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Datasheet for the decision of 21 September 2010

Case Number: T 1629/08 - 3.5.03

Application Number: 02787264.7

Publication Number: 1459499

IPC: H04M 1/00

Language of the proceedings: EN

Title of invention:
Handheld electronic device with keyboard

Applicant:
RESEARCH IN MOTION LIMITED

Opponent:
-

Headword:
Keyboard/RESEARCH IN MOTION

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step (yes - following amendment)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1629/08 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 21 September 2010

Appellant: RESEARCH IN MOTION LIMITED
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 20 March 2008 refusing European patent application No. 02787264.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: A. S. Clelland
Members: T. Snell
R. Moufang

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division refusing European patent application No. 02787264.7, with publication number WO-A-03/056784.

The refusal was based, *inter alia*, on the ground that the subject-matter of claim 1 of each of a main request and three auxiliary requests (referred to as "auxiliary requests I - III") did not meet the requirement of inventive step pursuant to Article 52(1) in combination with Article 56 EPC with respect to the disclosures, *inter alia*, of the following documents:

D1: WO-A-01/85460 (NB: although erroneously identified in the decision as US 2003/073456 A1, the true identity of D1 is readily apparent from the communications dated 10.10.2005 and 23.10.2007, as correctly noted by the appellant in the statement of grounds (cf. the section headed "Preliminary Remark"));

D4: US-B-6295052

II. The appellant filed a notice of appeal against the above decision. The appellant requested "cancellation of the decision to full extend *[sic]* and ... grant of a patent based on the claims as considered in the decision".

In the statement of grounds, the appellant confirmed the request for the grant of a patent on the basis of the main request and auxiliary requests I to III considered in the impugned decision.

Further, on page 7 of the statement of grounds, the appellant alleged that the impugned decision was "based on a serious procedural mistake contrary to Article 113(1) EPC", because the "technical nature" of features was not discussed at all during the oral proceedings, but raised for the first time in the decision refusing the application. In addition, on page 23 of the statement of grounds, the appellant alleged another "serious violation of his right to be heard (Art. 113(1) EPC)", because, as a "further line of argumentation", arguments relating to a Nokia cellphone were raised for the first time in the decision. The appellant requested reimbursement of the appeal fee should the board rely on this "further line of argumentation".

Oral proceedings were conditionally requested.

III. In a communication accompanying a summons to oral proceedings the board gave a preliminary opinion in which, *inter alia*, a reasoned objection under Article 52(1) in combination with Article 56 EPC (inventive step) was raised against claim 1 of each request.

To support its reasoning, the board, by virtue of its power under Article 114(1) EPC, introduced the following document into the proceedings:

D6: WO-A-00/35091

The board also gave a preliminary opinion that no violation of Article 113(1) EPC had occurred justifying reimbursement of the appeal fee.

IV. In response to the board's communication, the appellant filed new claims of a main request and auxiliary requests I to III to replace all the existing requests.

V. Oral proceedings were held on 21 September 2010. In the course of the oral proceedings, the appellant filed claims of a new main request and withdrew all other requests, including that for reimbursement of the appeal fee. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims 1 to 23 of the main request filed at the oral proceedings. After due deliberation, the board announced its decision at the end of the oral proceedings.

VI. Claim 1 of the **main request** reads as follows:

"A mobile handheld communication device (10) comprising a keyboard having
- a plurality of alphabetic keys, wherein alphabetic keys are keys which only have alphabetic values, for actuating a signal of a corresponding alphabetic value and wherein at least one of the plurality of alphabetic keys has a plurality of alphabetic values;
- a plurality of alphanumeric keys, wherein alphanumeric keys are keys that have one numeric and two alphabetic values for actuating a signal corresponding to its corresponding numeric and alphabetic values and wherein the plurality of alphabetic keys and the plurality of alphanumeric keys are arranged in conjunction to provide a QWERTY keyboard layout having a reduced number of keys;

- a command key for actuating a signal corresponding to a command key value;

the device (10) further comprising a keyboard interpreter for receiving the signals actuated by the plurality of alphabetic keys, the plurality of alphanumeric keys and the command key for mapping the received signals to a sequence of alphanumeric, alphabetic and command values and wherein the keyboard interpreter is employed to determine the intended alphabetic value corresponding to each key;

wherein

- the plurality of keys is arranged in a grid having four rows and five columns, with the four rows comprising in order a first, second, third and bottom row, and the five columns comprising in order a first, second, third, fourth, and fifth column;

- a telephone keypad (32C) is provided comprising the plurality of alphanumeric keys in which numeric values 1-9 are arranged in three rows by three columns in increasing order from left to right and from top to bottom and a space-bar key (32B), which also has a numeric zero value, centered below the plurality of alphanumeric keys in the bottom row; and

- the telephone keypad (32C) is centered within the QWERTY keyboard layout having a reduced number of keys, with the first and fifth column of keys flanking the telephone keypad (32C) on each side thereof and each of the columns of keys comprising at least one alphabetic key; wherein the QWERTY keyboard layout is arranged in the first, second and third row;

- the keystroke interpreter employs predictive text routines for mapping the received signals to a sequence of alphanumeric and command values."

