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# Datasheet for the decision of 13 February 2008

**Case Number:** T 1042/03 - 3.5.04

**Application Number:** 98102571.1

**Publication Number:** 0859337

**IPC:** G06T 11/00

**Language of the proceedings:** EN

**Title of invention:**
Image data encoding system and image inputting apparatus

**Applicant:**
NEC CORPORATION

**Opponent:**
-

**Headword:**
-

**Relevant legal provisions:**
-

**Relevant legal provisions (EPC 1973):**
EPC Art. 56

**Keyword:**
"Inventive step (no)"

**Decisions cited:**
-

**Catchword:**
-

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**Case Number:** T 1042/03 **-** 3.5.04

# D E C I S I O N
**of the Technical Board of Appeal 3.5.04**
**of 13 February 2008**

**Appellant:** NEC CORPORATION
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Tokyo (JP)

**Representative:** von Samson-Himmelstjerna, Friedrich
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**Decision under appeal:** **Decision of the Examining Division of the European Patent Office posted 2 May 2003 refusing European application No. 98102571.1 pursuant to Article 97(1) EPC.**

**Composition of the Board:**

**Chairman:** F. Edlinger
**Members:** A. Dumont
B. Müller

## Summary of Facts and Submissions

I. The appeal is directed against the decision of the examining division to refuse European patent application No. 98 102 571.1.

II. The application was refused on the ground that the subject-matter of claim 1 according to the requests then on file lacked an inventive step in view of the combination of two prior art documents (D1 and D2).

III. With the statement of grounds of appeal the appellant filed a new claim 1 corresponding to a combination of claims 1 and 3 as originally filed.

IV. In a communication accompanying the summons to attend oral proceedings the board expressed the preliminary opinion that the subject-matter of claim 1 appeared to be obvious in view of the prior art either as disclosed in D1 or that acknowledged in the description of the present application.

V. With the letter of 11 January 2008 the appellant filed a new claim 1 according to an auxiliary request.

VI. Oral proceedings before the board took place on 13 February 2008.

VII. The appellant's requests are as follows.

(a) Main request: to set aside the decision under appeal and grant a patent on the basis of claim 1 filed with the statement of grounds of appeal as the single claim;

(b) Auxiliary request: to set aside the decision under appeal and grant a patent on the basis of claim 1 filed with the letter dated 11 January 2008 as the single claim.

The appellant declared his readiness to adapt the description on file if necessary.

VIII. Claim 1 according to the main request reads as follows.

"An image data encoding system for embedding electronic watermark data to an original image, which comprises:
discrete cosine transforming means (101) for discrete-cosine transforming said original image;
electronic watermark data embedding means (102) for embedding said electronic watermark data (103) in the data which has been transformed by said discrete cosine transforming means (101); and
data selecting means (110) for selecting either the output signal (107) of said discrete cosine transforming means (101) or the output signal (108) of said electronic watermark data embedding means (102) corresponding to an external signal (112)."

IX. Claim 1 according to the auxiliary request reads as follows.

"An image data encoding system being configured to encode an original image selectively either with or without electronic watermark data, which comprises:
discrete cosine transforming means (101) for discrete—cosine transforming said original image;

electronic watermark data embedding means (102) for embedding said electronic watermark data (103) in the data which has been transformed by said discrete cosine transforming means (101);
data selecting means (110) for selecting either the output signal (107) of said discrete cosine transforming means (101) or the output signal (108) of said electronic watermark data embedding means (102) corresponding to an external signal (112) in order to preserve the image quality;
quantising means (104) for quantising the data selected by the data selecting means (110); and
encoding means (105) for encoding the quantised data from the quantising means (104) and for outputting the encoded data."

X. The appellant essentially argued as follows concerning inventive step in view of the prior art acknowledged in the description of the present application.

