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**Datasheet for the decision
of 4 December 2008**

Case Number: T 1417/05 - 3.5.05

Application Number: 96110085.6

Publication Number: 0750251

IPC: G06F 3/13

Language of the proceedings: EN

Title of invention:

Printer control with monitor function

Patentee:

CANON KABUSHIKI KAISHA

Opponent:

SEIKO EPSON CORPORATION

Headword:

Printer control/CANON

Relevant legal provisions:

EPC Art. 52(1), 123(2)

Relevant legal provisions (EPC 1973):

EPC Art. 56, 84

Keyword:

"Impermissible extension of subject-matter (main request)"
"Lack of clarity (first auxiliary request)"
"Lack of inventive step (second auxiliary request)"

Decisions cited:

T 0971/92

Catchword:

The distinguishing features of the claimed invention (second auxiliary request) were presented in the application as filed as a mere design alternative having no significant technical impact. This has consequences for the board's assessment of inventive step, cf. points 4.6-4.11.



Case Number: T 1417/05 - 3.5.05

D E C I S I O N
of the Technical Board of Appeal 3.5.05
of 4 December 2008

Appellant:
(Patent Proprietor)

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 26 August 2005
revoking European patent No. 0750251 pursuant
to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: D. H. Rees
Members: P. Corcoran
F. Blumer

Summary of Facts and Submissions

I. This is an appeal by the proprietor of European Patent No. 0750251 against the decision of the opposition division to revoke the patent.

II. The opponent (respondent) had requested revocation of the patent in its entirety invoking, *inter alia*, grounds under Art. 100(a) EPC.

III. The subject-matter of claims 1 and 11 of the main request as amended during opposition proceedings was held to lack novelty in the light of the document:

E6: JP 3-214 228

based on the English translation thereof provided by the respondent during opposition proceedings.

The independent claims of an auxiliary request were held to lack inventive step in the light of E6 and the following document:

E1: EP 0 652 533 A

IV. In the statement of the grounds of appeal, dated 4 January 2006, the appellant requested that the decision be set aside and that the patent be maintained in amended form. Amended claim sets corresponding to a main request and a first and second auxiliary request were submitted. A precautionary request for oral proceedings was also made.

V. In a letter dated 10 May 2006 the respondent requested that the appeal be dismissed on the grounds that none of the appellant's requests met the requirements of the EPC. In particular, it was submitted that the amended

- claims comprised an impermissible extension of subject-matter or at least failed to comply with the novelty or inventive step requirements of the EPC.
- VI. In a communication accompanying a summons to oral proceedings to be held on 4 December 2008 the board gave its preliminary opinion that none of the appellant's requests were allowable.
- VII. With a letter dated 3 November 2008, the appellant submitted four amended sets of claims corresponding to a new main request and first to third auxiliary requests.
- VIII. In a letter dated 28 November 2008 transmitted by telefax, the respondent submitted observations in respect of the appellant's latest requests and maintained the request for dismissal of the appeal.
- IX. With a letter dated 2 December 2008 transmitted by telefax, the appellant submitted three further amended sets of claims corresponding to a new main request and first and second auxiliary requests. The previous first to third auxiliary requests were maintained as third to fifth auxiliary requests.
- X. At the oral proceedings the appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of one of the three requests submitted with the letter dated 2 December 2008, *viz.* the main request and the first and second auxiliary requests.

The respondent requested that the appeal be dismissed.

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

"A printer comprising:

discriminating means (41) for discriminating whether an urgent command or at least one printer command is received; and

execution means (23, 42, 602, 603) for executing the urgent command and the printer command, wherein when said discriminating means discriminates that a printer command is received, said execution means stores the received printer command in an input buffer memory and executes the stored printer command in a sequential order of reception, and when said discriminating means discriminates that an urgent command is received, said execution means does not store the received urgent command in the input buffer memory but immediately executes the received urgent command,

characterized in that

said discriminating means is further arranged to receive said urgent command and said at least one printer command by the use of two different signal lines (31, 32),

wherein the signal line (31, 32) is indicative of whether the received command is said urgent command or said at least one printer command."

