

step or means of communicating stores communicates that information for storage or display on an multi layer display system.

[0060] Accordingly in another aspect of the current invention can broadly be said to consist in an image appearance controller or an image appearance control system for use with a multi layer display device utilising the methods or apparatus of controlling the contrast of an image or images as described here-in while brightness of said image(s) is maintained utilising the methods or apparatus described here-in such that net brightness perceived of the image(s) is maintained despite any change to contrast.

[0061] As such the current invention is a method to alter contrast of an image or images without giving the viewer the perception of any change in brightness. That is, while a change in contrast of an image or image(s) at the detecting step or the means of detecting causes the determining means to increase or reduce overall brightness (depending on the contrast change) of said image(s), the determining means would additionally determine the transmissivity of each layer of the multi layer display in the localised area of images so controlled in order that the overall brightness of said images would be maintained.

[0062] Preferably the determining step or the means of determining will determine or calculate the transmissivity of brightness to remain the same despite any adjustment to or control of contrast. In this manner the user is able to define the contrast of an image or images without having to additionally adjust the brightness of such image(s). The automatic control of the brightness is performed using the methods or apparatus of controlling brightness as described here-in.

[0063] Equally a contrast can be maintained despite any change in brightness of an image.

[0064] Preferably the determining means or the step if determining can determine the transmissivity of each layer independently, such that the transmissivity determined of each layer in the localised area of the image(s) to be subsequently displayed can be different, or independently determined.

[0065] According to a further aspect of the current invention, a device is implemented to carry out the methods of controlling brightness, colour, hue, colour temperature, gamma response or contrast utilising the methods set out here-in.

[0066] Preferably the embodiment of the invention comprises a software which carries out the step of receiving or detecting the desired or specified brightness, colour, hue, colour temperature, gamma response or contrast of the image to be displayed and on this basis the determining means or the step of determining, determines the transmissivity of each layer of the MLD.

[0067] This device is further described in the best modes of carrying out the invention below.

[0068] Accordingly in a further aspect of the invention may broadly said to consist in a display with enhanced image control comprising:

[0069] i) at least one display device which is (are) at least in part selectively transparent upon which at least one image is displayed;

[0070] ii) and a backlighting system which illuminates said image(s);

[0071] iii) and at least one transmissivity control device that selectively controls the transmission of light from said backlight to the viewer in the localised area of said image(s).

[0072] The term 'backlight system' as used herein should be interpreted as meaning any type of system which illuminates a display device at least in part from behind that display device by any means including for example (but without limitation) phosphorous tubes as seen in typical Liquid Crystal Display arrangements. For the avoidance of doubt, the source of the light need not be or need not solely be behind the display.

[0073] In a preferred embodiment of the current invention the at least one display device in the current invention is a (are) Liquid Crystal Display panel(s).

[0074] In a preferred embodiment of the current invention the at least one transmissivity control device in the current invention is a (are) Liquid Crystal Display panel(s).

[0075] Accordingly a further aspect of the present invention consists in a display comprising of:

[0076] i) at least one display device which emanates its own light upon which at least one image is displayed; and

[0077] ii) at least one transmissivity control device that selectively controls the transmission of light from said display device to the viewer in the localised area of said image(s).

[0078] A display comprising of:

[0079] i) at least one display device which is a trans-reflective display device, upon which at least one image is displayed;

[0080] ii) at least one transmissivity control device that selectively controls the transmission of light from said display device to the viewer in the localised area of said image(s).

[0081] Preferably the at least one display device is adapted to display video images and preferably it is adapted to be attached to a CPU or other device from which it can receive images to be displayed such as a DVD player. Preferably the at least one display device may be driven through software code of computer based instructions loaded into a programmable logic device such as a computer or a microprocessor.

[0082] Preferably the at least one transmissivity control device it is adapted to be attached to a CPU or other device from which it can receive transmission levels such as a DVD player. Preferably the at least one transmissivity control device may be driven through software code of computer based instructions loaded into a programmable logic device such as a computer or a microprocessor.

[0083] Preferably the at least one transmissivity control device and the at least one display device same device are adapted to be driven or controlled by the same device.

[0084] Preferably the at least one transmissivity control device is adapted to selectively control the transmission of light on the basis of user or software defined preferences