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(54) Title: DUAL MODE REFLECTIVE/TRANSMISSIVE LIQUID CRYSTAL DISPLAY APPARATUS

(57) Abstract

A dual mode LCD device (10) has an LC (11) material disposed between a first polarizer (16) and a second reflective polarizer (15). A light source (21) is disposed behind the second polarizer and an absorbing means (19) is disposed between the second polarizer and the light source. The reflective polarizer may be a wire grid polarizer and reflects one polarization back towards the front of the display. The other polarization is passed by the reflective polarizer and absorbed by the absorbing means. The absorbing means may be a third polarizer (23) and a wave plate (25) for rotating the polarization passed by the second polarizer before absorbing it so that the second and third polarizers pass the same polarization so that the light produced by the light source may also pass through to the front of the display. The absorbing means may also be a removable sheet of absorbing material. A controller (40) selectively activates the LC to selectively alter the polarization of the light as it passes through. A switch (42) may reverse the manner in which the controller activates the LC so that the same pattern of bright and dark images is maintained when the display switches between an ambient illumination mode and an internal illumination mode.