Claims 1 of the first and second auxiliary requests differ from claim 1 of the main request only in respect of their characterising features.

The characterising features of claim 1 of the first auxiliary request are as follows:

" an interface controller (41) arranged to receive said urgent command and said at least one printer command by the use of two different signal lines (31, 32; 201, 203),

wherein the signal line (31, 32) is indicative of whether the received command is said urgent command or said at least one printer command."

The characterising features of claim 1 of the second auxiliary request are as follows:

" an interface controller (41) arranged to receive said at least one printer command transferred by a first signal line (31) connectable to said interface controller and to receive said urgent command transferred by a second signal line (32) also connectable to said interface controller."

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

Reasons for the Decision

1. Main request - preliminary observations

1.1 According to the appellant's oral submissions, claim 1 of the main request is intended to cover embodiments of the invention in which urgent commands and printer commands are received by the printer via two different signal

lines as illustrated in Fig.1 of the patent specification. The appellant submitted that the claim should therefore be interpreted as excluding the embodiment of Fig.5 of the specification in which a common data line is used to transfer both urgent commands and printer commands.

1.2 The appellant has referred in particular to [0025] and [0069] of the published patent specification, corresponding to p.13 l.13-23 and p.27 l.14 - p.28 l.25 of the application as filed, as providing support for the amendments to claim 1 of the main request.

2. *Main request - Art. 123(2) EPC*

2.1 The term "discriminating means" is not used in either the description or claims as filed. The only identifiable disclosure of a "discrimination" being performed between urgent commands and printer commands is in the context of the embodiment of Fig.5 on p.20 l.1-6. A similar disclosure is found on p.30 l.21-26 in respect of an embodiment which is substantially identical to that of Fig.5 as far as the details of the interface controller are concerned, (cf. p.30 l.12-14). It is noted that these disclosures relate to embodiments which, according to the appellant's submissions, (cf. 1.1 *supra*), are not intended to be covered by the present claim 1, i.e. embodiments which use common signal lines for transferring both urgent commands and printer commands.

2.2 In view of the foregoing the board concludes that there is no identifiable disclosure of a "discriminating means" arranged to receive an urgent command and at least one

printer command by the use of two different signal lines as recited in the characterising part of claim 1.

- 2.3 The board thus finds that the definition of the "discriminating means" in the characterising part of claim 1 of the main request infringes Art. 123(2) EPC. For this reason the request is not allowable. In view of the above-noted deficiency it is not necessary to consider the additional objections raised against the request by the respondent during oral proceedings.

3. *First auxiliary request*

- 3.1 Claim 1 of the first auxiliary request differs from claim 1 of the main request in that its characterising part specifies that an "interface controller" rather than a "discriminating means" is arranged to receive the urgent command and the at least one printer command by the use of two different signal lines.
- 3.2 The board finds that this amendment is sufficient to overcome the Art. 123(2) EPC objection against claim 1 of the main request, (cf. 2. *supra*).
- 3.3 The board notes that claim 1 still contains the expression "discriminating means" in its pre-characterising part. However, this feature was already present in the granted version of the claim and does not arise from an amendment after grant. Consequently, any objections against this feature would have to be raised under Art. 100 (c) EPC, as opposed to Art. 123(2) EPC. No

such objections were raised against this feature during opposition proceedings. In view of these circumstances the board does not consider it appropriate to give further consideration to this potential objection.

- 3.4 During oral proceedings the respondent referred to objections raised in writing against earlier requests of the appellant, (cf. letter dated 10 May 2006, p.2), and noted that the pre-characterising part of claim 1 had been amended over the granted version thereof to specify that "said execution means does not store the received urgent command in the input buffer". It was submitted that this amendment constituted an impermissible extension of the claimed subject-matter.
- 3.5 The board finds this objection to be without merit because the skilled person can infer from Fig.1 and the associated passages of the description, (cf. p.13 l.13 - p.15 l.17), that urgent commands received via the cable 32 are routed to the urgent command processor 42 for immediate execution and are not stored in the input buffer 22 which is used for storing the printer commands received via cable 31. The application as filed thus provides, at least implicitly, a basis for the amendment.
- 3.6 Although the board is satisfied that the amendments to claim 1 of the present request do not infringe Art. 123(2) EPC, the expression "wherein the signal line (31, 32) is indicative of whether the received command is said urgent command or said at least one printer command" lacks semantic clarity. It is not evident from this wording which of the two signal lines is intended to be denoted by the term "the signal line".

