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D E C I S I O N
of 20 March 2000

Case Number: T 0990/99 - 3.5.1

Application Number: 94928831.0

Publication Number: 0791267

IPC: H04N 1/60

Language of the proceedings: EN

Title of invention:

HSL corrections in CMY color space

Applicant:

Heidelberger Druckmaschinen Aktiengesellschaft

Opponent:

-

Headword:

HSL corrections in GMY colour space/HEIDELBERGER

Relevant legal provisions:

EPC Art. 84

Keyword:

"Clarity - yes"

Decisions cited:

T 1055/92, T 1086/92

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0990/99 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 20 March 2000

Appellant: Heidelberg Druckmaschinen
Aktiengesellschaft
Kurfürsten-Anlage 52-60
D-69115 Heidelberg (DE)

Representative: -

Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 12 July 1999
refusing European patent application
No. 94 928 831.0 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: P. K. J. van den Berg
Members: R. Randes
S. C. Perryman

Summary of Facts and Submissions

I. This appeal, filed on 19 August 1999 together with the statement of the grounds of appeal and proper payment of the prescribed fee, is against the decision of the examining division to refuse the application. It refused the application on the grounds that the application did not meet the requirements of **Article 84 EPC** because **claim 9** was not clear and concise, that **claim 7** did not meet those requirements in that the matter for which protection was sought was not defined and that the **technical features** which were necessary to solve the problem of the invention as indicated on page 2, lines 25 to 28 and 33 to 35, in the description **were missing in all the claims.**

II. Refused claims 1, 7 and 9 read as follows (the word "colour" has been written in the English manner):

1. A method for digital image processing in the prepress industry introducing corrections in an original image represented by original CMKY printing colours, comprising the steps of:
 - providing original CMKY printing colours to be corrected;
 - defining desired corrections by corresponding HSL changes; and
 - transforming the original CMY printing colours to new CMY printing colours by applying said HSL changes directly on a pixel-by-pixel basis to the original CMY printing colours and
 - by use of said HSL changes without a colour

space translation.

7. A method according to claim 2 wherein the HSL changes are clamped within the printing colour space so that no HSL corrections are permitted which result in new CMY values outside said printing colour space and therefore unprintable.

9. A method according to one of claims 1-8 for correcting an original CMKY colour image and displaying as a colour video display a corrected colour image, comprising the steps of:
 - providing an image scanner which outputs original CMYK printing colours;
 - defining corrections by individual HSL changes;
 - applying said HSL changes in a CMY transformation to said CMY original colours so as to create new CMY colours, said HSL changes being applied to said original CMY printing colours; and
 - converting said new CMY printing colours to RGB colours for video display.

III. Together with the statement of the grounds of appeal the appellant filed a new set of claims and amended description pages (pages 4, 6, 8 and drawing sheets 2/6, 4/6 and 5/6). Claims 1, 7, 9 and 10 of said set read as follows:

1. A method for introducing corrections in an original image represented by original CMYK printing colours, comprising the steps of:

- providing original CMYK printing colours to be corrected;
 - defining desired corrections by corresponding HSL changes; and
 - transforming the original CMY printing colours to new CMY printing colours by use of said HSL changes without a colour space translation.
7. A method according to one of claims 1-6 wherein the HSL changes are clamped by limiting said new CMY printing colours to the range defined by the smallest and largest possible CMY values in said printing colour space.
9. A method according to one of claims 1-8 including the step of transforming the original CMY printing colours to the new CMY printing colours by applying said HSL changes on a pixel-by-pixel basis.
10. A method according to one of claims 1-9 including the step of:
converting said new CMY printing colours to RGB colours for a video display.

The appellant requested that the decision be set aside and a patent be granted on the basis of the new set of amended claims.

Reasons for the Decision

1. The appeal is admissible.

2. The Board notices that the only independent claim, claim 1, corresponds to original (published) claim 1, claims 2 to 6 in substance to original claims 6 to 10, claim 8 to original claim 12 and claim 9 to original claim 2. The characterising feature of claim 10 is present in original claim 13 (and e.g. in Figure 3). Claim 7 corresponds to original claim 11, but has been completed with an additional feature ("smallest and largest possible CMY values") from the description (see under point 5 in each of the paragraphs dealing with hue, saturation and luminance changes in the original description). Thus the claims have not been amended in such a way that the application contains subject-matter extending beyond the content of the application as filed.

3. Since the examining division refused the present patent application because the claims then on file did not meet the requirements of Article 84 EPC, the only issue to be dealt with in this case is, whether these requirements are now fulfilled.
 - 3.1 As can be seen by a comparison between the refused set of claims and the amended set of claims now on file (cf. under II and III above) refused claim 9 has in reality been replaced by new claims 9 and 10, which both are clearly dependent on preceding claims. Also claim 7 is dependent on the preceding claims.

 - 3.2 Claim 1 is identical to original claim 1, which in the written opinion of the preliminary examination, was, like refused claim 1 in the appealed decision, considered not to be clear in the sense that its subject-matter did not solve the problem of clamping

changes into the available colour space so that new CMYK values did not result which could not be printed (page 2, lines 25 to 28) and that the features which allowed the images to be maintained in the printable CMY colour space during colour manipulation were not present in the claims (lines 33 to 35).

