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Monitors: An Explanation of Contrast and Brightness

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Brightness -

Brightness adjusts the overall level of the screen. The relationship between the level of white and black, or of colors, does not change; that is, white is still white, black is still black, and yellow is still yellow. It either dims or brightens the entire screen. There is very little change in the screen when the brightness is adjusted.

Contrast -

The contrast adjustment controls the overall gain of the video amplifier. Adjusting the contrast to its maximum "on" position will make the whites appear whiter and the blacks appear blacker. Contrast will make both white and black (also colors, if applicable) move toward each other, i.e. makes the relationship between the white level and the black level change. Turning the contrast down will tend to make both the whites and the blacks look grey. You will see a large swing from very light to very dark when adjusting contrast (the screen will appear to get darker or lighter).

Example -

Consider a room that is painted half black and half white. It has two controls, one for brightness and one for contrast.

If the brightness control is adjusted, it acts like a light dimmer, controlling whether the amount of light in the room brightens or darkens. However, the black half of the room stays black and the white half of the room stays white. There is just less light in the room.

If the contrast control is adjusted, the relationship between the black and white colors of the room actually changes. When the contrast is turned down, the white half of the room will actually become greyer or move toward black, and the the black half of the room will become greyer or move towards white; making it harder to differentiate between black and white, as they both now look the same (grey). Turning the contrast up will make a greater difference between the black and white colors, which makes it easier to differentiate between black and white.

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