3.7 The board thus finds that claim 1 of the first auxiliary request does not comply with the requirements of Art. 84 EPC. For this reason the request is not allowable. In view of the above-noted deficiency it is not necessary to consider the additional objections raised against the request by the respondent during oral proceedings.

4. *Second auxiliary request*

4.1 Claim 1 of the second auxiliary request differs from claim 1 of the preceding request in that the "two different signal lines" of claim 1 of the preceding request are now specified as a "first signal line" and a "second signal line". Furthermore, the expression giving rise to the Art. 84 EPC objection against claim 1 of the preceding request, *viz.* "wherein the signal line (31, 32) is indicative of whether the received command is said urgent command or said at least one printer command", has been deleted.

4.2 Thus, the objections upheld against claim 1 of the preceding requests under Arts. 123(2) and 84 EPC, (cf. 2.3 and 3.6 *supra*), no longer apply to claim 1 of the second auxiliary request.

4.3 The respondent has submitted that the subject matter of the independent claims does not involve an inventive step over the disclosure of E1. The board finds this objection to be justified for the reasons given below.

4.4 E1 discloses a printer ("printing apparatus") which receives commands from a host computer, (cf. E1: abstract; Fig.5; p.6 l.50-52). The received commands may be urgent commands for immediate execution, ("real-time commands" / "real-time control commands", cf. E1: p.7 l.3-7, l.28-30; p.6 l.53-55) or printer commands ("print data and command data for controlling the printing apparatus", cf. p.7 l.9-12).

The printer of E1 discloses "discriminating means" and "execution means" as recited in the pre-characterising part of claim 1. The "discriminating means" are the "real-time command interpreting means" which determine if the received data is a real-time command for immediate execution, (cf. E1: p.7 l.3-6). The CPU 50 of E1 (Fig.4) comprising "real-time process execution means" for processing urgent commands and additionally a "command interpreter" for processing printer commands, (cf. E1: p.6 l.57 - p.7 l.15), provides functionality identical to that specified in respect of the "execution means" of claim 1. The "receive buffer 65" of E1 (Fig.5) corresponds to the "input buffer memory" of claim 1.

As to the characterising part of claim 1, the "interface 51" (Fig.4) together with the "data receiving means 62" (Fig.5), (cf. p.6 l.36; p.6 l.51-52), constitute an "interface controller" in the sense of claim 1.

4.5 According to the preferred embodiment of E1, both printer commands and urgent commands are transferred from the host computer to the printer over a common signal line using an RS-232 serial interface, (cf., for example, E1: p.7 l.16-17; p.10 l.46-49).

The subject-matter of claim 1 of the present request differs from the disclosure of E1 in that the interface controller is arranged to receive at least one printer command transferred by a first signal line connectable to the interface controller and to receive an urgent command transferred by a second signal line also connectable to the interface controller.

- 4.6 The printer of claim 1 is thus distinguished over the prior art of E1 in that it receives different types of commands via separate signal lines as disclosed in the embodiment according to Fig.1. The claimed embodiment differs from that of Fig.5 of the application in which a common data line is used for receiving both types of commands. As previously noted, the latter embodiment is not intended to be covered by claim 1, (cf. 1.1 *supra*).
- 4.7 With respect to the embodiment of Fig.1, the board notes that the provision of physically separate signal lines ("interface cables") for transferring different types of data is described in the original disclosure as non-essential. The corresponding passage of the description states: "*Reference numerals 31, 32, and 33 denote interface cables for transferring information of different functions. There is no need to physically separate those interface cables to three kinds of cables.*", (application as filed, p.13 1.16-20; published specification, [0025]).

