iBUYPOWER Troubleshooting Guide

Troubleshooting 105: RGB Guide

The purpose of this guide is to provide thorough and detailed troubleshooting for when your PC's RGB lighting is not working properly. As a 100 level guide, this should be accessible to all users.

Tools Required

- Clean and dry hands
- Philips head screwdriver

Important Notes

Read through this guide in its entirety before starting. No matter how confident you are, please do not skip a single step unless the guide tells you to. All steps in this guide are included deliberately and skipping steps can result in the guide being ineffective.

Always make sure the computer is completely off and unplugged while working inside of it.

If you ever feel the slightest bit uncomfortable or unsure, please reach out to our Tech Support team either through Live Chat, Email, or Phone.

The Basics:

Terminology

For the purpose of this guide it is helpful to explain some terminology which will be used in the guide further along.

- **Controller** – This refers to the actual circuitry that drives the LEDs, sometimes is a bare circuit board, other times may be in a plastic enclosure. There are also onboard controllers for RGB off of motherboards.

- **Remote** – This is the external remote which is sometimes used for changing LED profiles.

- **Header** – This is the male end of the RGB connection, the connector name originally comes from the motherboard, but the same male end can be found on external controllers and even extension cables. (Note that there is not a common name for the female connector, so we will refer to it simply as the female RGB connector for the purposes of this guide)

- **Addressable** – This refers to digital LEDs which can individually be commanded to be different colors. If you see an RGB Rainbow Wave, this requires addressable LEDs to work. They will run off 5 Volts and are not compatible in any way with non-addressable LEDs. They will use 3 pin connections the majority of the time.

- **Non-Addressable** – This refers to analog LEDs in which the entire strip is always the same color at any given time. They run off 12 Volts and are not compatible with addressable LEDs. They will use a 4 pin connection the majority of the time.

Control Methods

There are 3 major control methods for RGB LEDs on PCs. Some PCs may use more than one of these depending on the brand and type of LED. These have been listed in the order you should check for them when trying to control your RGB lighting.

- **Software Control** – This is the most customizable and elaborate control of RGB lighting. Name brands such as NZXT, Corsair, and Thermaltake may have their own custom lighting software. Most RGB lighting is based off the motherboard's RGB lighting control via headers on the board which attach to external LED strips and fans. In most cases, RGB RAM is controlled via motherboard software. Check for these pieces of software to be installed on the machine as an indication of some software control.

  - **Asus** – Aura
  - **MSI** – Mystic Light
  - **Asrock** – Polychrome
  - **Gigabyte** – RGB Fusion
  - **NZXT** – CAM (not pre-installed)
  - **Corsair** – iCUE (note pre-installed)
  - **Thermaltake** – RGB Plus (not pre-installed)
  - **EVGA** – Precision X (not pre-installed)
  - **Zotac** – Firestorm (not pre-installed)
- **Manual Control** – For some RGB products, they may have a button directly on them that controls the lighting. This is mostly prevalent in cases which might have their own RGB controller for the case or fan lighting
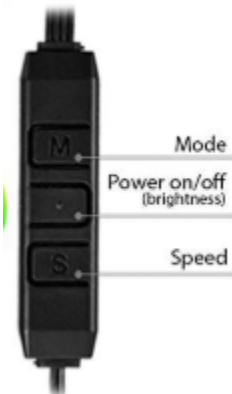
- **Remote Control** – For everything else, a standalone infrared or RF remote may be included to control any lighting that cannot integrate for whatever reason to the rest of the system.

- **No Control** – In rare cases, some items do not have any RGB control, and are stuck in a default rainbow pattern. Notable examples are some RGB CPU coolers and RGB peripherals like mouse and mousepads. Any Asus board which has an RGB header but does not say "Aura Sync" in the product description will have an uncontrolled RGB header.

Common Issues

Software not installed

In some cases, systems may ship without the correct RGB control software, or the software itself is not compatible with our testing environment so we are unable to pre-install it. In that case we recommend visiting the respective manufacturer's website to find the latest version of their RGB software for your product.

