

the passenger to see entertainment, and only entertainment. For safety, space and cost constraints it would be useful for both passengers to have different images views from the same display.

[0011] All references, including any patents or patent applications cited in this specification are hereby incorporated by reference. No admission is made that any reference constitutes prior art. The discussion of the references states what their authors assert, and the applicants reserve the right to challenge the accuracy and pertinence of the cited documents. It will be clearly understood that, although a number of prior art publications are referred to herein, this reference does not constitute an admission that any of these documents form part of the common general knowledge in the art, in New Zealand or in any other country.

[0012] It is acknowledged that the term 'comprise' may, under varying jurisdictions, be attributed with either an exclusive or an inclusive meaning. For the purpose of this specification, and unless otherwise noted, the term 'comprise' shall have an inclusive meaning—i.e. that it will be taken to mean an inclusion of not only the listed components it directly references, but also other non-specified components or elements. This rationale will also be used when the term 'comprised' or 'comprising' is used in relation to one or more steps in a method or process.

[0013] It is an object of the present invention to address the foregoing problems or at least to provide the public with a useful choice.

[0014] Further aspects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only.

DISCLOSURE OF INVENTION

[0015] Accordingly in a first aspect of the present invention may broadly be said to consist in a multi view display for viewing different images at specified viewing angles comprising a multi view display comprising:

[0016] i) a display layer for the display of images;

[0017] ii) an un-braiding viewing angle manipulation means which manipulates the viewing angle of the images displayed on said display layer;

[0018] such that when at least two images are be interlaced and displayed on said display layer, each constituent image of the interlaced image is presented at the viewing angle or viewing angles as determined by the un-braiding viewing angle manipulation means.

[0019] Preferably two images will be presented to the viewer or viewers at different viewing angles using the present invention. Those images are interlaced and displayed on the display layer. The images are interlaced in such a way that the un-braiding viewing angle manipulation means separates out or 'unbraids' the constituent images in said interlaced image and presents said constituent images at different viewing angles. Using this technique, the observer will see one of the constituent images from one viewing angle and other constituent images from other viewing angles. While this specification refers to the presentation of two images this should not be seen as limiting. Those skilled in the art will appreciate that greater numbers of images can be interlaced and subsequently displayed to various viewing angles.

[0020] The term viewing angle manipulation means should be interpreted to mean any device used to direct light in certain directions or prevent light from proceeding in certain directions, this includes wide angle diffusers, privacy film, image or optical directing film.

[0021] The term un-braiding viewing angle manipulation means is preferably an adapted viewing angle manipulation means such as a privacy film, image directing film or compensation film. Typically this will involve interlacing at least two viewing angle manipulation means which direct light at different angles. For example by interlacing two image directing films of which have different refraction angles to each other, the film will be capable (when applied to an interlaced image, which is interlaced consistently with the interlaced image directing films) of directing images to two different viewing angles.

[0022] The term viewing angle as used here in should be interpreted as relating to the angle at which images displayed on a display device or pixel are viewable some a wide viewing angles may close to 100% or 180 degrees. Typically narrower viewing angles will be used to narrow the angles from which images can be viewed.

[0023] Throughout this specification reference is made to privacy film or image directing film or other viewing angle manipulation means. However this should not be seen as limiting. Those skilled in the art will appreciate that any means of directing images to viewing angles can be used with the present invention.

[0024] In the present invention, the unbraiding viewing angle manipulation means has the ability to present images displayed on the display device to different viewing angles. This can be achieved by interlacing two different image directing films each of which is designed to present images to a viewing angles angle which is different to the other interlaced privacy film.

[0025] The interlacing of images and their display needs to be consistent with the un-braiding viewing angle manipulation means used. In the case of two images which are interlaced, two optical viewing films with different viewing angles to each other will be used with corresponding interlacing between the unbraiding viewing angle manipulation means and the interlaced image displayed.

[0026] Preferably each of the at least two interlaced images are presented to a different viewing angles than the other image(s).

[0027] Accordingly in a further aspect of the present invention may broadly be said to consist in a multi view display for viewing different images at specified viewing angles comprising a multi view display comprising,

[0028] an adapted display layer for the display of images wherein said adapted display layer comprises, at least two different specified viewing angle pixels which are interlaced,

[0029] such that when at least two images are interlaced and displayed on said adapted display layer, each constituent image of the interlaced image is presented to the viewing angle or viewing angles as determined by the viewing angle of the interlaced specified viewing angle pixels.

[0030] The term 'specified viewing angle pixel' as used herein should be interpreted to include a pixel which is