Moreover, the description as filed presents both of the above-mentioned data transfer arrangements, i.e. two different signal lines in accordance with the embodiment

of Fig.1 and one common signal line in accordance with the embodiment of Fig.5, as substantially equivalent alternatives. There is no identifiable disclosure of any particular comparative technical effect or any relative advantage/disadvantage associated with the signal line arrangement of either of these embodiments. If anything, the formulation used, viz. "*There is no need to physically separate those interface cables ...*", would suggest to the skilled person that the common signal line embodiment is preferable.

- 4.8 The board thus concludes that, starting from E1 as closest prior art, the most appropriate formulation of the objective technical problem facing the skilled person is to provide an alternative arrangement for transferring two different command types from the host computer to the printer.

The board concurs with the submissions of the respondent, (cf. letter dated 28 November 2008, p.7), to the effect that the skilled person faced with the task of transferring two different types of command data from a host computer to a printer will recognise from his common general knowledge that the different types of command data can either be transmitted via separate, dedicated channels or, alternatively, via a common channel provided that there is some way of distinguishing the command data types upon reception.

The distinguishing features of claim 1 thus represent a non-inventive selection from a limited range of obvious alternative options for transferring data of different types from a host computer to a printer.

4.9 During oral proceedings the appellant referred to arguments set forth in the letter dated 3 November 2008, (cf. in particular p.4/9-5/9 thereof), and submitted that the use of separate signal lines as claimed provided certain advantages over the use of a single signal line as disclosed in E1.

The board notes that it does not concur with the appellant's attempt to reformulate the objective technical problem in terms of the provision of a printer which can process urgent commands faster while being less expensive, (cf. letter of 28 November 2008, p. 4/9, second paragraph). This problem is not clearly and unambiguously derivable from the application as filed. In particular, there is no identifiable basis for concluding that the data transfer arrangement of claim 1 comprising two different signal lines results in a printer which is "less expensive" than that of E1.

4.10 The appellant referred in particular to p.7 l.16-24 of E1 and argued in substance that where both types of commands are transmitted over a common signal line a delay in processing urgent commands could arise if these happened to be queued behind a sequence of printer commands in the transmitted data stream. It was submitted that providing a separate signal line for the transfer of urgent commands would permit the urgent command to be transferred directly to the printer and thus to be processed more efficiently.

The board notes that even if the appellant's submissions re. the alleged shortcomings of E1 are accepted *arguendo*,

i.e. that the use of a common signal line may entail a potential bottleneck for urgent commands, there is no disclosure in the application as filed of the allegedly advantageous effect associated with the provision of a separate signal line for each type of command. Hence, the appellant's argumentation in this regard effectively relies on the assumption that the effect of the proposed modification is self-evident to the skilled person. In the given circumstances, the board cannot accept that such a modification, the effect of which has to be regarded as self-evident in consequence of the fact that it has not been disclosed, requires the exercise of inventive skill.

- 4.11 The board is aware that even if a claimed solution is considered retrospectively trivial and in itself obvious, an inventive step might nevertheless be acknowledged where it can be established that the inventive activity resides in the recognition of the problem to be solved, (see, for example, "Case Law of the Boards of Appeal of the European Patent Office, 5th edition 2006", I.D.8.10, section entitled "Problem inventions", p.154-155).

However, where an appellant wishes to rely on an assertion that an inventive activity resides in the recognition of a technical problem, then the minimum requirement to be met is that the technical problem be clearly and unambiguously disclosed in the application as filed, (cf. T 0971/92, reasons 3.7). This requirement is not met in the present case because the application as filed discloses neither the problem formulated by the appellant nor the allegedly advantageous effect arising from the claimed solution of a separate signal line for urgent commands, (see also observations under 4.7 *supra*).

In particular, the board notes that the embodiment of Fig.5 also uses a common data line for transferring both types of commands. Hence, this embodiment would also be subject to the alleged shortcoming of E1, i.e. a potential bottleneck in the processing of urgent commands. By using different signal lines for urgent and printer commands, the embodiment of Fig.1 arguably solves the same problem with respect to the embodiment of Fig.5 as it does with respect to the printer of E1. However, the application as filed is silent as to the existence of the problem formulated by the appellant and it does not disclose or even suggest that the use of different signal lines according to the embodiment of Fig.1 might confer a comparative advantage over a common signal line according to the embodiment of Fig.5. The use of different signal lines for different command types is essentially presented as a mere design option which is of no particular technical significance in the overall context of the disclosed invention.

