【CLAIMS】

1. A display device, comprising:

a display configured to output a screen output along a first direction; and

a lens assembly including at least three lenses arranged sequentially along an optical axis and at least one of a quarter wave plate, a reflective polarizer, or a beam splitter disposed between a first lens, among the at least three lenses, disposed farthest from the display and a nth lens, among the at least three lenses, disposed closest to the display, wherein the lens assembly is configured to reflect the screen output at least twice between the first lens and the nth lens using the at least one of a quarter wave plate, a reflective polarizer, or a beam splitter,

wherein the display device satisfies a [Conditional expression 1] regarding a diagonal length (DSP) of the display and a distance (MD) from the optical axis to a center of the display measured along a direction which is perpendicular to the optical axis,

wherein the [Conditional expression 1] is given by 0.02 <= MD/DSP <= 0.2.

2. The display device of claim 1, wherein the lens assembly is configured to focus or guide the screen output to a user′s eyes.

3. The display device of claim 1, wherein the first lens includes a first lens surface and a second lens surface, wherein the second lens surface is disposed opposite to the first lens surface to face the display, and

wherein the display device further satisfies a [Conditional expression 2] regarding a largest outer diameter (LD) among outer diameters of the at least three lenses, the diagonal length (DSP) of the display, and a distance (TTL) measured, on the optical axis, from the display to the first lens surface,

wherein the [Conditional expression 2] is given by 0.2 <= (LD-DSP)/TTL <= 0.7.

4. The display device of claim 1, wherein the display is disposed to be movable in a direction crossing the first direction or in a direction crossing the optical axis, and

wherein the display device is configured to adjust a difference between a left half field of view and a right half field of view in a range of about 0 degrees or more and about 20 degrees or less by moving the display.

5. The display device of claim 4, wherein a smaller field of view among the left half

field of view and the right half field of view is about 40 degrees or more.

6. The display device of claim 1, wherein the first lens includes a first lens surface and a second lens surface, wherein the second lens surface is disposed opposite to the first lens surface to face the display, and

wherein a distance, measured on the optical axis, from the first lens surface to the display is about 10mm or more and about 20mm or less.

7. The display device of claim 1, wherein the diagonal length (DSP) of the display is in the range of about 1 inch or more and about 3 inch or less.

8. The display device of claim 1, wherein the display is disposed to be movable in a direction crossing the first direction or in a direction crossing the optical axis, and
wherein the display is configured to rotate or tilt with respect to the lens assembly.

9. The display device of claim 1, wherein the display is configured to move in at least two directions on a plane crossing the optical axis.

10. The display device of claim 1, comprising a pair of displays disposed side by side to each other and a pair of lens assemblies disposed side by side to each other.

11. The display device of claim 10, wherein the pair of displays are configured to move in a direction directed away from or toward each other.

12. The display device of claim 1, wherein the display has a resolution of about 3000*3000 pixels or higher.

13. An electronic device comprising:

a first display device; and

a second display device, wherein the second display device is disposed on one side of the first display device,

wherein at least one of the first display device or the second display device comprises:

a display configured to output a screen output along a first direction; and

a lens assembly (LA) comprising at least three lenses arranged sequentially along

an optical axis and configured to focus or guide the screen output from the display, in a predetermined direction or to a predetermined position, the lens assembly configured to reflect the screen output from the display at least twice between a first lens among the at least three lenses disposed farthest from the display and a nth lens among the at least three lenses disposed closest to the display,

wherein the display device satisfies a [Conditional expression 1] regarding a diagonal length (DSP) of the display and a distance (MD) from the optical axis to a center of the display measured along a direction which is perpendicular to the optical axis, and

wherein the [Conditional expression 1] is given by 0.02 <= MD/DSP <= 0.2.

14. The electronic device of claim 13, wherein the display satisfies a [Conditional expression 2],

wherein the [Conditional expression 2] is given by 0.2 <= (LD-DSP)/TTL <= 0.7, where LD is a largest outer diameter among outer diameters of the at least three lenses, and TTL is a distance from the display to a first lens surface of the first lens on the optical axis, wherein the first lens surface is disposed opposite to a surface of the first lens facing the display.

15. The electronic device of claim 14, wherein the display is disposed to be movable in a direction crossing the first direction or in a direction crossing the optical axis, and

wherein the first display device or the second display device is configured to adjust a difference between a left field of view and a right field of view in a range of about 0 degrees or more and about 20 degrees or less by moving the display.

16. The electronic device of claim 15, wherein a smaller field of view between the left field of view and the right field of view is about 40 degrees or more.

17. The electronic device of claim 14, wherein the first lens comprises a first lens surface and a second lens surface, wherein the second lens surface is disposed opposite to the first lens surface to face the display, and

wherein a distance measured on the optical axis from the first lens surface to the display is in the range of about 10mm or more and about 20mm or less.

18. The electronic device of claim 14, wherein the diagonal length DSP of the display is in the range of about 1 inch or more and about 3 inches or less.

19. The electronic device of claim 14, wherein the lens assembly comprises at least one of a quarter wave plate, a reflective polarizer, or a beam splitter disposed between the first lens and the nth lens.