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**Datasheet for the decision
of 23 May 2012**

Case Number: T 1316/08 - 3.5.04
Application Number: 00401313.2
Publication Number: 1054562
IPC: H04N7/14, H04N7/64, H04M1/725
Language of the proceedings: EN

Title of invention:
Portable videophone unit

Applicant:
KYOCERA CORPORATION

Headword:

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

Keyword:
Inventive step - (no)
Auxiliary request - not admitted

Decisions cited:

Catchword:



Case Number: T1316/08 - 3.5.04

D E C I S I O N
of the Technical Board of Appeal 3.5.04
of 23 May 2012

Appellant: KYOCERA CORPORATION
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted 18 January 2008
refusing European patent application No.
00401313.2 pursuant to Article 97(1) EPC 1973.**

Composition of the Board:

Chairman: F. Edlinger
Members: C. Kunzelmann
B. Müller

Summary of Facts and Submissions

- I. The appeal is against the decision of the examining division to refuse European patent application No. 00 401 313.2 (publication No. EP 1 054 562 A1).
- II. The decision was based on the ground that the subject-matter of claim 1 then on file did not involve an inventive step (Art. 56 EPC 1973), in particular in view of the disclosure in documents
- D1: WO 97/26744 A2 and
D2: EP 0 818 931 A2
- or alternatively in D1 and
D4: US 5 534 928 A.
- III. The applicant appealed and filed a new set of claims with the statement of grounds of appeal.
- IV. The board issued a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), annexed to a summons to oral proceedings. In this communication the board expressed doubts as to whether the claims filed with the statement of grounds of appeal met the requirements of Articles 84 EPC 1973 and 123(2) EPC. The board indicated its view that the disadvantage of incomplete images being displayed, as described on page 2 of the application, became apparent to a person skilled in the art when conventional videophones were used. It also indicated its view that a person skilled in the art would have recognised that one likely cause of incomplete images was disturbances in the image data transmission, and that this was notorious in the sense that evidence was not required.

V. By letter dated 23 April 2012 the appellant filed a new set of claims 1 to 11.

VI. Oral proceedings were held before the board on 23 May 2012. During the oral proceedings the appellant filed claims 1 to 12 of a main request. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 to 12 of the main request submitted in the oral proceedings, or as an auxiliary request, on the basis of claims 1 to 11 filed with letter of 23 April 2012. At the end of the oral proceedings, the chairman announced the board's decision.

VII. Claim 1 of the main request reads as follows:

"A portable videophone unit (10) having:

- a data transmitting-receiving section adapted to transmit and receive image data and sound data to and from an opposite unit, image data of a plurality of still images being successively transmitted from the opposite unit one image at a time,
- means for decoding image data received from said opposite unit,
- means for determining whether all image data of a still image to be displayed have been received and decoded,
- a display (11) for displaying still images obtained by decoding image data received from said opposite unit, and
- a control unit (A) for controlling the still images successively displayed in the display at predetermined intervals of time (11);

wherein said control unit (A), is adapted

- to display in the display (11) a still image obtained by decoding received image data when it is determined that all image data of a current still image to be displayed have been received and decoded,
- to initiate correction by a correction section (25) of the image data of the current still image, when it is determined that the image data of the current still image has an error, and
- to discard the image data of said current image and to initiate decoding of image data of a still image to be subsequently displayed when it is determined that all the image data of said current still image are not received and decoded within a preset period of time, and
- to display a previous still image in the display (11) until it is determined that all the image data of the current image have been received and decoded."

VIII. The wording of claim 1 of the auxiliary request is the same as that of claim 1 of the main request, but with the last feature reading as follows:

- "to display a previous still image in the display (11), and to erase temporarily and redisplay said previous still image at the predetermined intervals until it is determined that all the image data of the current image have been received and decoded."

IX. The reasons given in the decision under appeal may be summarised as follows:

The portable videophone unit of claim 1 differed from the prior art reflected by D1, which corresponded to

the prior art acknowledged on pages 1 and 2 of the description, in that it comprised means for determining whether all image data of an image to be displayed had been received. A further difference was that the control unit was adapted to:

- display in the display an image obtained by decoding received image data when it was determined that all image data of a current image to be displayed had been received, or
- discard the image data of the current image and initiate decoding of image data of an image to be subsequently displayed when it was determined that the image data of the current image was not complete within a preset period of time.

