

Abstract: (Fig. 7)

"LIQUID CRYSTAL DISPLAY DEVICE"

In an STN type liquid crystal display device, two retardation plates (112, 113) are located one on each side of an STN liquid crystal cell (101). A twist angle m_0 of the liquid crystal material (109) is set to fall within the range of 200° to 240° , and the $\Delta n \cdot d$ value of the liquid crystal is set to fall within the range of 700 nm to 900 nm (measurement wavelength: 589 nm). With respect to the direction of aligning treatment of an incident-side substrate (104), the light-transmitting axis of a polarizer (110) is inclined at an angle falling within the range of 140° to 180° , the light-transmitting axis of an analyzer (111) is inclined at an angle falling within the range of $(270^\circ - |\phi_0|/2) \pm 10^\circ$, the phase delay axis of the first retardation plate (112) is inclined at an angle falling within the range of $(180^\circ - |\phi_0|/2)$ to $(180^\circ - |\phi_0|/2) + 30^\circ$, and the phase delay axis of the second retardation plate (113) is inclined at an angle falling within the range of $(180^\circ - |\phi_0|/2)$ to $(180^\circ - |\phi_0|/2) - 30^\circ$. The $\Delta n \cdot d$ value of each of the first and second retardation plates (112, 113) is preferably set to be $1/2$ (i.e., 2 in $1/2$ represents the number of retardation plates) a value obtained by multiplying the $\Delta n \cdot d$ value of the liquid crystal with 0.80 to 0.95.