Why can you set each monitor to a different color depth?

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Random832 seemed horrified by the fact that it is possible to run multiple monitors, with different color formats on each monitor. "Seriously, why does it let you do that?" Well, of course you can do that. Why shouldn't it let you do that? When multiple monitors were introduced to Windows, video hardware was nowhere near as advanced as it is today. One common discovery was that your computer, which came with a video card in one of the expansion slots, actually had a video chip baked into the motherboard, but which was disabled in the BIOS. In other words, your computer was actually multiple-monitor-capable; it's just that the capability was disabled. Once you got it enabled, you would discover that the onboard video adapter was not as good as the one in the expansion slot. (Duh. If it were as good as the one in the expansion slot, then the manufacturer would have saved a lot of money and not bothered shipping a video card in the expansion slot!) Usually, the onboard video card didn't have a lot of video RAM. You still want to run it at 1024×768 (hey, that's high resolution for these days), but in order to do that, you need to reduce the color depth. On the other hand, the card in the expansion slot has a huge amount of video RAM (*four megabytes!*), so you take advantage of it by running at a higher color depth. You're now getting the most out of your machine; each video card is cranked up as high as it can go. (The lame-o card doesn't go very high, of course.) What could possibly be wrong with that?

Bonus chatter: It so happened that some of these "secret video card" motherboards had a feature where they would disable the ROM BIOS on the on-board video card if they detected a plug-in video card. To get multi-monitor support on these recalcitrant machines, one of my colleagues wrote a tool that you used like this:

- Turn off the computer and remove the plug-in video card.
- Boot the computer with only the lame-o on-board video.
- Run the tool, which captures the ROM BIOS.
- Turn off the computer, put the plug-in video card back in, and boot the computer again.
- Run the tool again and tell it "Hey, take that ROM BIOS you captured and map it into memory where a ROM BIOS would normally go, and then initialize the video card from it and add it as my second monitor."

It was a bit of a hassle, but it let you squeak crappy multi-monitor support out of these lame-o motherboards.

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