In accordance with the description, the problem to be solved was how to avoid displayed images appearing unnatural in the case of adverse reception conditions such as base station crowding and inter-station hand-off. A person skilled in the art would have realised that the unnatural feeling was caused by corrupted, incomplete and/or late images and would have considered that the only solution was to limit the display to uncorrupted, complete and timely available images. Thus the solution to the problem was in the field of decoding and display, since adverse reception conditions were beyond the control of the user of the videophone unit. Display timing as such was a standard measure in digital communication systems. Thus a person skilled in the art would respect the imposed display timing constraints so as to provide a natural image display. If an image was incomplete or had an error when its display was due, a person skilled in the art would have discarded the data corresponding to that image, left the previously displayed image on the screen and proceeded to the decoding of the next image.

The other theoretical options were waiting beyond the time of due display or displaying the incomplete/erroneous image. Both options would result in a display which appeared unnatural.

Trying to solve the problem indicated above, a person skilled in the art would have consulted documents D2 and D4. Both of these documents taught that images containing uncorrectable errors should be discarded.

X. The appellant's arguments may be summarised as follows:

D1 could be considered to represent the closest prior art. The first approach in the reasons given in the decision under appeal was based on D1 and the common general knowledge of the person skilled in the art, to thereby arrive at a problem in the technical field of decoding and displaying which was only mentioned in the description of the present application and its obvious solution. However the decision did not cite any documentary evidence (such as encyclopedias, textbooks, dictionaries or handbooks) for the alleged common general knowledge. Thus the reasoning given in the decision under appeal was based on an ex post facto approach. This reasoning only established that a person skilled in the art could (not would) have arrived at a portable videophone unit as specified in claim 1. The decision under appeal did not indicate any pointer in the state of the art to the combination of a portable videophone unit as described in D1 with means allegedly known to a person skilled in the art for achieving the intended technical aim. Also, in the second approach in the reasons given in the decision under appeal, which was based on documents D1, D2 and D4, the examining division used an ex post facto approach. Hence the reasons given in the decision under appeal did not

demonstrate lack of inventive step of the subject-matter of claim 1.

None of the documents D1, D2 or D4 disclosed that the previous image was maintained to be displayed in the display until it was determined that all the image data of the current image had been received. Furthermore, the features of the portable videophone unit of claim 1 distinguishing it from the prior art had two technical effects. First, a state did not emerge in which an incomplete or empty image was displayed. Second, a state did not emerge in which the displayed image was frozen for a long period of time. Together, these effects avoided a feeling of unnaturalness and provided a real-time or "live" aspect to the portable video unit. This real-time aspect of the display was a key element of the invention.

Neither D2 nor D4 related to this real-time aspect or to wireless communication, in particular image transmission. They did not address problems caused by transmission delays, etc. Instead they disclosed error correction of an input signal stored on a storage medium. If a person skilled in the art had combined the content of D1 with that of D2 or D4, he would not have arrived at the subject-matter of claim 1 (in particular the feature of discarding incomplete images) since the complete reception of an image was not an issue in D2 or D4.

The auxiliary request should be admitted into the appeal proceedings as it was an attempt to overcome the inventive step objection by specifying more concretely how the problem underlying the invention was solved.

Reasons for the Decision

1. Main request: inventive step (Article 56 EPC 1973)

1.1 The closest prior art

It is undisputed that D1 may be considered as the closest prior art for the assessment of inventive step of the portable videophone unit according to claim 1, and that D1 discloses a (wireless) portable videophone unit ("multifunctional portable telephone", see the title) having the following features:

- a data transmitting-receiving section adapted to transmit and receive image data and sound data to and from an opposite unit, image data of a plurality of still images being successively transmitted from the opposite unit one image at a time (see the reference to audio and/or visual telephony on page 22, lines 12 to 14 and the reference to transmitting and/or receiving still or motion images on page 19, last line, to page 20, line 10, in conjunction with figure 8 and see also claim 19),
- means for decoding image data received from said opposite unit (see the reference to video codec 50, for instance, on page 12, last paragraph, page 22, lines 4 and 5, and page 24, lines 1 to 4, in conjunction with figure 3),
- a display for displaying still images obtained by decoding image data received from said opposite unit (display screen 4, see page 9, the last complete paragraph and the paragraph bridging pages 9 and 10, page 20, line 10 and figures 1A and 3), and

- a control unit (processor 41, see, for instance, page 12, fourth paragraph, and figure 3) for controlling the still images successively displayed in the display at predetermined intervals of time.

1.2 In short, the portable videophone unit according to D1 is adapted to transmit and receive still or motion images, and uses an "MPEG-4 compatible audio video coder that is designed for audio visual communication over the GSM digital cellular network using a low bit rate audio visual interactive communications algorithm which allows various forms of wireless communications" (see claim 1 of D1). In this context the board notes that it is an implicit feature of MPEG-4 compatible video communication that still images which are successively transmitted from an opposite unit one image at a time at predetermined intervals may be displayed in the sequence as received (at predetermined intervals).