Reasons for the decision

1. *Procedural matters*

The appellant withdrew the request for reimbursement of the appeal fee at the oral proceedings, and the board does not deem it necessary to consider further whether any infringement of Article 113(1) EPC occurred in the course of the examination proceedings.

2. *Interpretation of claim 1 and clarity - Article 84 EPC*

The board considers that claim 1 is clear within the meaning of Article 84 EPC. The statement in claim 1 that "alphanumeric keys are keys that have one numeric and two alphabetic values" is interpreted by the board as meaning that keys have only one numeric and only two alphabetic values. An "alphabetic value" is interpreted as a single letter between A to Z, irrespective of whether lower or upper case. The appellant made clear that these were the intended limitations which, in addition, are fully consistent with the description and drawings.

3. *Claim 1 - Article 123(2) EPC*

The subject-matter of present claim 1 is disclosed in claim 1 together with Figure 9 and paragraph 0048 of the description all as filed (cf. the published application). Claim 1 therefore complies with Article 123(2) EPC.

4. *Claim 1 - inventive step (Articles 52(1) and 56 EPC)*

4.1 The examining division considered that document D1 represents the closest prior art. The board agrees.

4.2 D1 concerns a keyboard for a "small portable wireless communication device", ie implicitly a handheld device (cf. page 2, lines 9-11). The device is also used for telephony communications (page 2, line 12). Figure 6, which is regarded as disclosing the most relevant embodiment, discloses a full 26-key QWERTY keyboard made up of a plurality of alphabetic keys having a single alphabetic value and, at the left-hand end, nine alphanumeric keys having one alphabetic and one numeric value. The alphanumeric keys form a 3x3 standard telephone keypad. The zero key is positioned in a central position below the 3x3 grid of alphanumeric keys and is jointly used to input the value "+".

4.3 The subject-matter of claim 1 differs from the disclosure of D1 in the following features:

(a) at least one of the plurality of alphabetic keys has a plurality of alphabetic values;
(b) the keyboard comprises a plurality of alphanumeric keys, wherein alphanumeric keys are keys that have one numeric and two alphabetic values for actuating a signal corresponding to its corresponding numeric and alphabetic values and wherein the plurality of alphabetic keys and the plurality of alphanumeric keys are arranged in conjunction to provide a QWERTY keyboard layout having a reduced number of keys;

(c) the plurality of keys is arranged in a grid having four rows and five columns, with the four rows comprising in order a first, second, third and bottom row, and the five columns comprising in order a first, second, third, fourth, and fifth column;
(d) the telephone keypad (32C) is centered within the QWERTY keyboard layout having a reduced number of keys, with the first and fifth column of keys flanking the telephone keypad (32C) on each side thereof and each of the columns of keys comprising at least one alphabetic key; wherein the QWERTY keyboard layout is arranged in the first, second and third row;
(e) the keyboard comprises a spacebar key, which also has a numeric zero value and is centered below the plurality of alphanumeric keys in the bottom row;
(f) the keystroke interpreter employs predictive text routines for mapping the received signals to a sequence of alphanumeric and command values.

4.4 The problem to be solved by the above features is regarded as being to design a more compact keyboard, optimised in ergonomic respects for both typing messages and dialling telephone numbers.

4.5 First of all, the board observes that all of the distinguishing features (a) to (f) provide technical effects contributing to the solution of this problem and thus cannot be ignored when assessing inventive step. In this respect, features (a), (b) and (c) enable the keyboard to be reduced in size as compared with a full 26-key QWERTY keyboard. Features (c) and (d) combine to provide a symmetrical design which plausibly enables the device to operated by either the left or right hand in similar fashion. Feature (e) saves one

key by combining the spacebar with the zero key, and is positioned to be conveniently accessed by the user's right or left thumb. Feature (f) aids the user to input text messages.

4.6 The examining division considered that the skilled person would combine document D1 with document D4. The board disagrees for the following reasons.

4.7 Document D4 relates to a "screen display key input unit for selecting and inputting keys displayed on a screen" (cf. col. 2, lines 4-6). A key can be allocated two graphic character codes, such as a letter, a digit, a symbol, or the like (col. 2, lines 14-16). Key values are entered by using a "pen, mouse or the like" (cf. col. 1, line 66 to col. 2, line 3).

4.8 The examining division in the impugned decision specifically referred to the passage at col. 2, lines 23-37, which states:

"... the key input means is touch-sensitive input means for touching the respective key area shown on the screen, and the selection processing means includes criterion means for deciding whether the touch-sensitive input means shifts over a predetermined length with continuous touch to the key area and character generation means for outputting the first graphic character code allocated to the key when the criterion means decides that a moving distance of the touch-sensitive input means is shorter than the predetermined length and outputting the second graphic character code allocated to the key when the criterion means decides that a moving distance of the touch

sensitive input means is longer than the predetermined length."

