

ABSTRACT

A pointing device to operate a portable electronic device using a finger is disclosed. The pointing device comprises a light emitting means for illuminating a
5 subject; a hole through which light from the light emitting means is transmitted;
an image-acquisition area for taking an image of the subject from the transmitted
light; an image-formation means for forming an image by focusing the light
reflected from the image-acquisition area; a conversion means for converting the
image formed by the image-formation means into an electric signal; and an
10 operation means for detecting the change of the image and calculating the amount
of the change using the electric signal output from the conversion means. The
subject is preferably the surface of a finger, a lattice, or any perceivable pattern.
The pointing device can be embodied on portable electronic devices such as
cellular phones and PDAs because it is small in size.

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