

[0019] The first source driver unit may include at least one first source driver supporting a first transmission speed. The second source driver unit may include at least one second source driver supporting a second transmission speed. The first transmission speed may be higher than the second transmission speed.

[0020] Each of at least one first source driver and at least one second source driver may include data line driving units. Each of the data line driving units is connected to a data line of one of pixels of the display panel, and provides output data. The number of data line driving units of the first source driver is greater than the number of data line driving units of the second source driver.

[0021] The number of pixels of the first pixel arrangement area may be greater than that of the second pixel arrangement area.

[0022] According to an aspect of the inventive concept, there is provided a display driving device including a display panel including first and second pixel arrangement areas, a data driving unit including a first source driver unit outputting a first display data group to data lines of the first pixel arrangement area and a second source driver unit outputting a second display data group to data lines of the second pixel arrangement area, and a timing controller configured to array data that is input from an external device. The timing controller transmits a first output data group to the first source driver unit at a first transmission speed, and transmits a second output data group to the second source driver unit at a second transmission speed. The first transmission speed is higher than the second transmission speed. Each of the first and second pixel arrangement areas includes a plurality of pixels arranged in areas in which a plurality of gate lines intersect a plurality of data lines.

[0023] The first source driver unit may include a first output data buffer unit that receives the first output data group. The second source driver unit may include a second output data buffer unit that receives the second output data group. The amount of data of the first output data group may be greater than that of the second output data group. The timing controller may control reception timing so that a time period at which the first output data buffer unit receives the first output data group is the same as a time period at which the second output data buffer unit receives the second output data group.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] Exemplary embodiments of the inventive concept will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings in which:

[0025] FIG. 1 is a block diagram of a display device according to an exemplary embodiment;

[0026] FIG. 2 is a diagram illustrating a criterion for dividing a display panel into a plurality of pixel arrangement areas, according to an exemplary embodiment;

[0027] FIG. 3 is a block diagram of a display device according to an exemplary embodiment;

[0028] FIG. 4A is a diagram illustrating a data driving unit of the display device of FIG. 1, according to an exemplary embodiment;

[0029] FIG. 4B is a diagram illustrating source drivers of the data driving unit of FIG. 1, according to an exemplary embodiment;

[0030] FIG. 5A is a diagram illustrating the data driving unit of FIG. 1, according to another exemplary embodiment;

[0031] FIG. 5B is a diagram illustrating source drivers of the data driving unit of FIG. 1, according to another exemplary embodiment;

[0032] FIG. 6 is a diagram illustrating a timing controller of FIG. 4A, according to an exemplary embodiment;

[0033] FIGS. 7A to 7C are diagrams illustrating exemplary embodiments in which a first source driver unit and a second source driver unit are formed on a printed circuit board (PCB);

[0034] FIG. 8A is a diagram illustrating a display driving device according to an exemplary embodiment;

[0035] FIG. 8B is a diagram illustrating source drivers of the display driving device of FIG. 8A, according to an exemplary embodiment;

[0036] FIG. 9 is a diagram illustrating a timing controller of FIG. 8A, according to an exemplary embodiment;

[0037] FIG. 10 is a diagram illustrating a display driving device according to another exemplary embodiment;

[0038] FIGS. 11A, 11B, and 11C are diagrams illustrating methods in which a timing controller of FIG. 10 controls reception timing in which a first output data buffer unit receives a first output data group and a second output data buffer unit receives a second output data group;

[0039] FIG. 12 is a diagram illustrating a display driving device according to another exemplary embodiment;

[0040] FIG. 13 is a diagram illustrating a display driving device according to another exemplary embodiment;

[0041] FIG. 14 is an exploded perspective view illustrating a display module according to an exemplary embodiment;

[0042] FIG. 15 is a block diagram of a display system according to an exemplary embodiment; and

[0043] FIG. 16 is a view illustrating various electronic devices to which a display device according to an exemplary embodiment is applied, according to an exemplary embodiment.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0044] Reference will now be made in detail to exemplary embodiments of the inventive concept, examples of which are illustrated in the accompanying drawings. The exemplary embodiments are merely provided to fully describe the present inventive concept to one of ordinary skill in the art to which the present inventive concept pertains. As the present inventive concept allows for various changes and numerous exemplary embodiments, particular exemplary embodiments will be illustrated in the drawings and described in detail in the written description. However, this is not intended to limit the present inventive concept to particular modes of practice, and it will be understood that all changes, equivalents, and substitutes that do not depart from the spirit and technical scope of the present inventive concept are encompassed in the present inventive concept. Like reference numerals refer to like elements throughout. Sizes of components in the drawings may be exaggerated for clarity. As used herein, the term “and/or” includes any and all combinations of one or more of the associated listed items. Expressions such as “at least one of,” when preceding a list of elements, modify the entire list of elements and do not modify the individual elements of the list. **[0045]** The terms used in the present specification are merely used to describe particular exemplary embodiments, and are not intended to limit the present inventive concept. An expression used in the singular encompasses the expression of the plural, unless it has a clearly different meaning in the