CLAIMS

1. A stereoscopic display device, comprising:

a display panel configured to display a composite image having stripe-shaped right eye sub-images and left eye sub-images arranged alternately;

a switch liquid crystal panel located on a front side of the display panel and capable of forming a parallax barrier having transparent portions for transmitting light and light-shielding portions for blocking light arranged alternately;

a touch panel located on a front side of the switch liquid crystal panel;

a driving circuit configured to drive the switch liquid crystal panel to form the parallax barrier; and

an RC circuit located between the switch liquid crystal panel and the driving circuit,

wherein the driving circuit drives the switch liquid crystal panel using a voltage with an effective value of 3 volts or more.

2. The stereoscopic display device according to claim 1, wherein:

the switch liquid crystal panel includes:

a pair of substrates;

a liquid crystal layer enclosed between the substrates;

a common electrode provided on one of the substrates; and

first driving electrodes provided on the other one of the substrates, and

the light-shielding portions are formed as the driving circuit applies to the first driving electrodes a voltage different from that applied to the common electrode.

3. The stereoscopic display device according to claim 2, further comprising:

first auxiliary electrodes provided on the other one of the substrates, the first driving electrodes and the first auxiliary electrodes being arranged alternately,

the common electrode includes:

second driving electrodes provided on the one of the substrates; and

second auxiliary electrodes provided on the one of the substrates, the second driving electrodes and the second auxiliary electrodes being arranged alternately,

the first driving electrodes are perpendicular to the second driving electrodes as viewed looking at the front side of the switch liquid crystal panel,

first light-shielding portions are formed as the driving circuit applies to the first driving electrodes a voltage different from that for the second driving electrodes and the second auxiliary electrodes, and

second light-shielding portions are formed that are perpendicular to the first light-shielding portions as the driving circuit applies to the second driving electrodes a voltage different from that for the first driving electrodes and the first auxiliary electrodes.

4. The stereoscopic display device according to claim 2, wherein:

the one of the substrates is located on the touch panel,

the common electrode overlies the entire liquid crystal layer as viewed looking at the front side of the switch liquid crystal panel,

the RC circuit includes a capacitor, and

the capacitor has one terminal connected with the common electrode and the other terminal that is grounded.

5. The stereoscopic display device according to any one of claims 1 to 4, wherein the RC circuit has a cutoff frequency that is equal to or smaller than a driving frequency for the touch panel.

6. The stereoscopic display device according to claim 5, wherein the cutoff frequency is 70 % of the driving frequency or smaller.

7. The stereoscopic display device according to claim 2 or 3, wherein that one of the substrates which is located adjacent the touch panel serves as a base substrate of the touch panel.

CLAIMS

1. A stereoscopic display device, comprising:

a display panel configured to display a composite image having stripe-shaped right eye sub-images and left eye sub-images arranged alternately;

a switch liquid crystal panel located on a front side of the display panel and capable of forming a parallax barrier having transparent portions for transmitting light and light-shielding portions for blocking light arranged alternately;

a touch panel located on a front side of the switch liquid crystal panel;

a driving circuit configured to drive the switch liquid crystal panel to form the parallax barrier; and

an RC circuit located between the switch liquid crystal panel and the driving circuit,

wherein the switch liquid crystal panel is a normally white, TN mode liquid crystal panel, and has a liquid crystal with a retardation set to the maximum based on a relationship between retardation and light transmission,

the driving circuit drives the switch liquid crystal panel using a voltage with an effective value of 3 volts or more.

2. The stereoscopic display device according to claim 1, wherein:

the switch liquid crystal panel includes:

a pair of substrates;

a liquid crystal layer enclosed between the substrates;

a common electrode provided on one of the substrates; and

first driving electrodes provided on the other one of the substrates, and

the light-shielding portions are formed as the driving circuit applies to the first driving electrodes a voltage different from that applied to the common electrode.

3. The stereoscopic display device according to claim 2, further comprising:

first auxiliary electrodes provided on the other one of the substrates,

the first driving electrodes and the first auxiliary electrodes being arranged alternately,

the common electrode includes:

second driving electrodes provided on the one of the substrates; and

second auxiliary electrodes provided on the one of the substrates, the second driving electrodes and the second auxiliary electrodes being arranged alternately,

the first driving electrodes are perpendicular to the second driving electrodes as viewed looking at the front side of the switch liquid crystal panel,

first light-shielding portions are formed as the driving circuit applies to the first driving electrodes a voltage different from that for the second driving electrodes and the second auxiliary electrodes, and

second light-shielding portions are formed that are perpendicular to the first light-shielding portions as the driving circuit applies to the second driving electrodes a voltage different from that for the first driving electrodes and the first auxiliary electrodes.

4. The stereoscopic display device according to claim 2, wherein:

the one of the substrates is located on the touch panel,

the common electrode overlies the entire liquid crystal layer as viewed looking at the front side of the switch liquid crystal panel,

the RC circuit includes a capacitor, and

the capacitor has one terminal connected with the common electrode and the other terminal that is grounded.

5. The stereoscopic display device according to any one of claims 1 to 4, wherein the RC circuit has a cutoff frequency that is equal to or smaller than a driving frequency for the touch panel.

6. The stereoscopic display device according to claim 5, wherein the cutoff frequency is 70 % of the driving frequency or smaller.

7. The stereoscopic display device according to claim 2 or 3, wherein that one of the substrates which is located adjacent the touch panel serves as a base substrate of the touch panel.