For iBUYPOWER brand motherboards, you will be downloading a special software version directly from us. It can be found on this page https://www.ibuypower.com/Support/driver

Software has installation issues or errors

Uninstall the current version of the software and try a different version if you can find. Also make sure you are installing the correct brand's RGB software. If you have an iBUYPOWER board make sure you are using the version on our website, not the one from Asrock, since it is the same software but a different version.

RGB wiring has become disconnected

If some RGB items are lit up but others are not, this is usually an indication that a plug has come loose somewhere in the system. You will need to open up the case and search for the loose connector.

Make sure the PC is off and unplugged for this procedure. You may need a Philips Head screwdriver to remove the side panel. You also may need some electrical (or other non-conductive) tape to secure especially loose connections.

Here are the three most common RGB connectors found in iBUYPOWER systems. The addressable connector is the most common by far to come loose in shipping.

- **Addressable Connector** – 3 Pins with a gap between. This connector is keyed so it cannot be plugged in backwards.
- **Non Addressable Connector** – 4 Pins with no gaps (the outer covering looks exactly like the addressable connector). This connector is not keyed so it is important to pay attention to the arrow molded into the plastic cover.
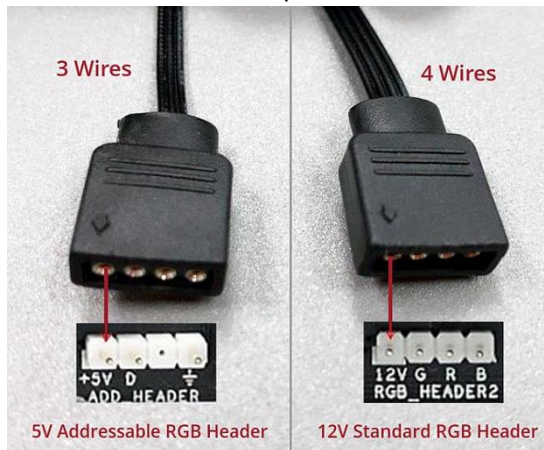

- **Split addressable header** – This uses the same wires as the Addressable Connector but has each one labeled and split into a different plug. This was used before the connector was standardized, so it is important to pay attention to the order of the plugs.

Here are the three most common locations for this disconnect to occur.

- **Motherboard Header** – Sometimes the connection can separate at the motherboard header itself. The location of this header varies wildly by motherboard but is almost always along an edge.

- **Controller/Hub** – Most of the time, the connection is broken at a central lighting hub or controller located behind the motherboard tray. Look for a small circuit board with a cluster of headers
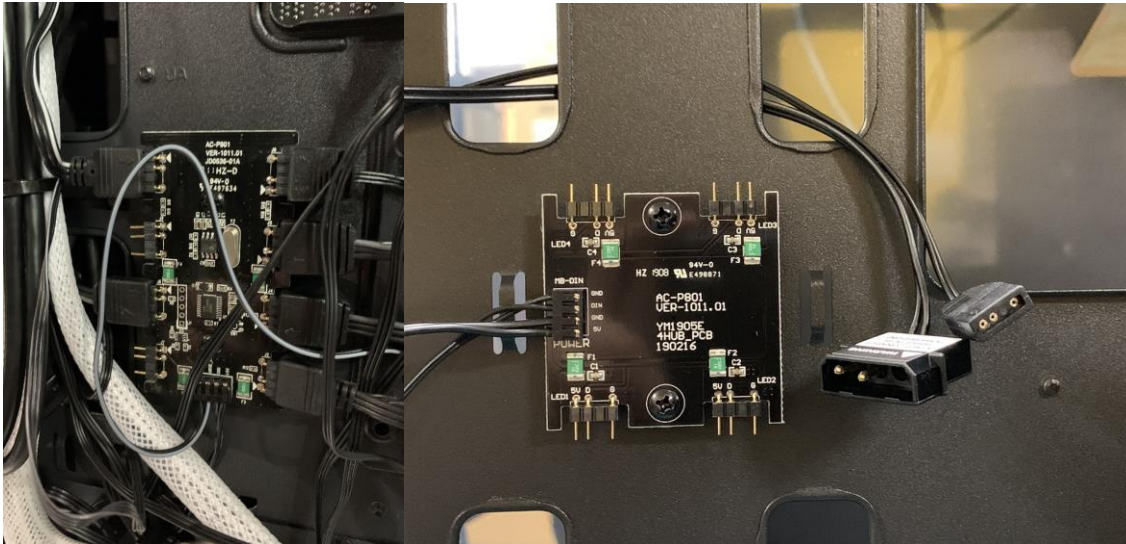
- **Mid-cable** – Many RGB accessories uses a "daisy chain" cable to allow multiple of the same part to be strung together.

