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Datasheet for the decision of 15 November 2018

Case Number: T 1032/13 - 3.5.04

Application Number: 07013074.5

Publication Number: 1883219

IPC: H04N1/00, H04N7/14

Language of the proceedings: EN

Title of invention:
Method and apparatus for taking images during a video call on a mobile communication terminal

Applicant:
Samsung Electronics Co., Ltd.

Headword:

Relevant legal provisions:
EPC 1973 Art. 56
RPBA Art. 13(1)

Keyword:
Inventive step - main and first, second and third auxiliary requests (no) - closest prior art
Late-filed fourth auxiliary request - admitted (no)

Decisions cited:

Catchword:

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Beschwerdekammern

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Case Number: T 1032/13 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 15 November 2018

Appellant: (Applicant)	Samsung Electronics Co., Ltd. 129, Samsung-ro Yeongtong-gu Suwon-si, Gyeonggi-do, 443-742 (KR)
Representative:	HGF Limited Saviour House 9 St. Saviourgate York YO1 8NQ (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 12 December 2012 refusing European patent application No. 07013074.5 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	C. Kunzelmann
Members:	B. Willems
	B. Müller

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division dated 12 December 2012 refusing European patent application No. 07 013 074.5, which was published as EP 1 883 219 A2.

II. The documents cited in the decision under appeal included the following:

D1: US 2003/222974 A1 (Yoneyama Akio [JP] ET AL) 4 December 2003,

D3: EP 1 492 315 A2 (LG ELECTRONICS INC. [KR]) 29 December 2004.

III. The decision under appeal was based on the grounds that the subject-matter of independent claim 1 of the main request and of the auxiliary request lacked inventive step over the combined disclosures of documents D1 and D3 (Article 56 EPC).

IV. The applicant filed notice of appeal requesting that the examining division's decision be set aside. With the statement of grounds of appeal, the appellant filed claims according to a second auxiliary request and requested that the decision under appeal be set aside and that a European patent be granted on the basis of the claims of the main or the first auxiliary request underlying the decision under appeal or, alternatively the claims of the second auxiliary request filed with the statement of grounds. The appellant provided arguments as to why the subject-matter of claim 1 of all requests met the requirements of Article 56 EPC.

V. The board issued a summons to oral proceedings. In a communication under Article 15(1) RPBA (Rules of Procedure of the Boards of Appeal, OJ EPO 2007, 536) annexed to the summons, it introduced document D4 (JP 2003-32744 A) into the appeal proceedings and gave its provisional opinion that the subject-matter of claim 1 of the main request and the first and second auxiliary requests lacked inventive step over either the combined disclosures of D1 and D3 or the combined disclosures of D4 and D1 (Article 56 EPC 1973).

VI. The appellant did not comment on the provisional opinion set out in the board's communication, but with a reply dated 15 October 2018, it submitted claims in accordance with a third auxiliary request, indicated a basis for the amendments in the application as filed, and put forward arguments as to why the amended claims met the requirements of Article 56 EPC.

VII. The board held oral proceedings on 15 November 2018.

The appellant was represented and filed a claim according to a fourth auxiliary request.

The appellant's final requests were that the decision under appeal be set aside and that a European patent be granted on the basis of the claims according to the main request or the first auxiliary request underlying the decision under appeal, or the second auxiliary request filed with the statement of grounds of appeal, or the third auxiliary request filed with the letter dated 15 October 2018, or the fourth auxiliary request filed during the oral proceedings of 15 November 2018.

At the end of the oral proceedings, the chairman announced the board's decision.

VIII. Claim 1 of the main request and the first auxiliary request reads as follows (wording added in claim 1 of the first auxiliary request is in *italics*):

"A method for taking images on a mobile communication terminal (100) having a video call function, the method comprising:

determining whether there is a request to take an image during a video call,

characterised in that the method further comprises:

extracting, if there is a request to take an image, an image signal output from a camera sensor (52) *upon receipt of the request to take an image;* and

storing the extracted image signal while performing the video call."

IX. Claim 1 of the second auxiliary request reads as follows:

"A method for taking images on a mobile communication terminal (100) having a video call function, the method comprising:

determining whether there is a request from a user of the mobile communication terminal to take an image during a video call,

characterised in that the method further comprises:

extracting, if there is a request to take an image, an image signal output from a camera sensor (52) upon receipt of the request to take an image; and

storing the extracted image signal while performing the video call."