In the given context, the claimed modification over E1 must be seen as a design option that was freely available to the skilled person and which, on the basis of the original disclosure, has no significant technical impact on the operation of the claimed apparatus nor any noteworthy advantages over the alternative option disclosed in relation to the embodiment of Fig.5.

In view of the foregoing, the board concludes that, insofar as the technical problem formulated by the appellant with respect to E1, i.e. circumventing a potential bottleneck in the processing of urgent commands,

might be considered relevant for an assessment of inventive step, this problem could have been posed by the person of average skill in the art and consequently cannot represent a contribution to the inventive merits of the solution. Once the problem has been posed the claimed solution of providing an additional dedicated signal line for urgent commands does not, in the board's judgement, require the exercise of inventive skill.

- 4.12 The appellant also submitted, (cf. letter dated 3 November 2008, p.5/9 second paragraph), that the claimed use of a first and a second signal line for transferring different types of commands was not disclosed in any of the available prior art documents and argued during oral proceedings that the absence of any such disclosure was an indication of the non-obviousness of such a data transfer arrangement.

The respondent submitted that the cited prior art documents related to commercially available printer interface arrangements which, in general, did not use separate, dedicated signal lines for different types of commands. Nevertheless, according to the respondent, the absence of an explicit disclosure of the use of separate signal lines did not render such an arrangement inventive because it represented a trivial and straightforward design alternative to using a common signal line.

The board is not in a position to judge on the basis of the available evidence whether and to what extent the absence of an explicit disclosure of the contested feature in the cited prior art documents reflects a general tendency for commercially available printer

interface arrangements to use a common signal line. Even if it were to be accepted *arguendo* that such a general tendency existed, it has not been established by either party whether and to what extent it was influenced by technical considerations.

It thus remains a matter for speculation as to whether the claimed alternative of using two signal lines might represent a deviation from a general tendency in relation to commercially available printer interfaces. The board notes that, in the given context, even if the existence of such a general tendency had been conclusively proven this would not in itself have sufficed to establish that an apparent deviation involved non-obvious technical considerations.

- 4.13 In summary, the appellant's submissions have failed to convince the board of the inventive merit of the claimed subject-matter.

As indicated in 4.8 *supra*, the board judges that the provision of a separate dedicated signal line for each type of command represents an obvious design alternative to using a common signal line as disclosed in E1. Even if one accepts the appellant's submissions to the effect that this design alternative solves a technical problem and provides a particular technical effect with respect to E1, neither the alleged problem nor the effect provided by the solution are disclosed in the application as filed, (cf. 4.11 *supra*). In the prevailing circumstances, both the alleged problem and its solution must be considered self-evident to the skilled person on the basis of his general knowledge and routine design

skills. For these reasons, the board sees no inventive merit in selecting the option of two signal lines as claimed over the common signal line of E1.

Although the claimed modification is not disclosed in the cited prior art documents, said documents do not contain any identifiable teaching which would deter the skilled person from selecting this design option in appropriate circumstances. In the prevailing circumstances, the absence of a disclosure of the claimed modification cannot, in the board's judgement, be interpreted as evidence, or even an indication, that a technical prejudice existed against making such a modification.

The board thus concludes that the distinguishing features of claim 1 represent an obvious modification of the teaching of E1 lying within the routine competence of the skilled person.

- 4.14 In view of the foregoing, the board finds that claim 1 of the second auxiliary request does not comply with the requirements of Art. 52(1) EPC because it lacks an inventive step in the sense of Art. 56 EPC 1973. The request is therefore not allowable.

5. *Conclusion*

- 5.1 Given that none of the appellant's requests are found to be allowable, the appeal must be dismissed in accordance with the respondent's request.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

K. Götz

D. H. Rees