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Datasheet for the decision of 26 November 2014

Case Number: T 0934/11 - 3.5.05

Application Number: 08020092.6

Publication Number: 2187290

IPC: G06F3/033

Language of the proceedings: EN

Title of invention:
Input device and method of detecting a user input with an input device

Applicant:
Studer Professional Audio GmbH

Headword:
Mechanical control elements using touch screen/STUDER

Relevant legal provisions:
EPC 1973 Art. 56
RPBA Art. 12(2), 13(1), 13(3)

Keyword:
Inventive step - (no)
Late-filed request - admitted (no)

Decisions cited:

Catchword:

Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 0934/11 - 3.5.05

D E C I S I O N
of Technical Board of Appeal 3.5.05
of 26 November 2014

Appellant: (Applicant)	Studer Professional Audio GmbH Riedthofstrasse 214 8105 Regensdorf (CH)
Representative:	Bertsch, Florian Oliver Kraus & Weisert Patentanwälte PartGmbB Thomas-Wimmer-Ring 15 80539 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 15 December 2010 refusing European patent application No. 08020092.6 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chair	A. Ritzka
Members:	M. Höhn
	G. Weiss

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division, posted on 15 December 2010, refusing European patent application No. 08020092.6 on the grounds of lack of inventive step (Article 56 EPC 1973).

II. The following prior-art publications were discussed during the appeal proceedings:

D6: US 2006/0256090 A1,
D7: US 2006/0086896 A1,
D8: US 2006/0033016 A1 and
D9: US 6326956 B1.

III. The notice of appeal was received on 7 February 2011. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 8 April 2011. The appellant requested that the appealed decision be set aside and that a patent be granted on the basis of the main request and first to sixth auxiliary requests on which the decision under appeal was based. Oral proceedings were requested on an auxiliary basis.

IV. With a communication dated 1 August 2014 the board summoned the appellant to oral proceedings on 26 November 2014. In an annex to the summons the board expressed its preliminary opinion that all requests lacked an inventive step (Article 56 EPC 1973) with regard to D1 (WO 98/28760) and D7 to D9. Publications D7 and D8 were mentioned by the examining division during the first instance proceedings as part of a number of publications providing evidence of the skilled person's common general knowledge. The board considered D7 to D9 to be pertinent and explicitly

introduced them into the proceedings of the board's own motion according to Article 114(1) EPC 1973.

V. By letter dated 24 October 2014 the appellant submitted four sets of claims in an amended main request and amended auxiliary requests 1 to 3 supported by comments in favour of an inventive step.

VI. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request, auxiliary requests 1 and 2, all requests filed with letter dated 24 October 2014 and auxiliary request 3 submitted at the oral proceedings. Auxiliary request 3 filed with letter dated 24 October 2014 was withdrawn.

VII. Independent claim 1 according to the main request reads as follows:

"1. An input device, comprising:
- a multi-touch sensing display (101) adapted to detect multiple simultaneous touches or near touches to a surface (104) of the multi-touch sensing display (101) as distinct input events; and
- at least one mechanical control element (102, 103) arranged on said surface (104) of the multi-touch sensing display (101);
wherein the at least one mechanical control element (102, 103) is configured such that an actuation of the at least one mechanical control element (102, 103) generates an input event which is detected by the multi-touch sensing display (101),
characterized in that
the multi-touch sensing display is adapted to display an indication regarding a value of or a type of a parameter controlled by said mechanical control element

within a predetermined region adjacent to said mechanical control element, the area surrounding the control element being touch sensitive and configured to provide an additional possibility for a user input".

Independent claim 1 according to auxiliary request 1 is further specified by the use of at least two mechanical control elements, wherein the multi-touch sensing display is adapted to detect a simultaneous actuation of the at least two mechanical control elements as separate input events.

Independent claim 1 according to auxiliary request 2 differs from the main request by the use of a plurality of mechanical control elements, wherein each of the mechanical control elements comprises its own support structure which is different from the support structure of the other mechanical control elements and via which each mechanical control element is fixedly mounted to the surface of the multi-touch sensing display.

Independent claim 1 according to auxiliary request 3, in comparison with claim 1 according to auxiliary request 1, is further specified by the additional possibility for a user input being a touch input in order to change a functionality at the corresponding control element in accordance with a position of a detected touch.

VIII. Oral proceedings were held on 26 November 2014. After deliberation the chair announced the board's decision.

Reasons for the Decision

1. Admissibility

The appeal complies with Articles 106 to 108 EPC (see Facts and Submissions, point II above). It is therefore admissible.

