cables

Start with the simplest possibility. Make sure your monitor cable (HDMI, DisplayPort, or DVI) is firmly plugged in at both ends. Try a different cable if you have one. Also check your monitor is plugged into the GPU ports (the ones on the back of your PC, lower down) — NOT the motherboard ports above them.

### 2 Restart Your PC

A basic restart clears temporary glitches in the display driver. If you have been putting your PC on sleep mode rather than shutting it down fully, try a proper Shut Down and restart. This alone fixes many driver-related issues.

### 3 Check for Overheating

Download and open HWiNFO64 (free). Look for your GPU temperature. Idle temperature should be below 50°C. Under load (gaming), below 85°C is normal. Above 90°C under load is a problem. If idle temps are above 60°C, the GPU is struggling to cool itself.

### 4 Check the GPU Fans

Look through your PC case or side panel at the graphics card. Are the fans spinning? They may not spin at idle (this is normal for many modern GPUs) — but they MUST spin when running a game or heavy task. If they never spin, the fans may have failed.

### 5 Remove and Reseat the GPU

Power off and unplug your PC. Open the side panel. Gently remove the GPU from its slot (there is a small clip at the end of the slot to release it). Blow any dust out of the slot. Firmly push the GPU back in until you hear a click. Reconnect the power cables.

### 6 Test in Another PC (or With a Different GPU)

If you have access to another PC, try your GPU in it. If the problem follows the GPU to the new PC, the GPU is faulty. If it works fine, the issue is something else in your original system (PSU, motherboard, RAM). Similarly, if a friend's working GPU fixes your PC, your original GPU is the problem.

## Using Software to Test Your GPU

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These free tools will help you get a clear picture of your GPU's health. They are all safe, well-known, and used by professional technicians worldwide.

### GPU-Z

[techpowerup.com/gpuz](http://techpowerup.com/gpuz)

Shows detailed information about your GPU — model, temperature, memory size, clock speeds, and more. Great for confirming your GPU is being detected properly by Windows.

### MSI Afterburner

[msi.com/Landing/afterburner](http://msi.com/Landing/afterburner)

Monitor GPU temperature, fan speed, and usage in real time while gaming. Shows you a live graph of how hard your GPU is working and how hot it's getting.

### FurMark

[geeks3d.com/furmark](http://geeks3d.com/furmark)

Stress tests your GPU by pushing it to 100% load. Run it for 5 to 10 minutes — if the PC crashes, freezes, or shows artefacts, your GPU (or its cooling) has a problem. Watch the temperature closely; stop if it goes above 95 degrees C.

### Heaven Benchmark (Unigine)

[benchmark.unigine.com/heaven](http://benchmark.unigine.com/heaven)

A more realistic GPU stress test that looks like a game. Run it and watch for artefacts, crashes, or extreme temperatures. Compare your score to other users with the same GPU online.

### DDU (Display Driver Uninstaller)

[guru3d.com/files-details/display-driver-uninstaller-download.html](http://guru3d.com/files-details/display-driver-uninstaller-download.html)

If you suspect a driver issue (screen flickering, driver crashes), DDU completely removes your graphics driver so you can install a fresh copy. Often fixes software-related GPU problems.

**Watch our video tutorials** — visit [gpusolutions.net](https://gpusolutions.net) to see step-by-step video guides showing exactly how to use each of these tools. Seeing it done is much easier than reading about it!

## A Note on GPU Memory Testing Software

GPU memory testing software for Nvidia and AMD cards is **not available on Google or any public website**. It is shared privately within repair technician communities — primarily on Discord servers run by professional GPU repair technicians.

Even versions found on Discord often contain errors and require significant technical knowledge to clean up and prepare before they can be used reliably.



**Nvidia users — important:** The Nvidia GPU memory testing software only works on systems with an **Intel CPU**. If you have an AMD Ryzen CPU paired with an Nvidia GPU, this software will not run on your system.



**The easiest solution — our Memory Testing USB.** Rather than hunting Discord servers and dealing with errors, our Memory Testing USB is a professionally cleaned, error-free bootable tool ready to use straight out of the box. No setup. No Discord. No fixing errors. Just plug in and test. Available at [gpusolutions.net/shop](https://gpusolutions.net/shop)

## The GPU Health Checklist

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Print this page out and tick each box as you go. This is your complete at-a-glance reference for diagnosing a faulty GPU.

### Visual Checks

- Screen shows artefacts (dots, lines, strange colours)
- Monitor cable is firmly connected at both ends
- GPU is plugged into monitor — not the motherboard
- GPU fans are spinning when under load
- No burn marks or damage visible on the card
- No dust blocking the GPU heatsink or fans

### Software Checks

- GPU is detected in Device Manager (no yellow warning icons)
- GPU-Z shows correct GPU model and VRAM size
- Idle temperature is below 50 degrees C
- Load temperature is below 85 degrees C
- FurMark runs for 5 to 10 minutes without crash or artefacts
- Heaven Benchmark completes without issues
- Display driver is up to date (check GPU manufacturer website)

### Hardware Checks

- GPU has been reseated firmly in its PCIe slot
- Power cables are fully connected to the GPU
- GPU has been tested in a second PC (if available)
- A second GPU has been tested in this PC (if available)
- PSU wattage is sufficient for the GPU (check online)

## What to Do Next

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Once you have worked through the diagnosis steps, you will likely fall into one of four situations. Here is what to do in each case.

### Problem Solved!

*Recommended Action: **Repair / Driver Fix***

The issue was a driver problem, a loose cable, or overheating due to dust. Clean your GPU regularly (every 6-12 months), keep drivers updated, and monitor temperatures going forward.

### Overheating GPU

*Recommended Action: **Thermal Paste Replacement***

If the GPU is consistently above 85 degrees C, the thermal paste between the chip and heatsink has dried out. This is a common repair. Watch our thermal paste replacement video on gpusolutions.net for a step-by-step walkthrough.

### Artefacts & Crashes Continue

*Recommended Action: **GPU Repair or Reballing***

If the GPU shows artefacts under any conditions, the VRAM (video memory) or GPU chip itself may be failing. This requires professional repair. Contact GPU Solutions — we offer repair services for many GPU models.

### GPU Not Detected At All

*Recommended Action: **Send It to GPU Solutions Before You Replace It***

If the GPU does not appear in Device Manager or shows errors that cannot be resolved, do not rush out and spend money on a replacement. Many cards that appear completely dead can be brought back to life with professional repair. Send your GPU to GPU Solutions — we will give you an honest assessment and repair it if possible. Contact us at gpusolutions.net before writing it off.

## Quick Reference — Symptom Lookup

Use this table to quickly look up a symptom and find the most likely cause.

Symptom	Most Likely Cause	First Step to Try
Coloured dots / lines on screen	Failing VRAM or GPU chip	Run FurMark — note temperatures
Black screen on boot	No signal from GPU	Check monitor cable and GPU seating
PC crashes in games only	Overheating or driver issue	Check temps with MSI Afterburner
Blue screen (BSOD)	Driver crash or failing GPU	Reinstall driver using DDU
Loud fan noise	Fan bearing failing	Check fans are spinning freely
Slow performance	Thermal throttling	Check GPU temperature at load
Driver keeps crashing	Outdated or corrupt driver	Use DDU and reinstall fresh driver
GPU not detected	Seated incorrectly or dead GPU	Reseat GPU; test in another PC

### Need more help?

Visit [gpusolutions.net](https://gpusolutions.net) for video repair guides, professional GPU repair services, and our Memory Testing USB — the easiest way to test your PC's hardware at home.

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