Enable 10-bit support for AMD Radeon cards

I noticed several people on the web are looking for a way to activate 10-bit support on AMD video cards. You can activate 10-bit on AMD Radeon Cards in Windows with a registry hack. It's possible that it also works for newer AMD cards but I 'can't check it since I don't have newer cards. Also I only checked on windows 7 x64.

What is 10-bit support?
Normal video cards work in 8-bit mode. With 8-bits per channel each R/G/B channel can increase in 2^8 or 256 steps from black to R/G/B. In most cases (movies/games/desktop apps) this is more than enough. For some graphical applications like Photoshop you might want to have more "color resolution" so that colors are reproduced more accurately. In 10-bit mode the R/G/B channels can increase in 2^{10} or 1024 steps from black to R/G/B.

What do you need to be able to use 10-bit mode?
- 10-bit compatible videocard
- 10-bit compatible monitor
- 10-bit compatible software (Photoshop CS4 and later)
- Dual-Link DVI cable or Display Port (no convertors)

When should I not enable 10-bit support?
If you play games, watch movies or use any other software that is only 8-bit compatible. In 10-bit mode these applications won't start, you'll get a black screen or even a BSOD.
If you don't know what this is about -> forget about this post.

ATTENTION!!!
If you mess with your registry keys and make a mistake or do something wrong you can crash your windows and possibly destroy your computer. It's possible that this "edit" won't work for your configuration. If you don't know what you are doing don't touch the registry. I merely shared this information so that other people with enough knowledge can play around with these settings. If you need 10-bit support for your profession you should buy a video card with native 10-bit support (AMD Fire Pro or nVidia Quadro). If anything goes wrong don't come crying ... you've been warned!

How to enable 10-bit support:
Basicaly you have to look for:
[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Class\{4D36E968-E325-11CE-BFC1-08002BE10318}
Then depending on how many video cards you have there will be folders named like **[0000] [0001] [0002]**
To activate 10-bit support you have to **add** the following lines in the folders that are **expandable**:

[Type:REG_BINARY]VisualEnhancements_Capabilities=hex:40 00 00 00
[Type:REG_DWORD]KMD_10BitMode=dword:00000001

Restart your computer … done
You will see that windows disabled Aero since it's not 10-bit compatible

Example:
A system with two AMD radeon HDXXXX in crossfire.
In this case you have to add:
[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Class\{4D36E968-E325-11CE-BFC1-08002BE10318}\0001]
"VisualEnhancements_Capabilities"=hex:40 00 00 00
"KMD_10BitMode"=dword:00000001
[HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Control\Class\{4D36E968-E325-11CE-BFC1-08002BE10318}\0002]
"VisualEnhancements_Capabilities"=hex:40 00 00 00
"KMD_10BitMode"=dword:00000001

How to disable 10-bit support:
To deactivate 10-bit support you have to change the values to:
[Type:REG_BINARY]VisualEnhancements_Capabilities=hex:00 00 00 00
[Type:REG_DWORD]KMD_10BitMode=dword:00000001

Have fun in smooth color world!