Main request

2. The board agrees with the decision under appeal that document D6 constitutes the closest prior art, disclosing as it does an input device for an audio console (see [0098], media mixing console with an array of mechanical elements), as well as the method by which it operates (see in particular Figures 1 to 11 and the corresponding text of the description). The input device comprises a multi-touch sensing display (518) adapted to detect multiple simultaneous touches or near touches to a surface of the multi-touch sensing display (see [0085], stating that the input device is a touch screen; see also [0057] and [0086], defining a multi-touch sensing device, as well as [0087], stating that the panel can detect objects in the proximity of its surface). In particular, the touch-sensing device is, among other technologies, based on optical sensing (see [0056]). A mechanical element (32) is disposed over the surface of the touch screen (12). When the user actuates the mechanical element (32), an input event is detected by the touch screen (see [0066], button down event).

The processing means of the input device are provided with information relative to the position of the respective control elements (see [0065], the system

knows at which positions a sliding action should take place, i.e. it knows where a slider is located; see also Figure 10 with [0079]). The processing means is arranged to assign values to parameters associated with the mechanical control elements (see [0098], in the embodiment of a media mixing console, the processor necessarily processes numerical values associated to the sliders operated by a user, since this is the purpose of such a mixing console).

2.1 The features according to the preamble of claim 1 are therefore known from the disclosure of D6.

2.2 According to the appellant the features of the characterising portion of claim 1 are to be considered to be distinguishing features over D6. However, the board does not agree. In the board's judgement, the last feature according to which "the area surrounding the control element being touch sensitive and configured to provide an additional possibility for a user input" is formulated so broadly that it is also anticipated by D6. According to the board's interpretation of this wording, every second mechanical control element already fulfils this condition. Since the whole touch display is touch sensitive, the area surrounding the control element is touch sensitive as well. Another control element which is disclosed in D6 (see e.g. Figure 1) therefore provides an additional possibility for a user input on the touch sensitive area and, thus, falls under the wording of this feature of claim 1.

2.3 The subject-matter of claim 1 is therefore merely distinguished from the disclosure of D6 in that it is specified that the multi-touch sensing display is adapted to display an indication regarding a value of

or a type of a parameter controlled by said mechanical control element within a predetermined region adjacent to said mechanical control element.

2.4 The underlying objective technical problem is regarded as being how to improve the feedback of the present chosen value of the control element. This problem was agreed to by the appellant during oral proceedings.

2.5 The skilled person looking for a solution to the underlying objective technical problem would also consider D9, which is related to corresponding input devices.

2.6 D9 discloses the use of mechanical control elements used together with a touch-display whereby photosensors process the light generated by the display and track movement of the control element (see abstract). D9 further discloses that:

"The display screen displays images 14 around the periphery of the knob 117a that identify successive settings of the control device and also displays a virtual pointer image 17 that moves to identify the current setting of the control device 116a."
(see D9, column 14, lines 46 to 50; see also Figures 7 and 8; column 7, lines 1 to 5; column 8, lines 9 to 12 and 32 to 41; column 9, lines 8 to 12; column 10, lines 16 to 26).

2.7 The board does not concur with the appellant's argument that the skilled person would not take D9 into consideration, because the concept of mechanical overlays in D6 would be contravened, in particular the stability of such an overlay would no longer be

sufficient (see letter dated 24 October 2014). In fact, D6 explicitly discloses (see paragraph [0099]):

"Although only large mechanical overlays are described in the embodiment of FIGS. 13A and 13B, it should be noted that this is not a limitation and that smaller mechanical overlays may be used. .... In fact, a plurality of smaller mechanical overlays can be placed on the large touch surface to produce a customized user interface for the user...".

2.8 The skilled person would therefore consider the use of several smaller overlays, knowing about the need for sufficiently fixing each overlay. The skilled person would also consider leaving the space in proximity to the control element transparent and accessible to input operations of the touch display in view of the teaching of D9 in order to achieve a graphical feedback of the current value of the mechanical control element, particularly in the light of the further disclosure of D6 (see [0100]) that "the mechanical overlay 644 typically is configured to cover only a portion of the touch surface or alternatively use a cut out 648 so that a portion of the touch screen display is viewable to the user".

2.9 D9 thereby renders the solution according to the distinguishing feature of claim 1 obvious (Article 56 EPC 1973) when combined with the teaching of starting document D6.