Common issues to avoid

- Be careful not to loop "daisy chain" connections to themselves. Just because there is an open header doesn't mean something needs to be connected to it. However, if you find a female connector end, it is likely something that came unplugged.


- Make sure your pins are aligned properly. Non-addressable lighting is protected so it will just not turn on if plugged in backwards. Addressable lighting will burn out if plugged in reverse. Most

connectors are keyed but for the split-header cable make sure to reference the pinout photo.
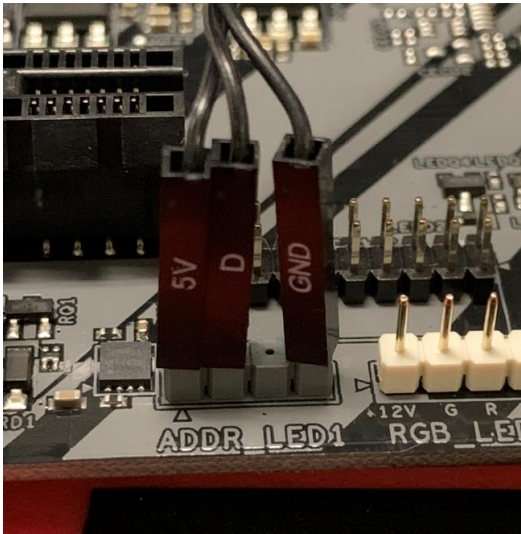
LEDs will stay on when system is asleep or shut down

