

EXHIBIT S



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Yen-Chang Chiu, et al. : Group

Serial No: 10/668,352 : Art Unit #2629

Filed: 24 September 2003 : Examiner:

Title: CAPACITIVE TOUCHPAD INTEGRATED WITH KEY AND HANDWRITING FUNCTIONS : P.M. Dharia

AMENDMENT

Mail Stop – Amendment
 Honorable Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

Sir:

The Examiner issued a non-final Office Action dated 30 May 2006 in the above-referenced Patent Application. In the Office Action, the Examiner set a three month shortened statutory period for reply. The reply period having now expired, a Request and fee for a two month Extension of Time is concurrently filed herewith to ensure timely filing.

Responsive to the 30 May 2006 Office Action, please amend the above-referenced Patent Application as follows:

Amendments to the Claims are reflected in the Listing of Claims which begins on page 2 of this paper.

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Remarks/Arguments begin on page 12 of this paper.

IN THE CLAIMS:

This Listing of Claims will replace all prior versions, and listings, of claims in the subject Patent Application:

Listing of Claims:

1. (Currently Amended) A capacitive touchpad integrated with key and handwriting functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode;

a plurality of regions selectively defined on said panel responsive to actuation of said mode switch; and

a plurality of second patterns selectively defined on said plurality of regions for operation in said key and handwriting modes.

2. (Original) A capacitive touchpad of claim 1, further comprising a mouse mode for switching thereto by touching said first pattern.

3. (Original) A capacitive touchpad of claim 1, further comprising an LCD for displaying an input from said panel.

4. (Currently Amended) A capacitive touchpad ~~of claim 1~~ integrated with key and handwriting functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode;

a plurality of regions defined on said panel; and

a plurality of second patterns on said plurality of regions for operation in said key and handwriting modes;

wherein said panel comprises:

a substrate selected from the group consisting of PCB, membrane and transparent plate;

a conductor wiring on said substrate; and

an insulator covered on said conductor wiring.

5. (Original) A capacitive touchpad of claim 4, wherein said conductor wiring comprises an ITO.

6. (Original) A capacitive touchpad of claim 4, wherein said insulator is transparent.

7. (Original) A capacitive touchpad of claim 1, further comprising a backlight for said panel.

8. (Original) A capacitive touchpad of claim 1, further comprising a recognition module for recognizing an input trace onto said panel in said handwriting mode.

9. (Original) A capacitive touchpad of claim 1, further comprising a judgment module for determining a number of fingers touching onto said panel.

10. (Original) A capacitive touchpad of claim 1, wherein said plurality of second patterns comprises a plurality of key patterns for performing a telephone keyboard.

11. (Currently Amended) A mobile telephone characterized in a capacitive touchpad included thereon, said capacitive touchpad comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode;

a plurality of regions selectively defined on said panel responsive to actuation of said mode switch; and

a plurality of second patterns selectively defined on said plurality of regions for operation in said key and handwriting modes.

12. (Original) A mobile telephone of claim 11, wherein said capacitive touchpad further comprising a mouse mode for switching thereto by touching said first pattern.

13. (Original) A mobile telephone of claim 11, further comprising an LCD for displaying an input from said panel.

14. (Currently Amended) A mobile telephone of ~~claim 11~~ characterized in a capacitive touchpad included thereon, said capacitive touchpad comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a handwriting mode;

a plurality of regions defined on said panel; and

a plurality of second patterns on said plurality of regions for operation in said key and handwriting modes;

wherein said panel comprises:

a substrate selected from the group consisting of PCB, membrane and transparent plate;

a conductor wiring on said substrate; and
an insulator covered on said conductor wiring.

15. (Original) A mobile telephone of claim 14, wherein said conductor wiring comprises an ITO.

16. (Original) A mobile telephone of claim 14, wherein said insulator is transparent.

17. (Original) A mobile telephone of claim 11, further comprising a backlight for said panel.

18. (Original) A mobile telephone of claim 11, further comprising a recognition module for recognizing an input trace onto said panel in said handwriting mode.

19. (Original) A mobile telephone of claim 11, further comprising a judgment module for determining a number of fingers touching onto said panel.

20. (Original) A mobile telephone of claim 11, wherein said plurality of second patterns comprises a plurality of key patterns for performing a telephone keyboard.