1.3 The subject-matter of claim 1 differs from the videophone unit according to D1 by the presence of means for determining whether all image data of a still image to be displayed have been received and decoded and a control unit adapted to display a still image, initiate correction, discard image data and display a previous still image, as set out in the last four features of claim 1 starting with "wherein the control unit (A)...".

1.4 *The problem solved*

The board finds that the decision under appeal is correct in its finding that the problem to be solved was how to avoid displayed images appearing unnatural

in the case of adverse reception conditions, such as base station crowding and inter-station hand-off.

The reasons are as follows:

- 1.4.1 The features distinguishing the portable videophone unit according to claim 1 from the one disclosed in D1 are aimed at making sure that complete images (i.e. images with all the image data decoded) are displayed. The distinguishing features thus have the combined general technical effect of avoiding the occurrence of incomplete or empty (i.e. partly or completely undecodable) images being displayed.
- 1.4.2 The feature that the control unit is adapted to initiate correction by a correction section of the image data of the current still image, when it is determined that the image data of the current still image has an error, merely reflects the generally known technique in digital data communication that correctable errors (such as missing image data which need to be retransmitted or to be recovered using redundant data) are corrected before the complete image is displayed. In the wireless digital data communication of D1, a person skilled in the art would have provided a correction section of this kind.
- 1.4.3 The feature that the control unit is adapted to discard the image data of said current image and to initiate decoding of image data of a still image to be subsequently displayed when it is determined that all the image data of said current still image are not received and decoded within a preset period of time makes sure that an image is skipped if it cannot be displayed completely and in a timely manner because not

all the image data have been received and decoded within a preset period of time.

- 1.4.4 The features that the control unit is adapted to display a still image when all image data were received and decoded, and to display a previous still image in the display until it is determined that all the image data of the current image have been received and decoded makes sure that a (previous) complete image is displayed while a current image is in the process of being received and decoded.
- 1.4.5 The non-technical effect of an unnatural feeling (for the user of the portable telephone unit) is the result of the fact that incomplete or empty (i.e. partly or completely undecodable) transmitted images are displayed incompletely or not at all.
- 1.4.6 Moreover, the disadvantages of incomplete (or late) images being displayed became apparent to a person skilled in the art when a conventional telephone capable of image transmission, for instance the portable videophone unit of D1, was used. A person skilled in the art would have recognised that one likely cause of these incomplete images was disturbances in the image data transmission. The board finds that this is notorious in the sense that evidence for this is not required. In the given context of video telephony, typical reasons why displayed images may be incomplete or empty are adverse reception conditions such as base station crowding and inter-station hand-off.
- 1.4.7 The decision under appeal is also correct in that a person skilled in the art of portable videophone units, having recognised that the likely cause of incomplete

images was disturbances in the image data transmission, would also have recognised that a solution to the problem might be found in the field of decoding and display.

The decoding of image data to be performed in a portable videophone unit is, in principle, determined by the standards used for compressing and transmitting the image data. Since according to many standards of the state of the art the transmission of image data included the possibility of error correction (for instance by Forward Error Correction (FEC) or Automatic Repeat reQuest (ARQ) mentioned in the present application), a person skilled in the art would have used (and in practice would have had to use) these possibilities (see also point 1.4.2 above). Under poor transmission conditions, however, the standard error correction mechanisms may be insufficient to correct all the errors, so that transmitted images may be undecodable. In the state of the art mechanisms have been described for handling such undecodable images. One example of such a mechanism is described in D2. Hence a person skilled in the art of portable videophone units, when confronted with the problem of how to avoid the display of images which appear unnatural to the user of the videophone unit, would have considered the disclosure of D2.

1.5 *Document D2*

- 1.5.1 D2 discloses a moving picture decoder with error handling (see the title). It is concerned with the problem of transmission bit errors which cannot be corrected by the error correction function. Such errors result in undecodable pictures, so that the decoded picture is disturbed (see column 1, lines 44 to 49).

The errors may occur in the different layers of a moving picture sequence according to the MPEG standards (see column 7, lines 10 to 34). Even though the decoding of still images is not described in detail, it is common general knowledge that MPEG allows the encoding of a sequence of I-pictures which corresponds to independently coded, successive, still images.

1.5.2 Where an uncorrectable error has occurred in the picture layer (or the slice or macroblock layer) an instruction to read out the last (complete) picture stored in a predictive memory is produced. Image data arriving until such time as the next picture header arrives are abandoned (see column 8, line 52 to column 9, line 22). Thus the effect of the error handling disclosed in D2 (at least for I-pictures) is the discarding of images containing an uncorrectable error and their replacement with the last complete picture stored (see column 9, lines 17 to 22). When a subsequent picture is received with no uncorrectable errors, it is decoded. It is undisputed that the decoded images are intended for display. Hence the decision under appeal is correct in its finding that D2 teaches the discarding of images containing uncorrectable errors.

