CLAIMS

1. A display device comprising:

a display portion that includes a plurality of video signal lines and a plurality of scanning signal lines crossing the video signal lines;

a scanning signal line driver circuit that drives the scanning signal lines such that a scanning period in which the scanning signal lines are sequentially selected and an idle period in which none of the scanning signal lines is selected alternatingly occur in cycles of a frame period consisting of the scanning period and the idle period;

a selection circuit that is integrally formed with the display portion and includes a plurality of selection blocks;

a video signal line driver circuit that provides the selection blocks with their respective video signals; and

a display control circuit that provides the video signal line driver circuit with image data corresponding to the video signals and provides the selection blocks with a plurality of selection control signals cyclically repeating on-state and off-state levels, wherein,

each selection block provides the video signal received thereby to video signal lines that are adjacent to each other in a video signal line group in a time-division manner in accordance with the selection control signals, the video signal line group consisting of as many video signal lines as the number of selection control signals, and

the display control circuit generates the selection control signals so as to keep the selection control signals at a lower frequency during the idle period than during the scanning

period.

2. The display device according to claim 1, wherein the display control circuit generates the selection control signals so as to keep the selection control signals in a smaller amplitude during the idle period than during the scanning periods.

3. The display device according to claim 1, wherein the idle period is longer than the scanning period.

4. The display device according to claim 1, wherein the video signal line driver circuit sets the video signals at a constant potential during the idle period.

5. The display device according to claim 1, wherein,

each selection block has a plurality of switching elements with their respective first conductive terminals connected to the video signal lines in the video signal line group that corresponds to that selection block,

a video signal received by each selection block is provided to second conductive terminals of the switching elements in that selection block, and

the display control circuit provides the selection control signals to the switching elements in the selection block.

6. The display device according to claim 5, wherein,

the display portion displays an image based on a plurality of primary colors, and

the video signal lines in each video signal line group

respectively correspond to the primary colors.

7. The display device according to claim 6, wherein,

the number of the primary colors is three,

each video signal line group consists of three video signal lines,

each selection block has three switching elements, and

the three video signal lines in each video signal line group respectively correspond to the three primary colors.

8. The display device according to claim 5, wherein,

the display portion displays an image based on a plurality of primary colors, and

the video signal lines in each video signal line group respectively correspond to as many primary colors from among a predetermined number of primary colors greater than the number of video signal lines in the video signal line group, and also respectively correspond to the same number of other primary colors from among the predetermined number of primary colors.

9. The display device according to claim 8, wherein,

the number of the primary colors is four,

each video signal line group consists of two video signal lines,

each selection block has two switching elements, and

the two video signal lines in each video signal line group respectively correspond to two of the four primary colors and also respectively correspond to the other two of the four primary colors.

10. The display device according to claim 5, wherein,

the display portion displays an image based on a plurality of primary colors, and

each video signal line group consists of video signal lines whose number is an integral multiple of the number of the primary colors.

11. The display device according to claim 10, wherein,

the number of the primary colors is three,

each video signal line group consists of six video signal lines,

each selection block has six switching elements, and

three of the video signal lines in each video signal line group respectively correspond to the three primary colors and the other three video signal lines in the video signal line group respectively correspond to the three primary colors.

12. The display device according to claim 1, wherein,

the selection circuit consists of:

a first selection circuit positioned to one side of the display portion; and

a second selection circuit positioned to the other side of the display portion.

13. The display device according to any one of claims 1 through 12, wherein the selection circuit is implemented with thin-film transistors having semiconductor layers made of an oxide semiconductor.

14. The display device according to any one of claims 1 through 12, wherein the selection circuit is implemented with thin-film transistors having semiconductor layers made of amorphous silicon.

15. A drive method for a display device provided with a display portion that includes a plurality of video signal lines and a plurality of scanning signal lines crossing the video signal lines, a scanning signal line driver circuit that drives the scanning signal lines, a selection circuit that is integrally formed with the display portion and includes a plurality of selection blocks, a video signal line driver circuit that provides the selection blocks with their respective video signals, and a display control circuit that provides the video signal line driver circuit with image data corresponding to the video signals and provides the selection blocks with a plurality of selection control signals cyclically repeating on-state and off-state levels, the method comprising the steps of:

driving the scanning signal lines such that a scanning period in which the scanning signal lines are sequentially selected and an idle period in which none of the scanning signal lines is selected alternatingly occur in cycles of a frame period consisting of the scanning period and the idle period;

providing the video signal received by the selection block to video signal lines that are adjacent to each other in a video signal line group in a time-division manner in accordance with the selection control signals, the video signal line group consisting of as many video signal lines as the number of selection control signals; and

keeping the selection control signals at a lower

frequency during the idle period than during the scanning period.

16. The drive method according to claim 15, wherein the selection control signals are kept in a smaller amplitude during the idle period than during the scanning periods.

17. The drive method according to claim 15, wherein the idle period is longer than the scanning period.

18. The drive method according to claim 15, wherein the video signals are set at a constant potential during the idle period.

