

USB Energy settings

Camera issues

With Metric 9.01 (intensive use of image processing), and increasingly since the introduction of the new processor generation of Intel (Skylake), recurring problems with camera activation have been reported. These problems are manifested through 'frozen' images, even up to BSOD, also when using the Win7, 8 and 10 OS.

The observed problems suggest that something is out of sync deep down in the driver system. These problems typically occur when cameras are switched off and on again, or when several cameras are connected to the system, and if the user switches between the various connected cameras. The reason always seems to be when the computer accesses a frame buffer that is no longer current, partly caused by a delayed or faulty transfer of images to the USB.

The problem is on the increase because as of recently, only USB3 is supported natively by Skylake, in other words, USB2 continues to function, but is emulated on a USB3 interface. This has the side effect that the USB2 connection no longer works as reliably and fault-tolerant as before.

Accordingly, errors occur more frequently during the transmission of images, which then lead to the observed crashes.

Solutions

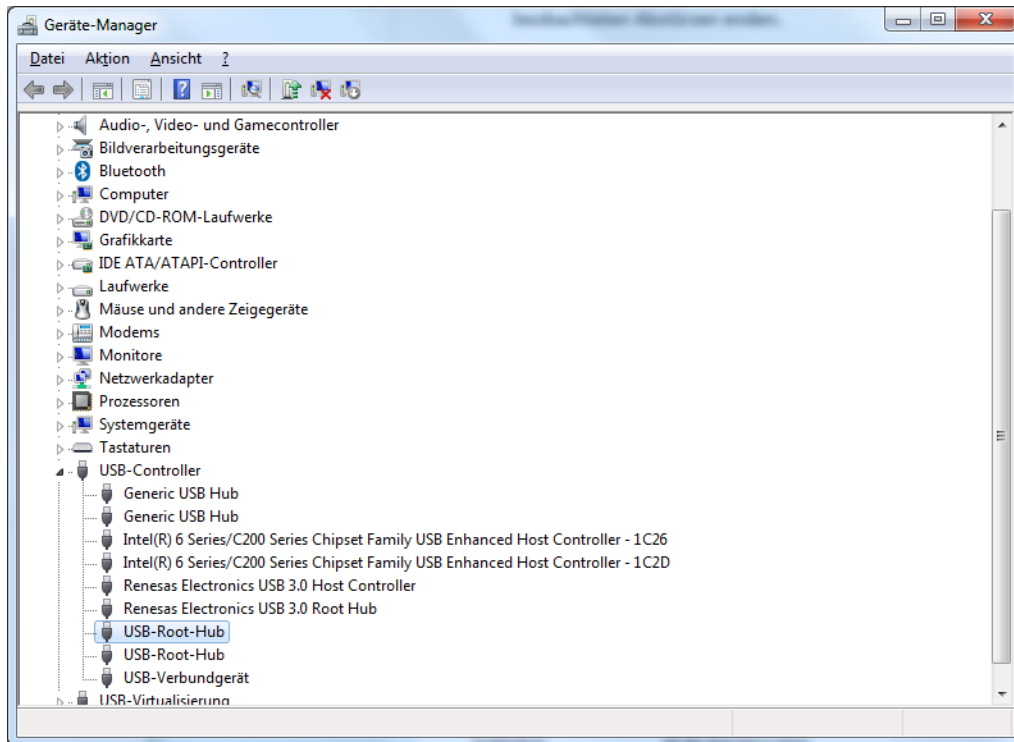
Since the susceptibility to errors relates to the length of the line and provision of power at the USB, one option is to change the settings for the power supply at the USB; alternatively, special interface cards can be installed.

Settings of the operating system

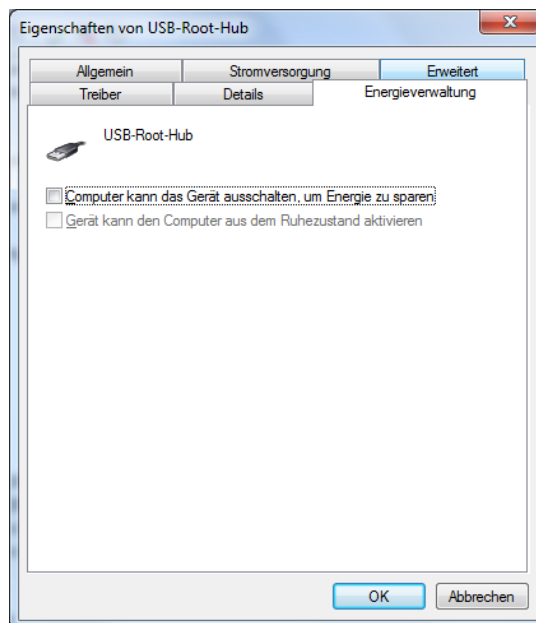
The energy settings can be changed at two points: in the Device Manager and in Power Options.