1.6 In summary, the decision under appeal is correct in that a person skilled in the art of portable videophone units, starting from the portable videophone unit disclosed in D1, would have considered applying the error handling disclosed in D2 and would have arrived at a portable videophone unit as specified in present claim 1.

- 1.7 The appellant's arguments did not convince the board that the decision under appeal was incorrect. The reasons are as follows:
- 1.7.1 The appellant argued that the reasoning given in the decision under appeal was based on an ex post facto approach, because the problem underlying the invention had been taken from the description of the application. However, to a person skilled in the art, the problem of avoiding displayed images appearing unnatural was objectively derivable from D1 when the videophone unit of D1 was operated under poor transmission conditions. This corresponds to the common situation where the objective definition of the problem to be solved coincides with the problem described in the application (see the Case Law of the Boards of Appeal of the European Patent Office, 6th edition 2010, I.D.4.3.2). In particular, the non-technical element in the problem to be solved (i.e. the user's feelings when images are displayed (or not displayed, as the case may be)) was already present in the state of the art. In the present case this element merely sets the context in which a technical problem has occurred, namely how to avoid the display of incomplete or empty images.
- 1.7.2 The appellant argued that there was no pointer in the state of the art to the combination of a portable videophone unit as described in D1 with means for achieving the intended technical aim. However, for the reasons given in point 1.4.6 above, a person skilled in the art would have been aware of the technical problem and its likely causes on the basis of his common general knowledge. In view of this problem and for the reasons set out above, the board has come to the conclusion that a combination with the teaching of D2 was obvious to a person skilled in the art.

1.7.3 The appellant argued that D2 did not relate to wireless image communication. However, present claim 1 does not specify wireless data transmission. Moreover, wireless data transmission may be more error-prone than data transmission via cable, for instance. Thus wireless transmission may call for better error handling. Hence a person skilled in the art would have considered error handling as disclosed in D2 (which is also a kind of error concealment in the case of uncorrectable errors) because there was a need for better error handling. The teaching of D2 can be applied to the decoding and display of images having any kind of uncorrectable errors in the image data.

1.7.4 The appellant's arguments concerning a real-time aspect of image communication and avoiding "frozen" images are not reflected in any single feature of claim 1 of the main request since this claim neither specifies the length of time between the transmission of one image and that of the subsequent image ("the predetermined intervals") nor the "preset period of time".

1.8 Hence the board finds that the portable videophone unit according to claim 1 of the main request was obvious to a person skilled in the art in view of documents D1 and D2 and thus lacks an inventive step (Article 56 EPC 1973).

2. *Auxiliary request: admission into the appeal proceedings (Article 13(1) RPBA)*

2.1 The auxiliary request was submitted after the appellant had received the board's communication pursuant to Article 15(1) RPBA. Thus it is an amendment to the

- appellant's case and may be admitted and considered at the board's discretion (see Article 13(1) RPBA).
- 2.2 As far as inventive step is concerned, the board's communication did not raise any new objections. Instead the board indicated that it tended to agree with the finding in the decision under appeal, said finding being considered in point 1.4.6 above.
- 2.3 The amendment consisting in the new formulation of the last feature of claim 1 of the auxiliary request (see point VIII above) introduces a new feature ("to erase temporarily and redisplay said previous still image at the predetermined intervals") which is unrelated to the new objections under Article 84 EPC 1973 and Article 123(2) EPC raised in the board's communication (see point IV above). In substance, it constitutes an attempt to overcome the objections concerning lack of inventive step raised in the first-instance proceedings by introducing a new aspect of the embodiments which was not discussed in the decision under appeal as it was only present in a dependent claim (namely claim 9). This (or a similar) request could have been presented in the first-instance proceedings. Even if it is assumed *arguendo* that this request could only be presented in appeal proceedings, then it should have been a part of the appellant's complete case in the statement of grounds of appeal (see Article 12(2) RPBA).
- 2.4 In addition, the new feature was not present in the claims as originally filed, was not explicitly identified as an essential feature of the invention in the description, and played no role in the first-instance proceedings. Furthermore, even though the new feature is intended to contribute to the solution of

the problem to be solved, it focuses more on the timely display than the other features in claim 1, which focus on the display of (only) complete images (see section 1.4 above). Thus the new feature raises issues which were not considered in the first-instance proceedings, such that further investigations would be necessary if the board admitted the auxiliary request.

2.5 In view of the above the board decided to exercise its discretion in not admitting the auxiliary request into the appeal proceedings (Article 13(1) RPBA).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



K. Boelicke

F. Edlinger

Decision electronically authenticated