X. Claim 1 of the third auxiliary request reads as follows:

"A method for taking images on a mobile communication terminal (100) having a video call function, the method comprising:

determining whether there is a request to take an image during a video call,

characterised in that the method further comprises:

extracting, if there is a request to take an image, an image signal output from a camera sensor (52) of a camera module; and

storing the extracted image signal while performing the video call."

XI. Claim 1 of the fourth auxiliary request reads as follows:

"A mobile communication terminal (100) having a video call function, comprising:

a controller (90) for determining whether there is a request to take an image during a video call,

wherein the controller (90) is further configured to: extract, upon receipt of a signal indicating a request to take an image, an image signal output from a camera sensor (52) of a camera module (50) during the video call; and

convert the image signal extracted into image data for storage,

wherein the mobile communication terminal further comprises an image storage unit (80) for storing the converted image data."

XII. The examining division's arguments, where relevant to the present decision, may be summarised as follows:

(a) D3 was the closest prior art for the assessment of inventive step (see decision under appeal, point 15.1).

(b) D1 disclosed a communication terminal carrying out the claimed method steps (see decision under appeal, point 15.3), but did not disclose a mobile terminal.

XIII. The appellant's arguments, where relevant to the present decision, may be summarised as follows:

(a) D1 did not disclose a mobile communication terminal (see statement of grounds of appeal, page 2, paragraph starting with "*As the Examining Division acknowledged*"). Therefore, it was not a proper starting point for the assessment of inventive step.

(b) D3 merely demonstrated that the provision of a video call mode in mobile terminals was known at the priority date of the application.

(c) D1 did not disclose extracting the signal from the camera sensor of a camera module. Extracting the image signal from the camera sensor allowed for the

capture of higher-quality images, without the comparative downgrade of MPEG encoding known from the prior art (see letter dated 15 October 2018, page 2, second and third paragraphs).

(d) Even though image data processing in the mobile terminal referred to in claim 1 necessitated the appropriate buffering of data, it was clear from the claim that the signal as such was extracted directly from the sensor and not from an intermediate buffer.

(e) Mobile phones were multifunctional devices. Depending on the operating mode, the controller of the mobile terminal of the present application loaded a still image program, a moving image program or a video call program into the signal processor. If a still image was requested in the video call mode, the controller extracted the image signal from the sensor and processed the signal, i.e. it functioned as a second, parallel signal processor. This obviated the need to interrupt the video call and load the still image program into the signal processor.

(f) D1 taught to continuously store multiple frames from the camera at still image resolution and to extract one of those frames from the store if a request was made. The claimed subject-matter had the advantage that the mobile communication device only stored image frames at still image resolution when requested to do so. This was significant in a mobile communication device, where it was important to keep activity to a minimum to conserve battery power (see statement of grounds of appeal, page 2,

paragraph starting "*As the Examining Division acknowledged*" and last paragraph).

(g) In D1, the image was extracted from the storage regardless of the time when an image was requested. D1 extracted the image stored prior to the time when it was requested (see statement of grounds of appeal, page 3, heading "*First Auxiliary Request*").

(h) D1, paragraphs [0027] and [0028], disclosed that if an instruction was input, acquisition of the still picture required the time information acquiring section to transmit the time information to the still picture acquiring section after obtaining the time information of the latest decoded video from the video decoding section (see statement of grounds of appeal, page 3, last paragraph).

(i) D1 did not disclose a camera sensor of a camera module.

(j) In D1, the request to take an image during a video call came from the receiver side of the video conference, rather than the transmitter side (see statement of grounds of appeal, page 2, paragraph starting with "*Secondly*", and page 3, heading "*Second Auxiliary Request*").

(k) The fourth auxiliary request had been filed in reaction to the discussions during the oral proceedings. The sole claim of the request reflected the arguments based on the functioning of the controller and was based on originally filed claim 19 and paragraphs [0040] and [0041] of the description.

Reasons for the Decision

1. The appeal is admissible.

2. *Main, first and third auxiliary requests - inventive step over the combined disclosures of D1 and D3 (Article 56 EPC 1973)*

2.1 Contrary to the examining division (see point XII(a) above) and the appellant (see point XIII(a) above), the board is of the opinion that D1, although it does not disclose a mobile terminal, is nevertheless an appropriate starting point for the assessment of inventive step. The method disclosed in D1 serves the same purpose as the claimed method (allowing the taking of still pictures during a video call) and has the most relevant technical features in common with the claimed method. In this context the board notes that the method steps of the claimed invention do not relate to the quality of the communication terminal of being "mobile". Instead, they relate to the functioning of a general communication terminal which, in claim 1, is specified to be mobile.