Auxiliary request 1

3. Claim 1 according to this request is further specified by the use of at least two mechanical control elements, wherein the multi-touch sensing display is adapted to

detect a simultaneous actuation of the at least two mechanical control elements as separate input events.

3.1 In view of point 2.2 above every second mechanical control element already fulfils the condition set by the last feature of claim 1. D6 and D9 both disclose embodiments with more than one mechanical control element (see D6, Figure 1 and D9, Figure 7 in combination with Figure 8 and column 9, lines 5 to 12) and therefore each anticipate this amendment.

3.2 D6 also discloses a multi-touch sensing display capable of detecting a simultaneous actuation of the at least two mechanical control elements as separate input events (see e.g. Figure 10 and paragraph [0079] of D6).

3.3 The subject-matter of claim 1 according to this request therefore lacks an inventive step (Article 56 EPC 1973) over D6 combined with D9 for the same reasons as set out with regard to the main request.

Auxiliary request 2

4. In comparison with claim 1 according to the main request, claim 1 according to this request is further specified by the use of a plurality of mechanical control elements, wherein each of the mechanical control elements comprises its own support structure which is different from the support structure of the other mechanical control elements and via which each mechanical control element is fixedly mounted to the surface of the multi-touch sensing display.

4.1 D6 and D9 both disclose embodiments with a plurality of mechanical control elements (see D6, Figure 1 and D9, Figure 7 in combination with Figure 8 and column 9,

lines 5 to 12) and therefore each anticipate this feature.

4.2 D6 also discloses a plurality of smaller mechanical overlays with mechanical control elements (see paragraph [0099] and point 2.7 above). The skilled person thereby learns to provide separate support structures for only part of the mechanical control elements. In the light of this motivation in D6, the skilled person would consider D9, which further discloses a separate support structure for each mechanical control element (see Figure 8 and corresponding text of the description, column 9, lines 5 to 21, "Referring jointly to FIGS. 8 and 9, a display screen 13 similar to that previously described may be used for this purpose in conjunction with a control device 116 at which the operator varies a control signal by turning a rotatable knob 117. The knob 117 is disposed in front of the image display area 22 of display screen 13 over an annular outer base member 118 which is adhered or otherwise fastened to the face of the screen. An inner base member 119, also adhered or otherwise fastened to the base of the screen 13 ...").

4.3 Motivated by the hint in D6 (see paragraph [0099]), the skilled person would find the distinguishing features of claim 1 in D9 and would therefore consider providing several mechanical control elements each fixedly mounted to the touch screen with its own support structure.

4.4 The subject-matter of claim 1 according to this request therefore lacks an inventive step (Article 56 EPC 1973) over D6 combined with D9 for the same reasons as set out with regard to the main request.

Auxiliary request 3

5. In comparison with claim 1 according to auxiliary request 1, claim 1 according to this request is further specified by the additional possibility for a user input being a touch input in order to change a functionality at the corresponding control element in accordance with a position of a detected touch.

Admissibility of the request

5.1 The added feature was taken from the description of the present application (see page 19, lines 22 to 28) and was claimed for the first time during the oral proceedings of the appeal, i.e. at a very late stage in the proceedings. This is in contrast to the requirements of Article 12(2) RPBA, according to which the statement of grounds of appeal shall contain a party's complete case.

5.2 Furthermore, the added feature, which has not been assessed in the decision under appeal, should have been presented in reply to the annex to the summons, since it is a reaction to the objection raised under point 7.5 of the annex. It was not a mere reaction to the discussions during oral proceedings, since the feature referred to in point 7.5 had already been objected to in the annex to the summons for oral proceedings as being obvious. The amendment, i.e. the added feature according to present auxiliary request 3, is not only a clarification of the feature objected to in the annex, as argued by the appellant. It introduces an additional aspect, i.e. the possibility for a reconfiguration of the functionality of the control element. As mentioned in point 5.1 above, this aspect was presented for the first time at oral proceedings before the board. The

board could not know whether such a feature had been subject to a search for prior art before the first instance and was not in a position to find out about this during the course of the oral proceedings.

According to Article 13(3) RPBA amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the board cannot reasonably be expected to deal with without adjournment of the oral proceedings.

5.3 The board therefore exercised its discretion according to Article 13(1) RPBA and did not admit this request into the proceedings in the present case.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

K. Götz-Wein A. Ritzka

Decision electronically authenticated