Device Manager

Open the Device Manager and select USB Root Hub.



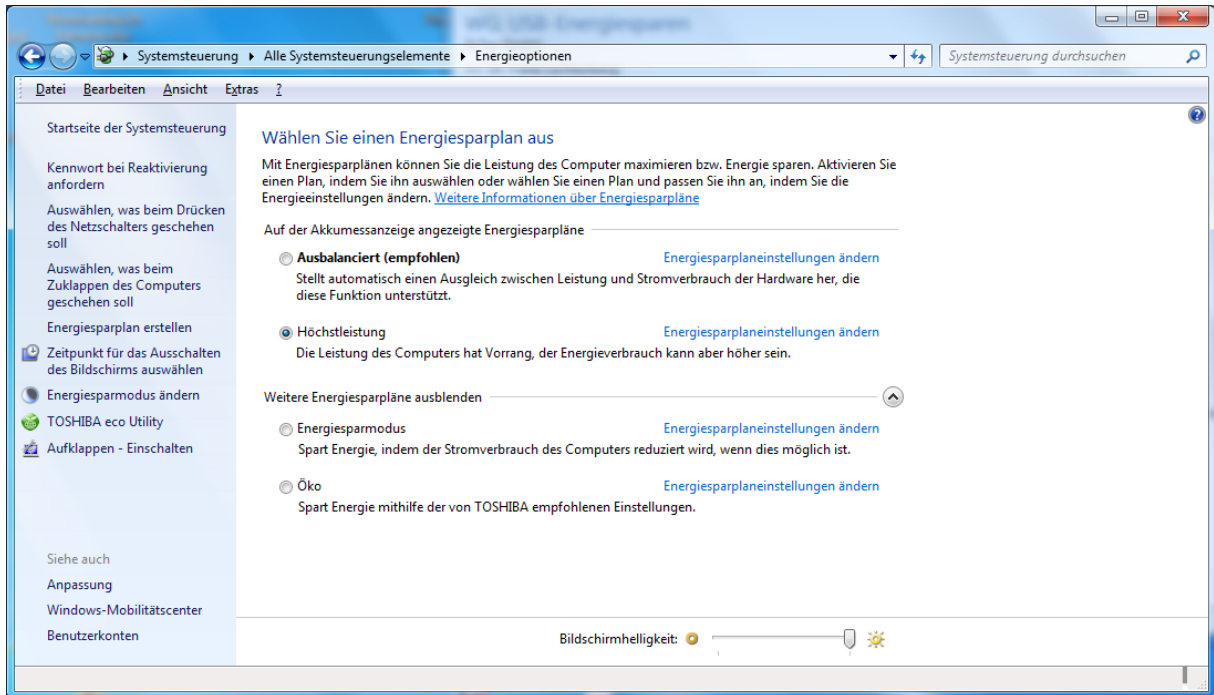
Go to the management of the hub with a right click and select 'Properties'. Then navigate to the tab labelled 'Power Management'.



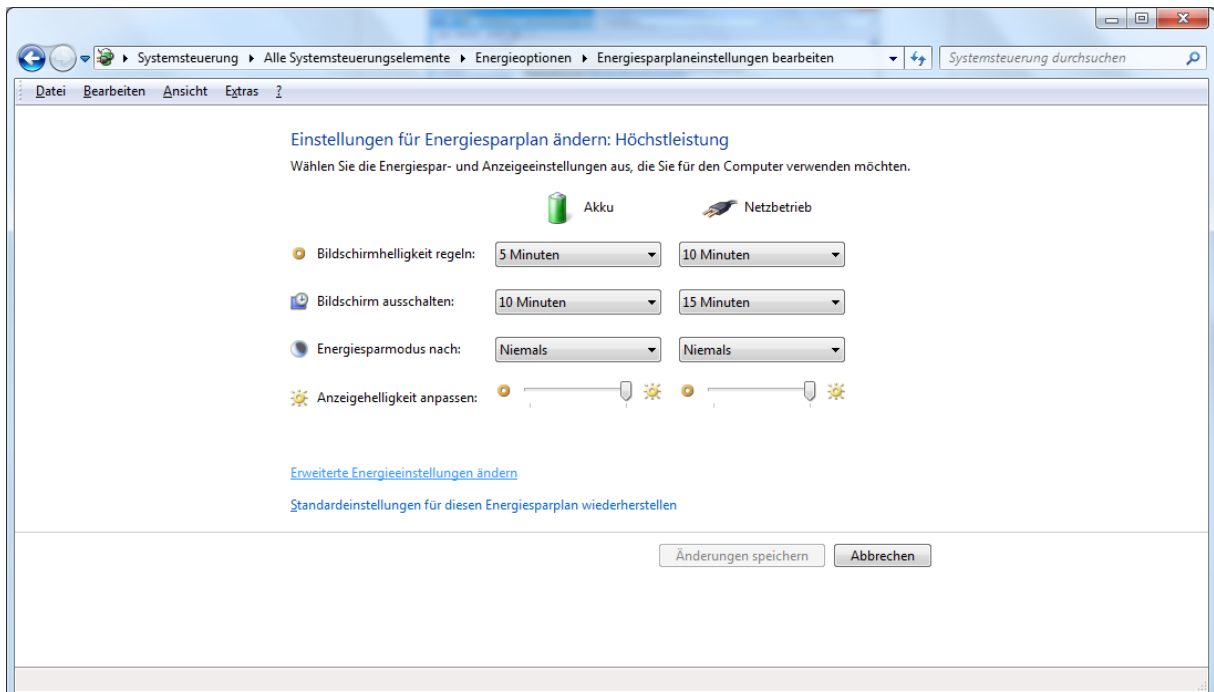
Make sure that the box for 'Allow the computer to turn off this device to save power' is not checkmarked, in other words, that this function is disabled.

