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D E C I S I O N
of 1 February 2005

Case Number: T 0393/02 - 3.5.1

Application Number: 94114765.4

Publication Number: 0644506

IPC: G06K 15/00

Language of the proceedings: EN

Title of invention:
Tape printing system

Patentee:
BROTHER KOGYO KABUSHIKI KAISHA

Opponent:
ESSELTE N.V.

Headword:
Tape printing system

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Availability of printer manual to the public (yes)"
"Inventive step (no)"

Decisions cited:
T 0055/01

Catchword:
-



Case Number: T 0393/02 - 3.5.1

D E C I S I O N
of the Technical Board of Appeal 3.5.1
of 1 February 2005

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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 15 February 2002
revoking European patent No. 0644506 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: S. V. Steinbrener
Members: K. J. K. Bumés
G. E. Weiss

Summary of Facts and Submissions

- I. The present appeal lies from the decision of the Opposition Division to revoke European patent EP-B1-0 644 506 for lack of novelty (in particular claim 1 as granted) and lack of inventive step (several versions of claim 1 as amended before the Opposition Division).

The appellant/patentee requests that the decision under appeal be set aside and the patent be maintained as granted (main request) or alternatively as amended on the basis of one of auxiliary requests 1 to 4 filed with letter of 25 September 2003 or auxiliary request 5 filed with letter of 31 January 2005 or auxiliary request 6 submitted at the oral proceedings.

- A. Claim 1 as granted reads:

"1. A separate tape printing system (1) for printing a desired image on a desired tape (25), comprising:

a data inputting device (3, 4) for inputting data indicative of a desired image, the data inputting device including displaying means (3) for displaying the desired image, and desired cassette information inputting means (59-62) for inputting information on a tape cassette (CS) desired to be printed with the desired document; and

a tape printing device (6) separated from the data inputting device (3, 4) connected to the data inputting device (3, 4) with a connecting line (L) for receiving the data transferred through the connecting line (L) from the data inputting device (3, 4) and for printing the desired image on a desired tape (25) based on the received data;

the tape printing device (6) including tape cassette receiving means (71) for receiving the tape cassette (CS) containing a tape (25) and for printing the desired document on the tape (25) contained in the tape cassette (CS),

the tape printing device (6) including information transferring means comprising cassette information detecting means (K) for detecting information related to the tape (25) and a tape cassette (CS) received in the tape cassette receiving means (71) and for transferring the information to the data inputting device (3, 4) through the connecting line (L),

the information on the tape (25) being displayed on the displaying means (3),

wherein the data inputting device (3, 4) further includes information judging means for judging whether or not the information on the desired tape cassette (CS) inputted from the desired cassette information inputting means (59-62) agrees with the information on the tape cassette (CS) received in the tape cassette receiving means (71) of the tape printing device (6) transferred from the cassette information detecting means (K)."

- B. Claim 1 according to the first auxiliary request reads as follows (features added with respect to granted claim 1 are presented in bold characters by the Board):
- "1. A separate-**type** tape printing system (1) for printing a desired image on a desired tape (25), comprising:

a data inputting device (3, 4) for inputting data indicative of a desired image, the data inputting device including displaying means (3) for displaying the desired image, and desired cassette information

inputting means (4) for inputting information on a tape cassette (CS) desired to be printed with the desired document; and

a tape printing device (6) **which is a separate body** from the data inputting device (3, 4) connected to the data inputting device (3, 4) with a connecting line (L) for receiving the data transferred through the connecting line (L) from the data inputting device (3, 4) and for printing the desired image on a desired tape (25) based on the received data;

the tape printing device (6) including tape cassette receiving means (71) for receiving the tape cassette (CS) containing a tape (25) and for printing the desired document on the tape (25) contained in the tape cassette (CS),

the data inputting device (3, 4) being provided with a first control portion (C1) for transmitting a status information requesting command (SCM) to the tape printing device (6) via the connecting line (L),

the tape printing device (6) including information transferring means comprising: cassette information detecting means (K, 59-62) for detecting information related to the tape (25) and a tape cassette (CS) received in the tape cassette receiving means (71) and **a second control portion (C2) for transmitting, upon receipt of the status information requesting command (SCM), the information to the data inputting device (3, 4) through the connecting line (L),**

the information on the tape (25) being displayed on the displaying means (3),

wherein the data inputting device (3, 4) further includes: information judging means (C1) for judging whether or not the information on the desired tape cassette (CS) inputted from the desired cassette

information inputting means (4) agrees with the information on the tape cassette (CS) received in the tape cassette receiving means (71) of the tape printing device (6) transferred from the cassette information detecting means (K, 59-62)."

