

CAPACITIVE TOUCH PANEL AND DISPLAY DEVICE WITH TOUCH
DETECTION FUNCTION

ABSTRACT

A capacitive touch panel capable of reducing a disturbance noise and reducing touch detection time with a simple structure is obtained. The capacitive touch panel includes: a plurality of drive electrodes each to which a drive signal for touch detection is applied; a plurality of touch detection electrodes arranged to intersect the plurality of drive electrodes, and each outputting a detection signal synchronized with the drive signal; a first sampling circuit (A/D conversion circuits 72 and 73) extracting a first series of sampling signal including a signal component with first level and a noise component, from the detection signal; a second sampling circuit (A/D conversion circuits 75 and 76) extracting a second series of sampling signal including a signal component with second level different from the first level and the noise component, from the detection signal; a filter circuit (digital LPFs 81 and 82) performing a high range cut process on the first series of sampling signal and the second series of sampling signal; and a computation circuit (a subtraction circuit 90) determining a signal for touch detection based on an output of the filter circuit.

FIG. 7