21. (Currently Amended) A capacitive touchpad integrated with key and mouse functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a mouse mode;

a plurality of regions selectively defined on said panel responsive to actuation of said mode switch; and

a plurality of second patterns selectively defined on said plurality of regions for operation in said key and mouse modes.

22. (Original) A capacitive touchpad of claim 21, further comprising a handwriting mode for switching thereto by touching said first pattern.

23. (Original) A capacitive touchpad of claim 21, further comprising an LCD for displaying an input from said panel.

24. (Currently Amended) A capacitive touchpad ~~of claim 21~~ integrated with key and mouse functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a key mode and a mouse mode;

a plurality of regions defined on said panel; and

a plurality of second patterns on said plurality of regions for operation in said key and mouse modes;

wherein said panel comprises:

a substrate selected from the group consisting of PCB, membrane and transparent plate;

a conductor wiring on said substrate; and

an insulator covered on said conductor wiring.

25. (Original) A capacitive touchpad of claim 24, wherein said conductor wiring comprises an ITO.

26. (Original) A capacitive touchpad of claim 24, wherein said insulator is transparent.

27. (Original) A capacitive touchpad of claim 21, further comprising a backlight for said panel.

28. (Original) A capacitive touchpad of claim 22, further comprising a recognition module for recognizing an input trace onto said panel in said handwriting mode.

29. (Original) A capacitive touchpad of claim 21, further comprising a judgment module for determining a number of fingers touching onto said panel.

30. (Original) A capacitive touchpad of claim 21, wherein said plurality of second patterns comprises a plurality of key patterns for performing a telephone keyboard.

31. (Currently Amended) A capacitive touchpad integrated with mouse and handwriting functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a mouse mode and a handwriting mode;

a plurality of regions selectively defined on said panel responsive to actuation of said mode switch; and

a plurality of second patterns selectively defined on said plurality of regions for operation in said mouse and handwriting modes.

32. (Original) A capacitive touchpad of claim 31, further comprising a key mode for switching thereto by touching said first pattern.

33. (Original) A capacitive touchpad of claim 31, further comprising an LCD for displaying an input from said panel.

34. (Currently Amended) A capacitive touchpad ~~of claim 31~~ integrated with mouse and handwriting functions, comprising:

a panel for touch inputting;

a first pattern on said panel for representing a mode switch to switch said touchpad between a mouse mode and a handwriting mode;

a plurality of regions defined on said panel; and

a plurality of second patterns on said plurality of regions for operation in said mouse and handwriting modes;

wherein said panel comprises:

a substrate selected from the group consisting of PCB, membrane and transparent plate;

a conductor wiring on said substrate; and

an insulator covered on said conductor wiring.

35. (Original) A capacitive touchpad of claim 34, wherein said conductor wiring comprises an ITO.

36. (Original) A capacitive touchpad of claim 34, wherein said insulator is transparent.

37. (Original) A capacitive touchpad of claim 31, further comprising a backlight for said panel.

38. (Original) A capacitive touchpad of claim 31, further comprising a recognition module for recognizing an input trace onto said panel in said handwriting mode.

39. (Original) A capacitive touchpad of claim 31, further comprising a judgment module for determining a number of fingers touching onto said panel.

40. (Original) A capacitive touchpad of claim 31, wherein said plurality of second patterns comprises a plurality of key patterns for performing a telephone keyboard.

REMARKS/ARGUMENTS

This case has been carefully reviewed and analyzed in view of the Office Action dated 30 May 2006. Responsive to that Office Action, Claims 1, 4, 11, 14, 21, 24, 31, and 34 are amended for further prosecution with the other pending Claims. It is believed that with such amendment of Claims, there is a further clarification of their recitations.

In the Office Action, the Examiner rejected Claims 1-3, 8-10, 11-13, 18-20, 21-23, 28-30, 31-33, and 38-40 under 35 U.S.C. § 103(a) as being unpatentable over the Ichikawa reference in view of the Moriya, et al. reference. In setting forth this rejection, the Examiner acknowledged that Ichikawa fails to disclose various features, but cited Moriya, et al. for disclosing a mobile phone and the switching of a touchpad between key and handwriting modes, as well as other features. The Examiner concluded that it would have been obvious to one of ordinary skill in the art to have accordingly modified Ichikawa's device.

