

[0146] Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof.

1. A method of adapting a visual display unit having a first screen in a first focal plane by the addition of one or more at least partially transparent display screens at least partially overlapping said first screen and located in focal planes distinct from said first focal plane, characterised in that;

an at least partially transparent emissive layer is provided between said first screen and at least one said additional display screen.

2. The method claimed in claim 1, wherein said visual display unit is a personal digital assistant (PDA).

3. The method claimed in claim 1, wherein said emissive layer is a sheet with substantially planar opposed upper and lower surfaces and a peripheral boundary of a prescribed thickness, said sheet formed from a material such that light rays incident from said peripheral boundary are retained between the said planar surface through total internal refraction at angles less than a critical angle.

4. The method claimed in claim 3, wherein at least one said sheet planar surface has a plurality of defined features located thereupon capable of refracting a said retained light ray incident on a said feature through an angle greater than the said critical angle of total internal reflection sufficient to exit said sheet via one of said planar surfaces.

5. The method claimed in claim 4, wherein said features include diffusion dots, predetermined scratches, indentations, grooves, protrusions, regular or irregular undulations and the like.

6. The method claimed in claim 3, wherein at least one light source is located along said peripheral edge.

7. The method claimed in claim 6, wherein said light source is a cold cathode fluorescent tube.

8. The method claimed in claim 6, wherein said light source is an array of light emitting diodes.

9. The method claimed in claim 3, wherein said emissive layer is configured to refract the ray axis of light at the said peripheral border such that the peripheral border between adjacent screens is not visible along said viewer's sightline.

10. The method claimed in claim 4, wherein the said features are distributed with an increasing density as a function of distance from said light source.

11. The method claimed in claim 10, wherein said function is quadratic.

12. The method claimed in claim 3, wherein the said prescribed thickness of the emissive sheet is reduced as a function of distance from a said light source.

13. The method claimed in claim 1, wherein said emissive layer is formed from a light guide.

14. The method claimed in claim 1, wherein said emissive layer is formed from a transparent organic light emitting diode (TOLED) assembly.

15. The method as claimed in claim 1 or claim 2, wherein said emissive layer is a polarised transparent organic light emitting diode TOLED emissive layer located between a front screen and a rear screen, wherein said visual display unit further includes;

a wire grid polariser interposed between the TOLED and the front and screen.

16. The method as claimed in claim 15, further including an optical retarder interposed between the TOLED and the rear screen.

17. The method as claimed in claim 16, wherein the optical retarder is a quarter wave retarder.

18. The method claimed in any one of the preceding claims claim 1, wherein said screens are liquid crystal displays.

19. The method as claimed in claim 1, wherein said first screen is a cholesteric LCD display.

20. The method as claimed in claim 1, wherein said first screen reflects between 10-100% of incident illumination.

21. (Cancelled)

22. A visual display unit having two or more at least partially overlapping display screen(s) located in distinct focal planes, at least one said screen being at least partially transparent;

characterised in that an at least partially transparent emissive layer is provided between said screens.

23. The visual display unit claimed in claim 22, wherein said emissive layer is a sheet with substantially planar opposed upper and a lower surfaces and a peripheral boundary of a prescribed thickness, said sheet formed from a material such that light rays incident from said peripheral boundary are retained between the said planar surface through total internal refraction at angles less than a critical angle.

24. The visual display unit claimed in claim 23, wherein at least one said sheet planar surface has a plurality of defined features located thereupon capable of refracting a said retained light ray incident on a said feature through an angle greater than the said critical angle of total internal reflection sufficient to exit said sheet via one of said planar surfaces.

25. The visual display unit claimed in claim 24, wherein said features include diffusion dots, predetermined scratches, indentations, grooves, protrusions, regular or irregular undulations and the like.

26. The visual display unit claimed in claim 23, wherein at least one light source is located along said peripheral edge.

27. The visual display unit claimed in claim 26, wherein said light source is a cold cathode fluorescent tube.

28. The visual display unit claimed in claim 26, wherein said light source is an array of light emitting diodes.

29. The visual display unit claimed in claim 23, wherein said emissive layer is configured to refract the ray axis of light at the said peripheral border such that the peripheral border between adjacent screens is not visible along said viewer's sightline.

30. The visual display unit claimed in claim 24, wherein the said features are distributed with an increasing density as a function of distance from said light source.

31. The visual display unit claimed in claim 30, wherein said function is quadratic.

32. The visual display unit claimed in claim 23, wherein the said prescribed thickness of the emissive sheet is reduced as a function of distance from a said light source.

33. The visual display unit as claimed in claim 22, wherein said emissive layer is formed from a light guide.

34. The visual display unit as claimed in claim 22, wherein said emissive layer is formed from a transparent organic light emitting diode (TOLED) assembly.