2.2 D1 discloses (see also point XII(b) above) a method for taking images on a communication terminal that has a video call function (see Figure 1 and paragraph [0025]: "*a video conference system*"). The method comprises:

determining whether there is a request to take an image during a video call (see paragraph [0027]: "*During a video conference [...if] picture information having preferable quality is to be obtained, a still picture acquiring instruction 14 is specified [...] on the receiver side*");

extracting, if there is a request to take an image, an image signal output from a camera sensor upon receipt of the request to take an image (see paragraph [0026]: "*A video acquired by [...] a video camera is stored [...] One frame-picture or a plurality of frame pictures can be stored in the video storing section 3*"; paragraph [0027]: "*When the still picture acquiring instruction 14 is input, a time information acquiring section 13 acquires time information of the latest decoded video from the video decoding section 11*" and paragraph [0029]: "*still picture acquiring section 4 picks a picture at specified time or a picture around the time from the video storing section 3*"); and

storing the extracted image signal while performing the video call (see paragraph [0029]: "*still picture acquiring section 4 [...] transmits the picture to a still picture coding section 5 [... which] performs still picture coding such as JPEG [...] and transmits the coded picture to the communication line. In [...] JPEG, unlike in video coding in which a video must be transmitted on real time, the quantity of generated code is not limited*" wherein JPEG coding for subsequent transmission implies storing the image).

2.3 The method of claim 1 of the main and the first and third auxiliary requests differs from the disclosure of D1 in that its steps are carried out on a **mobile** communication terminal (see points XII(b) and XIII(a) above).

2.4 However, document D3 demonstrated that the provision of a video call mode and a still picture transmission mode in a mobile phone with a camera was known at the priority date of the present application (see also point XIII(b) above). The person skilled in the art

following the trend to provide known fixed phone line functions in a mobile environment would try to provide the functionality known from D1 in a mobile phone offering a video call mode.

2.5 The appellant's arguments concerning the relevance of the extraction of an image signal output from a camera sensor upon receipt of a request to take an image (such as reading out a charge-coupled device (CCD) upon request by the controller) for the assessment of inventive step did not convince the board. The reasons are as follows:

The video storing section known from D1 is a buffer storing the digitally converted image signal output from the video camera sensor before coding, i.e. without the comparative downgrade of MPEG encoding (see point XIII(c) above). Both the video coding section and the still picture acquiring section have access to the stored data. Thus the receipt of a request to take an image triggers the readout of the buffer which contains the image previously extracted from the camera sensor. Eliminating this buffer would necessitate the introduction of buffers in different parts of the system to avoid an interruption in the image signal processing for the video call (see also point XIII(d) above).

With respect to the present application, charges stored in the camera sensor (such as a CCD, see paragraph [0026]) can only be read out once. The reading out of the CCD by the controller causes a frame to be dropped at the input to the signal processor, i.e. the image processing for the video call will be interrupted unless compensatory measures, such as buffering, are taken. Hence, upon proper

interpretation, claim 1 does not exclude the presence of a buffer for storing the image. The board agrees with the appellant that the description of the embodiment in paragraphs [0040] and [0041] discloses that the analogue image signal from the camera sensor, and not the signal read out from an intermediate buffer, is input to a controller (see also point XIII(d) above). However, this embodiment concerns a specific hardware configuration which is not reflected in the claimed method.

2.6 Similarly, the appellant's arguments that the controller acts as a second, parallel processor (see point XIII(e) above) concerns a specific hardware configuration which is not reflected in the claims.

2.7 Contrary to the appellant's statement, the teaching of D1 is not limited to continuously storing multiple frames at still image resolution (see point XIII(f) above). D1, paragraph [0026], discloses that "*[o]ne frame-picture or a plurality of frame pictures can be stored in the video storing section 3*" (emphasis added). When receiving a request, data is extracted from the buffer (see D1, paragraph [0029]) and forwarded to the still picture coding section. Thus, only upon request is a still picture extracted from the buffer to be stored and coded. This interpretation is in line with D1, claim 1 ("*still picture loading means for reading a picture based on acquiring instruction from the video stored in the storing means and loading it as a still picture*") and claim 4 ("*still picture storing means for reading at least one picture based on acquiring instruction from the video stored in the storing means and storing them as still picture*").