4.9 It is clear from this passage that the nature of the keys, the manner of their actuation and the disambiguation technique differ fundamentally from the conventional mechanical keyboards of D1. Due to this inherent incompatibility, the board takes the view that the skilled person would be unlikely to combine the keyboard of Fig. 6 of D1 with features of the touch-screen embodiments of D4 referred to above, all the more so as the method of key actuation used in D4 appears to be inconvenient for dialling telephone numbers as compared with the keyboards of D1. However, it is one of the aims both of D1 (cf. page 2, lines 8-15) and the present invention to provide a convenient method of dialling phone numbers.

4.10 Although in the board's view the skilled person would not be led to combine D1 and D4, even if for the sake of argument such a combination were considered, it would not result in the claimed invention. Fig. 12 of D4, which appears to be the most relevant embodiment, discloses a keyboard design having a QWERTY layout with a total of 24 keys arranged in six columns (including various ancillary keys). In the third to fifth columns a 3x3 calculator keypad (and not a telephone keypad) is overlaid onto the alphabetic keys. Thus even if for the sake of argument the skilled person were to adopt this design in the context of the keyboard of Fig. 6 of D1, they would still not arrive at a keyboard incorporating distinguishing features (b), (c), (d), (e) and (f).

Given that the skilled person would have to combine D1 and D4 (which as noted above the board in itself considers to be non-obvious) and then make five further steps, the board judges that it would require inventive skill to arrive at a keyboard as claimed in claim 1.

4.11 Document D4 additionally discloses an embodiment ("seventh embodiment") in which a conventional keyboard in the form of a card is used in combination with a touch-screen display (cf. Figs. 43 to 48). The keyboard layout of the card (cf. Fig. 45) however neither includes a QWERTY layout nor a telephone keypad. Fig. 54 of D4 discloses a further embodiment comprising a telephone keypad for display on a finger-operated touch-screen. It appears that in accordance with this embodiment either the telephone keypad or the keyboards shown in Figs. 51 to 53 are displayed based on user selection, which is a different concept to the keyboards shown in D1 in which all key values are marked on or next to the keys and hence visible to the user at all times. This D4 arrangement is therefore unlikely to be considered by the skilled person in conjunction with D1. Moreover, none of the displays in Figs. 51 to 53 use a QWERTY arrangement. Hence these further embodiments would not lead the skilled person starting out from the teaching of D1 to the subject-matter of claim 1 without the exercise of inventive skill either.

4.12 Nor would the skilled person arrive at the subject-matter of claim 1 without the exercise of inventive skill by combining the teaching of D1 with the disclosure of document D6.

Document D6 discloses a large number of very diverse keyboard designs together with a methodology for designing ambiguous codes, ie a method for allocating symbols to each multi-use key. In a section entitled "Qwerty-like Keyboards" (cf. page 69, line 7 ff.), it is stated that there exists a sequence of keyboard layouts which are Qwerty-like in that they have three rows devoted to letter keys, and variable numbers of columns, from one up to 10 columns. It is stated (cf. page 70, lines 7-9) that the design of Qwerty-like keyboards must be a compromise between code ambiguity and keyboard size. It is then proposed to use a keyboard with seven columns in which the keys are arranged in three rows and allocated as follows (cf. Fig. 20):

1st row:	qwe	r	t	yu	i	o	p
2nd row:	as	d	f	space	g	hjk	1
3rd row:	blank	zxc	vb	n	m	blank	blank

This part of the description however gives no consideration to the incorporation of a telephone number keypad. Indeed, the board observes that all embodiments of D6 combining an alphabetic and a numeric keypad for the purposes of telephony make use of an arrangement of three columns having a non-QWERTY arrangement of the keys (cf. Figs. 18, 19, 37, 38, 42, 43 and 45). Arguably therefore D6 teaches away from combining a QWERTY keyboard with a telephone dialling pad.

However, even if for the sake of argument the skilled person were to modify the keyboard of Fig. 6 of D1 by incorporating the teaching of Fig. 20 of D6 and its

associated text, the resulting keyboard would still not comprise distinguishing features (b), (c), (d) and (e).

Given that the skilled person would have no obvious reason to combine document D1 with the particular section of D6 referred to above, and that, even if for the sake of argument such a combination were made, four further steps would be required, the board judges that it would not be obvious to arrive at a keyboard as claimed in claim 1.

4.13 In a section of the impugned decision entitled "Additional Remarks", the examining division provided a further line of argumentation on inventive step, based on combining a "classical" cellphone model with document D4. However, in the board's view, this combination fails for the same reasons as the combination of documents D1 and D4 given above.

4.14 The board concludes that claim 1 meets the requirement of inventive step (Articles 52(1) and 56 EPC).

5. As the board has only examined claim 1 of the appellant's main request, the board deems it appropriate to remit the case to the examining division for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of claims 1 to 23 of the main request filed at the oral proceedings.

The Registrar: The Chairman:

G. Rauh A.S. Clelland