CLAIMS

1. A display device comprising:

a display portion that includes a plurality of video signal lines and a plurality of scanning signal lines crossing the video signal lines;

a scanning signal line driver circuit that drives the scanning signal lines such that a scanning period in which the scanning signal lines are sequentially selected and an idle period in which none of the scanning signal lines is selected alternatingly occur in cycles of a frame period consisting of the scanning period and the idle period;

a selection circuit that is integrally formed with the display portion and includes a plurality of selection blocks;

a video signal line driver circuit that provides the selection blocks with their respective video signals; and

a display control circuit that provides the video signal line driver circuit with image data corresponding to the video signals and provides the selection blocks with a plurality of selection control signals cyclically repeating on-state and off-state levels, wherein,

each selection block provides the video signal received thereby to video signal lines that are adjacent to each other in a video signal line group in a time-division manner in accordance with the selection control signals, the video signal line group consisting of as many video signal lines as the number of selection control signals, and

the display control circuit generates the selection control signals so as to keep the selection control signals at a lower frequency during the idle period than during the scanning period.

2. The display device according to claim 1, wherein the display control circuit generates the selection control signals so as to keep the selection control signals in a smaller amplitude during the idle period than during the scanning periods.

3. The display device according to claim 1, wherein the idle period is longer than the scanning period.

4. The display device according to claim 1, wherein the video signal line driver circuit sets the video signals at a constant potential during the idle period.

5. The display device according to claim 1, wherein,

each selection block has a plurality of switching elements with their respective first conductive terminals connected to the video signal lines in the video signal line group that corresponds to that selection block,

a video signal received by each selection block is provided to second conductive terminals of the switching elements in that selection block, and

the display control circuit provides the selection control signals to the switching elements in the selection block.

6. The display device according to claim 5, wherein,

the display portion displays an image based on a plurality of primary colors, and

the video signal lines in each video signal line group respectively correspond to the primary colors.

7. The display device according to claim 6, wherein,

the number of the primary colors is three,

each video signal line group consists of three video signal lines,

each selection block has three switching elements, and

the three video signal lines in each video signal line group respectively correspond to the three primary colors.

8. The display device according to claim 5, wherein,

the display portion displays an image based on a plurality of primary colors, and

the video signal lines in each video signal line group respectively correspond to as many primary colors from among a predetermined number of primary colors greater than the number of video signal lines in the video signal line group, and also respectively correspond to the same number of other primary colors from among the predetermined number of primary colors.

9. The display device according to claim 8, wherein,

the number of the primary colors is four,

each video signal line group consists of two video signal lines,

each selection block has two switching elements, and

the two video signal lines in each video signal line group respectively correspond to two of the four primary colors and also respectively correspond to the other two of the four primary colors.

10. The display device according to claim 5, wherein,

the display portion displays an image based on a

plurality of primary colors, and

each video signal line group consists of video signal lines whose number is an integral multiple of the number of the primary colors.

11. The display device according to claim 10, wherein,

the number of the primary colors is three,

each video signal line group consists of six video signal lines,

each selection block has six switching elements, and

three of the video signal lines in each video signal line group respectively correspond to the three primary colors and the other three video signal lines in the video signal line group respectively correspond to the three primary colors.

12. The display device according to claim 1, wherein,

the selection circuit consists of:

a first selection circuit positioned to one side of the display portion; and

a second selection circuit positioned to the other side of the display portion.

13. The display device according to any one of claims 1 through 12, wherein the selection circuit is implemented with thin-film transistors having semiconductor layers made of an oxide semiconductor.

14. The display device according to claim 13, wherein the oxide semiconductor includes indium, gallium, zinc and oxygen as a main component.

15. The display device according to any one of claims 1 through 12, wherein the selection circuit is implemented with thin-film transistors having semiconductor layers made of amorphous silicon.

16. A drive method for a display device provided with a display portion that includes a plurality of video signal lines and a plurality of scanning signal lines crossing the video signal lines, a scanning signal line driver circuit that drives the scanning signal lines, a selection circuit that is integrally formed with the display portion and includes a plurality of selection blocks, a video signal line driver circuit that provides the selection blocks with their respective video signals, and a display control circuit that provides the video signal line driver circuit with image data corresponding to the video signals and

provides the selection blocks with a plurality of selection control signals cyclically repeating on-state and off-state levels, the method comprising the steps of:

driving the scanning signal lines such that a scanning period in which the scanning signal lines are sequentially selected and an idle period in which none of the scanning signal lines is selected alternatingly occur in cycles of a frame period consisting of the scanning period and the idle period;

providing the video signal received by the selection block to video signal lines that are adjacent to each other in a video signal line group in a time-division manner in accordance with the selection control signals, the video signal line group consisting of as many video signal lines as the number of selection control signals; and

keeping the selection control signals at a lower frequency during the idle period than during the scanning period.

17. The drive method according to claim 16, wherein the selection control signals are kept in a smaller amplitude during the idle period than during the scanning periods.

18. The drive method according to claim 16, wherein the idle period is longer than the scanning period.

19. The drive method according to claim 16, wherein the video signals are set at a constant potential during the idle period.