2.8 The appellant's assertion that, in D1, the image was extracted regardless of when the image was requested (see point XIII(g) above) is contradicted by D1, paragraphs [0027] ("*When the still picture acquiring instruction 14 is input*") and [0029] ("*still picture acquiring section 4 picks a picture at specified time*"), and claims 1 and 4. D1 stores frames output from the camera in a buffer for subsequent coding "*regardless of the time when an image is requested*". However, a still image is only extracted from the buffer upon receipt of the request to take an image.

2.9 The board agrees with the appellant that, in D1, timing information has to be sent to the still picture acquiring section (see point XIII(h) above). Nevertheless, the still picture acquiring section extracts an image signal output from the camera, i.e. the "*picture at specified time or a picture around the time*" (see paragraph [0029]), upon receipt of a request specifying time information or any other information identifying the picture to be extracted (see paragraph [0029]: "*In place of the time information, any identification information may be use*d"). If only one frame is stored in the buffer (see paragraph [0026]), the picture acquiring section extracts the stored frame from the buffer upon receipt of the request.

2.10 The board does not agree with the appellant that D1 does not disclose a camera sensor of a camera module (see point XIII(i) above). The camera module of the present application comprises a camera sensor and signal processing means, into which a video calling program, a still image program or a motion video program may be loaded (see point XIII(e) above). Hence, the module comprises the sensor and a processor for operating the camera. Similarly, D1 discloses a sensor

which is inherently present in the video acquiring section and a processor for interpreting and carrying out the camera control instructions for the local and remote camera shown in Figure 3.

2.11 In view of the above, the board comes to the conclusion that claim 1 of the main and the first and third auxiliary requests does not meet the requirements of Article 56 EPC 1973 because the claimed subject-matter lacks inventive step over the combined disclosures of documents D1 and D3.

3. *Second auxiliary request - inventive step over the combined disclosures of D1 and D3 (Article 56 EPC 1973)*

3.1 In comparison with claim 1 of the first auxiliary request, claim 1 of the second auxiliary request defines the step of "*determining whether there is a request from a user of the mobile communication terminal to take an image during a video call*".

3.2 The board is of the opinion that the person skilled in the art would, in addition to means for sending an instruction from the receiving terminal (see point XIII(j) above), provide means for inputting a still picture acquiring instruction at the transmitting terminal to allow the user at the transmitting terminal to decide which "*picture information of such as a micrograph, a photograph of an affected part in a medical attention, or a document screen may be*" of interest to the user at the receiver side (see D1, paragraph [0027]).

3.3 In view of the above, applying the rationale of section 2 above *mutatis mutandis*, the board comes to the conclusion that claim 1 of the second auxiliary request

does not meet the requirements of Article 56 EPC 1973 because the claimed subject-matter lacks inventive step over the combined disclosures of documents D1 and D3.

4. *Fourth auxiliary request - admission into the proceedings (Article 13(1) RPBA)*

4.1 Under Article 13(1) RPBA, any amendment to a party's case after it has filed its statement of grounds of appeal may be admitted and considered at the board's discretion. This discretion is to be exercised in view of, *inter alia*, the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

4.2 The fourth auxiliary request was filed for the first time during the oral proceedings. Hence, it was filed at a very late stage of the appeal proceedings.

4.3 Originally filed claim 19 did not specify a controller. The appellant indicated paragraphs [0040] and [0041] as a basis for the functioning of the controller (see point XIII(k) above). However, in claim 1, the controller has been taken out of context. Whereas Figure 1 and paragraphs [0040] and [0041] suggest that the controller operates as a processor in parallel to the signal processor and the image processor (see also point XIII(e) above), the claim encompasses the controller operating as the sole image processing component. Thus, the amendment raises complex issues relating to Article 123(2) EPC.

4.4 At first glance, the claim is also ambiguous because it encompasses several incompatible embodiments. On the one hand, it can be interpreted as specifying that the controller is the sole image processor which acquires

the signal from the sensor to provide imaging during a video call. On the other hand, it can be interpreted as specifying that the controller acquires the signal from a second dedicated sensor to provide a still image during a video call. Thus, the wording of claim 1 of the fourth auxiliary request raises complex issues relating to Article 84 EPC 1973.

4.5 The board considers that admission and consideration of the fourth auxiliary request would have led to extensive discussions in view of the complex issues it raises. This would not serve procedural economy either.

4.6 In view of the above, the board exercised its discretion under Article 13(1) RPBA and decided not to admit the fourth auxiliary request into the proceedings.

5. Since none of the appellant's requests can be allowed, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke C. Kunzelmann

Decision electronically authenticated