Also in the Office Action, the examiner rejected Claims 7, 17, 27, and 37 under 35 U.S.C. § 103(a) as being unpatentable over Ichikawa in view of Moriya, et al., further in view of the Nozaki reference. The Examiner cited Nozaki in this regard for disclosing a backlight for a panel, concluding once more that it would have been obvious to one of ordinary skill in the art to have accordingly modified the Ichikawa device to include such feature.

As for Claims 4-6, 14-16, 24-26, and 34-36, the Examiner merely objected to the Claims for being dependent upon a rejected base claim. The Examiner indicated that they would be allowable if rewritten in independent form to include all of the limitations of the base and any intervening claims. Accordingly, each of the Claims 4, 14, 24, and 34 is now amended to independent form, incorporating therein the subject matter of Claims 1, 11, 21, and 31 from which they had respectively depended. It is believed, therefore, that Claims 4, 14, 24, and 34, as well as Claims 5-6, 15-16, 25-26, and 35-36 which depend respectively therefrom, are now in allowable form.

Each of the remaining independent Claims 1, 11, 21, and 31 is also now amended to now more clearly recite among its combination of features a panel for touch input on which a mode switch is represented for switching the touchpad's configuration between various selective modes such as a key mode and a handwriting mode. A plurality of regions are "selectively defined on said panel responsive to actuation of said mode switch," as the newly-amended independent Claims 1, 11, 21, and 31 each clarify, with "a plurality of second patterns selectively defined on said plurality of regions" for appropriate operation in the mode selected.

The full combination of these and other features now more clearly recited by Applicants' newly-amended Claims is nowhere disclosed by the cited references. As the Examiner readily acknowledged, the primarily-cited Ichikawa

reference simply discloses a particular touchpad or screen. Nowhere does the reference disclose such features as a plurality of regions and patterns “selectively defined” thereon in accordance with a mode selection, as each of the newly-amended independent Claims 1, 11, 21, and 31 now more clearly recites.

The Moriya, et al. reference which the Examiner cited secondarily for disclosing a touchpad having mode switching features, among other things, actually forms a handheld stylus 20. Although it may be manipulated upon various surfaces, it is this handheld “stylus” which serves as the pointing, or position inputting, device. The reference makes very clear that this stylus device thus provides “a handheld movable part, or module, which inputs to the PDA information about all or some of the six spatial variables of the movable part, namely its [own] orientation about any of three orthogonal axes,” (page 2, paragraph [0010]).

Where the reference describes its use with respect to an imaginary keyboard, Moriya, et al. makes clear that even in such applications, it is the “three-dimensional spatial information” of the stylus itself – relative to a calibrated reference point – that effectuates the keyboard selection, not the actuation of any selectively defined panel of a touchpad. The reference plainly explains for such imaginary keyboard operation, “a one-time calibration – or teaching procedure, programmed into the processor, is required” to preset the stylus configuration (page 2, paragraph [0013]). This teaches against any notion of selective

reconfigurability “responsive to actuation of ... [a] mode switch,” let alone “a panel for touch inputting” with a plurality of regions are “selectively defined” thereon “responsive to actuation of said mode switch,” as each of the newly-amended independent Claims 1, 11, 21, and 31 now more clearly recites.

Given such deficient teachings of the Ichikawa and Moriya, et al. references, the disclosures of the secondarily-cited Nozaki reference are found to be quite ineffectual to the present patentability analysis. The reference was cited for its backlighting of an LCD display. Far from remedying the deficiencies of Ichikawa and Moriya, et al., however, Nozaki prescribes and contemplates a touch panel having a fixed set of copier control buttons set thereon.

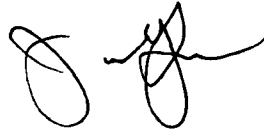
It is respectfully submitted, therefore, that the cited Ichikawa, Moriya, et al., and Nozaki references, even when considered together, fail to disclose the unique combination of elements now more clearly recited by Applicants’ pending Claims for the purposes and objectives disclosed in the subject Patent Application.

It is now believed that the subject Patent Application has been placed fully in condition for allowance, and such action is respectfully requested.

MR2707-46
Serial Number: 10/668,352
Reply to Office Action dated 30 May 2006

If there are any further charges associated with this filing, the Honorable
Commissioner for Patents is hereby authorized to charge Deposit Account #18-
2011 for such charges.

Respectfully submitted,
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Dated: 10/11/2006

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