The examining division, thus, considered that the claim did not contain the technical features necessary to solve the problem to the invention. The Board, however, notices that on page 2, lines 29 to 32 in the published original description it is, in addition to the problems mentioned by the examining division, also stated that a further object of the invention is "to provide a method which is an improvement over the prior art shown in Figure 2 by eliminating the need for translations first from CMYK to HSL and later from HSL back to CMYK for printing".

Moreover, as can be understood from the description, page 2, first paragraph, it is an advantage to use the HSL colour space which is unprintable but convenient for calculation and suitable for intuitive colour manipulations. Therefore, it appears to the Board that claim 1 at least tries to identify the necessary requirements (features) which make it possible to carry out a method which avoids translation between the CMYK and HSL spaces but still makes use of the intuitive friendly HSL manipulation, since it is made clear in the claim that desired corrections by corresponding HSL changes must be defined and that the original CMY printing colours are transformed to new CMY colours by use of said HSL changes without a colour space translation.

3.3 The Board held in an earlier decision (T 1086/92) and still holds that the primary function of a claim is to set out the scope of protection (Article 84 EPC, first sentence). This implies that it is not always necessary for a claim to identify technical features or steps in all detail. However, the subject-matter of the claim must (according to Article 84 EPC, second sentence) also be supported by the description and the wording must be formally clear and contain all essential features necessary to solve the technical problem of the invention. The limiting features necessary to define the invention in a claim will always depend on the closest prior art. When there are no references or only weak ones cited in a case, it is obvious that an independent claim can be very generally formulated, i.e. the essential features can be stated in a generalized form. It is then up to the applicant to add dependent claims to the independent claim and to decide on the extent to which he wants to claim protection for details disclosed in the description. Of course, also these dependent claims must meet the requirements of Article 84 EPC.

3.3.1 In the present case it appears to the Board that claim 1, indeed, defines the matter for which protection is sought (Article 84, first sentence). The appellant has formulated the claim having regard to the prior art referred to in the introductory part of the description and restricted the subject-matter of the claim in relation to that prior art. The Board notices that claim 1 now on file does not contain the features included in refused claim 1, namely that the method concerns "digital image processing in the prepress industry" and also not that the CMY printing colours

should be transformed to new CMY colours "by applying said HSL changes directly on a pixel-by-pixel basis to the original CMY printing colours". The Board, however does not think that these restrictions were essential having regard to the application as filed as a whole. Although it is mentioned in the first lines of the description of the application that "the present invention relates to colour manipulation for digital image processing in the prepress industry" this does not necessarily mean that the invention cannot be used in other technical fields. Rather, this sentence seems merely to illustrate one field or use of the invention.

3.3.2 Also, the Board is of the opinion that claim 1 is clear in the sense that it uses a language that is clear and not open to misinterpretation (Article 84 EPC, second sentence).

3.3.3 The second sentence of Article 84 EPC, moreover, requires that the claim must be supported by the description. As has been pointed out above this requirement has to be interpreted as meaning that all features described in the description as being necessary to solve the technical problem of the invention ("essential features") must be present in the corresponding claim. The examining division has in its decision, apparently, considered that the refused claim did not meet this requirement. However, as the Board has shown above, it considers that the claim meets this requirement in relation to a problem derivable from the application which was not considered by the examining division.

It is true that the features of claim 1 are very

general and do not give all details of a practical solution of the problem indicated in the description. This is, however, also not necessary, since it is sufficient if the application as a whole describes the necessary characteristics of an invention in a degree of detail such that a person skilled in the art can perform the invention. This requirement, however, relates to Article 83 EPC and is not relevant to Article 84 EPC (cf. T 1055/92, OJ 1995, 214). It is the opinion of the Board that the essential technical features identified in claim 1 define the invention sufficiently for the skilled person to know whether or not a practical embodiment falls under the terms of the claim.

- 3.3.4 During proceedings before an examining division, it often happens that pertinent documents are cited with the result that the core of a claimed invention has to be changed and also the corresponding problem to be solved appears in a modified form. In such cases often new essential features must be added to the claim in order to clearly identify the solution and to distinguish the invention from the prior art (narrowing the protection). In the present case, however, it is noted that no such new documents have been cited in the decision under appeal. On the contrary, the examining division has in the decision stated that the objections relating to novelty and inventive step are no longer maintained and there is no mention at all of the cited reference used in the earlier communication. Thus, at the present stage it does not appear that the protection of the invention identified by the wording of claim 1 must be amended because it is too broad.

- 3.3.5 The Board, therefore comes to the result that claim 1 meets the requirements of Article 84 EPC.
4. Having regard to the fact that the claims 2 to 10 are dependent on claim 1 and since they all identify different additional features of embodiments of the invention of claim 1 and, moreover, have been made more compact and consistent in that they avoid repetitions, they also are considered to meet the requirements of Article 84 EPC.
5. As has been mentioned above, the sole reason for refusal of the application was lack of clarity. Thus, the examining division did not examine the application with regard to all the requirements of the EPC. Under these circumstances it is necessary to remit the case to the examining division for further prosecution of the application. The Board, therefore, makes use of its power under Article 111(1) EPC 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 first instance for further prosecution on the basis of the claims 1 to 10 filed together with the statement of the grounds of appeal.

The Registrar:

The Chairman:

M. Kiehl

P. K. J. van den Berg