Power Options

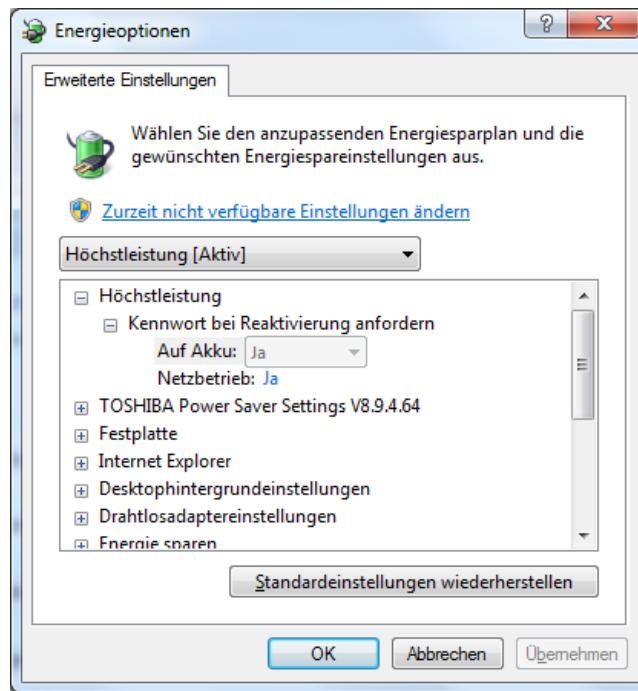
From the Control Panel, go to 'All Control Panel Items' and select 'Power Options'.



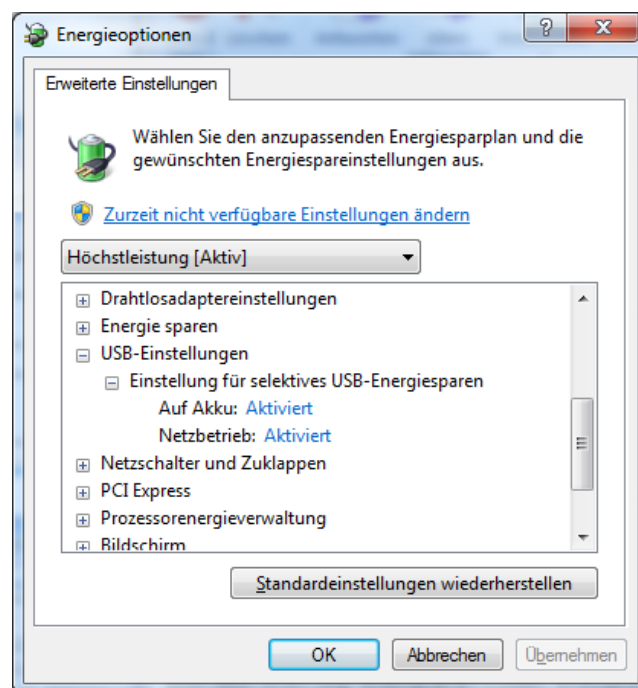
Go to the power plan selected by you and click on the 'Change plan settings' link.



Navigate from there to 'Change advanced power settings'.



Scroll down to USB Settings and open the related submenu. Make sure that the settings for USB selective suspend setting are disabled. This means that in the following screen, you should be able to make changes.



Special USB interface cards

IDS recommends the installation of interface cards for native USB2 support to drastically reduce the error rate. These cards are based on the Renesas μ PD720202 chip. Please note, however, that this chip set requires specific interface cards. Not all cards work equally well. Moreover, the cards work better when you plug them into a PCIe slot located as close as possible to the CPU, i.e. into one of the slots mostly intended for graphics adapters.