

Disable temporal dithering on Windows PCs

Summary

This KBA describes how to disable or enable temporal dithering for NVIDIA GPUs running on Windows computers and workstations.

Temporal dithering is a technique graphics cards use to generate intermediate colours, by rapidly alternating a pixel between two adjacent colour values. The effect is not perceptible to the human eye. For any compression algorithm, such as that used by PCoIP, this results in a significant overhead when dealing with the increased pixel colour activity.

Enabling temporal dithering on a machine using PCoIP can result in high bandwidth usage and poor performance, even when the display is seemingly static. To resolve this, you must disable temporal dithering on the computer where the PCoIP host card is installed.

To disable temporal dithering, you must install a command line tool (*nvdithctrl*) available from Amulet Hotkey. This works on the NVIDIA graphics card by changing internal driver settings.

Use cases

You can use this tool either:

- from a DOS command window, or;
- within a batch file or script.

As under certain conditions the command may not persist between reboots, the best case for running this tool would be to use it programmatically (for example within a batch file with Windows Group Policy). See [Permanently disable dithering with a batch file or script](#).

Before you begin

Step	Action
1	Contact Amulet Hotkey Technical Support to obtain the command line tool <i>nvdithctrl</i> .
2	Install the tool on the PC or workstation you will disable temporal dithering.

Notes

- The program can only be run using Administrator privileges (for example, when invoking it in an elevated Command Prompt).
- The program will search for attached Amulet Hotkey/PCoIP hardware and will terminate if none is installed. The program will also terminate if it cannot find an installed NVIDIA driver.
- Usage of the command is described as if a DOS command window is open; however it is possible to use these commands within a batch file, script or similar automation.

How to get information about the system

Step	Action
1	To display a help screen with usage options, enter the command: nvdithctr1
2	To perform a query that returns details about the installed NVIDIA GPUs and their dithering statuses, enter the command: nvdithctr1 -q

To disable temporal dithering

Step	Action
1	To disable temporal dithering on all displays across all installed GPUs, enter the command: nvdithctr1 -d

To enable temporal dithering

Step	Action
1	To enable temporal dithering on all displays across all installed GPUs, enter the command: nvdithctr1 -e

Permanently disable dithering in a batch file or script

If you intend to make sure that the temporal dithering setting remains disabled across multiple reboots, then use the disable command within a batch file or script that is run at machine start-up. Include within the file:

- a check of the status of the temporal dithering using `nvdithctr1 -q`;
- action of the command `nvdithctr1 -d`, if different from the desired result in Step 1.

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Resources

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