There are two BIOS settings which affect the behavior of LEDs on the Asrock motherboards. One feature will keep the headers active even when the system is off. This is the feature "Turn On Onboard LED in S5" under Advanced\Chipset Configuration in the BIOS.
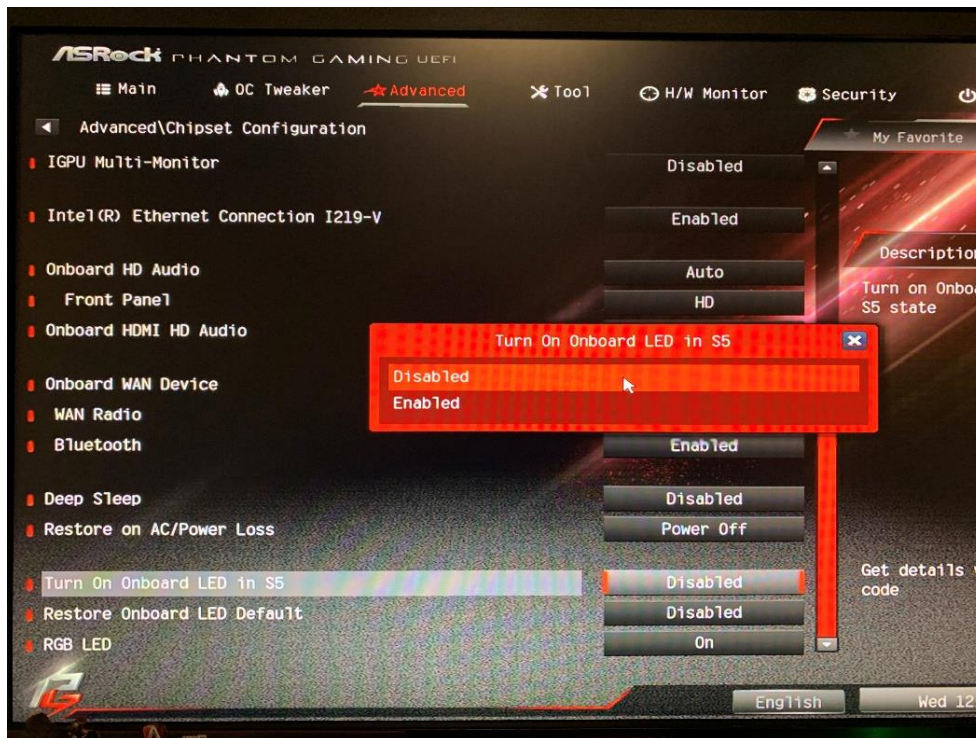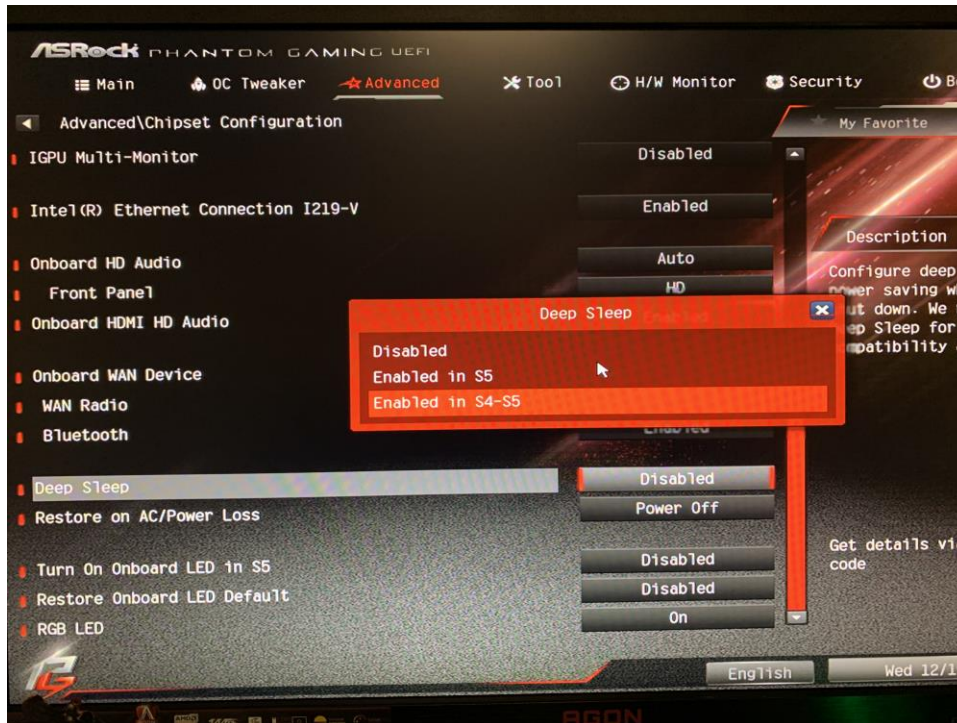

Disabled = LEDs will be off when the system is off or asleep

Enabled = LEDs will be on when system is off or asleep

The other setting is "Deep Sleep" which affects several other behaviors of the board, most notably deactivating USB power when the system is shut down. This is a good setting to Enable if you do not want your LED accessories to be on while the system is off.

Disabled = USB power will be active in both S4 (Hibernation) and S5 (Soft Shutdown*) states

Enabled in S5 = USB power will be active in S4 state but not S5

Enabled in S4 and S5 = USB power will be off in both S4 and S5 states

Soft Shutdown means the system is powered off through a Shutdown command, rather than a loss of power or forced shutdown by holding the power button.

Additional Guides

If none of the above solutions is working for you, please reach out to our technical support directly for specific troubleshooting on your system.