Systems for encoding data without a watermark and for encoding data with an embedded watermark were separately known in the prior art. In contrast thereto, the invention proposes a single encoding system for providing both alternatives, in which the common parts are only present once so that the size of the hardware can be remarkably reduced (see column 13, lines 42 to 47, of the application as published). The prior art did not provide an incentive to combine two separate systems into one in the claimed manner. The subject-matter of the claims according to both requests is therefore inventive.

## Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Claim 1 according to the main request combines the features originally recited in claims 1 and 3.

2.2 Claim 1 according to the auxiliary request further sets out that selection by the data selecting means takes place in order to preserve the image quality (when no watermark is embedded). Claim 1 according to the auxiliary request further sets out in its last two paragraphs quantising means and encoding means present in all embodiments (see for instance figure 1) and that the system is configured to selectively encode an image with or without electronic watermark, which paraphrases the effect of the data selecting means on the system.

2.3 The board is therefore satisfied that the claims according to both requests comply with Article 123(2) EPC.

3. *Inventive step*

3.1 Main request

3.1.1 It is common ground that an image data encoding system with discrete cosine transforming (DCT) means, quantising means and encoding means was known in the prior art, in particular as an MPEG encoder. The appellant has not contested that an image data encoding system with electronic watermark data embedding means

inserted between the DCT means and the quantising means of an MPEG encoder was also known in the prior art (see figure 12 and column 4, lines 10 to 21, of the application as published). The embedding of a watermark is therefore presented in the prior art acknowledged in the description as an additional feature in a conventional MPEG encoder.

3.1.2 For the purpose of assessing inventive step, the board regards the encoder according to figure 12 of the present application as the closest prior art. It is not contested that this prior art comprises the features of present claim 1 except for the data selecting means. The problem underlying the present invention can be formulated as providing encoded image data with or without embedded watermark data, especially depending on the desired image quality (see column 4, lines 22 to 31, of the application as published). The formulation of the technical problem cannot *per se* be regarded as contributing to an inventive step in view of the facts set out in the foregoing paragraph and the needs arising from different uses of the system, which do not all require the embedding of watermarks.

3.1.3 The board regards the solution of providing data selecting means and an "external" signal for enabling or disabling an additional feature as a usual measure for the person skilled in the art. This solution did not in the present case require the modification of other parts of the system, such as the upstream DCT means or the downstream quantising means which may be identical in both alternatives of encoders with and without embedded watermarks. The person skilled in the art would therefore have contemplated a modification of

the system according to figure 12 avoiding the unnecessary duplication of parts such as the DCT means, which was present in both alternatives, in view of the readily apparent advantage over another possible solution, namely to design two separate complete encoders, each comprising at least those parts which are necessary for computing the DCT coefficients.

3.1.4 As a result, the subject-matter of claim 1 of the main request lacks an inventive step in view of the prior art cited in the description and the common general knowledge of a system designer in the field of image data encoding. The main request is therefore not allowable (Articles 52(1) and 56 EPC 1973).

3.2 Auxiliary request

3.2.1 Claim 1 sets out that selection takes place "in order to preserve the image quality", which reflects the known fact that a watermark unavoidably affects image quality, albeit possibly faintly (see column 4, lines 22 to 31, of the application as published). This additional feature merely expresses the fact that the image is not affected when no watermark is selected and does not contribute anything inventive to the subject-matter of the claim. The claim further recites quantising means and encoding means which are acknowledged to be known from the MPEG encoder of the closest prior art (figure 12 of the present application). As already set out in point 3.1.3 above, the quantising and encoding means may be identical, whether the selected data are watermarked or not. They do not therefore contribute to the presence of an inventive step.

3.2.2 As a result, the subject-matter of claim 1 of the auxiliary request also lacks an inventive step in view of the prior art cited in the description and common general knowledge. The auxiliary request is therefore also not allowable (Articles 52(1) and 56 EPC 1973).

## Order

## For these reasons it is decided that:

The appeal is dismissed.

The Registrar The Chairman

D. Sauter F. Edlinger