C. Claim 1 according to the second auxiliary request reads:

"1. A separate tape printing system (1) for printing a desired image on a desired tape (25), comprising:

a data generator (2) constructed of a data inputting device (3, 4) for inputting data indicative of a desired image, having a keyboard (4) and a coordinate inputting device (39),

the data inputting device including displaying means (3) for displaying the desired image,

desired cassette information inputting means (59-62) for inputting information on a tape cassette (CS) desired to be printed with the desired document **and a controller (5); and**

a tape printing device (6) separated from the data inputting device (3, 4) connected to the data inputting device (3, 4) with a connecting line (L) for receiving the data transferred through the connecting line (L) from the data inputting device (3, 4) and for printing the desired image on a desired tape (25) based on the received data;

the tape printing device (6) including tape cassette receiving means (71) for receiving the tape cassette (CS) containing a tape (25) and for printing the desired document on the tape (25) contained in the tape cassette (CS),

the controller (5) of the data generator (2) having a first control portion (C1) for executing a routine for print data generation control and for

transferring, to the tape printing device (6), a status information requesting command (SCM) for requesting the tape printing device (6) to transfer a status information (SI) on the tape printing device (6) through the connecting line (L);

the tape printing device (6) including:
information transferring means comprising cassette information detecting means (K) for detecting information related to the tape (25) and a tape cassette (CS) received in the tape cassette receiving means (71) and for transferring the information to the data inputting device (3, 4) through the connecting line (L), and a second control portion (C2) for executing a printing control routine and for transmitting upon receipt of the status information requesting command (SCM) the status information (SI) to the data generator (2) through the connecting line (L);

the information on the tape (25) being displayed on the displaying means (3),

wherein the data inputting device (3, 4) further includes: information judging means for judging whether or not the information on the desired tape cassette (CS) inputted from the desired cassette information inputting means (59-62) agrees with the information on the tape cassette (CS) received in the tape cassette receiving means (71) of the tape printing device (6) transferred from the cassette information detecting means (K)."

- D. Claim 1 according to the third auxiliary request reads:
"1. A separate-**type** tape printing system (1) for printing a desired image on a desired tape (25), comprising:

a data inputting device (3, 4) for inputting data indicative of a desired image, the data inputting device including displaying means (3) for displaying the desired image, and desired cassette information inputting means (4) for inputting information on a tape cassette (CS) desired to be printed with the desired document; and

a tape printing device (6) **which is a separate body** from the data inputting device (3, 4) connected to the data inputting device (3, 4) with a connecting line (L) for receiving the data transferred through the connecting line (L) from the data inputting device (3, 4) and for printing the desired image on a desired tape (25) based on the received data;

the tape printing device (6) including tape cassette receiving means (71) for receiving the tape cassette (CS) containing a tape (25) and for printing the desired document on the tape (25) contained in the tape cassette (CS),

the data inputting device (3, 4) being provided with a first control portion (C1) for transmitting a status information requesting command (SCM) to the tape printing device (6) via the connecting line (L),

the tape printing device (6) including information transferring means comprising: cassette information detecting means (K, 59-62) for detecting information related to the tape (25) and a tape cassette (CS) received in the tape cassette receiving means (71) and **a second control portion (C2) for transmitting, upon receipt of the status information requesting command (SCM), the information to the data inputting device (3, 4) through the connecting line (L),**

the information on the tape (25) being displayed on the displaying means (3),

wherein the data inputting device (3, 4) further includes: information judging means (C1) for judging whether or not the information on the desired tape cassette (CS) inputted from the desired cassette information inputting means (4) agrees with the information on the tape cassette (CS) received in the tape cassette receiving means (71) of the tape printing device (6) transferred from the cassette information detecting means (K, 59-62),

wherein

(a) the first control portion (C1) transmits the status information requesting command (SCM) to the tape printing device (6) when the data inputting device (3, 4) is inputted with a user's instruction to print the desired image;

(b) the tape printing device (6) further includes a printing mechanism portion (PM) for printing the desired document on the tape (25) contained in the tape cassette (CS);

(c) the data inputting device (3, 4) further includes data transmission means (C1) for transmitting the data indicative of the desired image to the tape printing device (6) through the connecting line (L) when the desired cassette information agrees with the transferred information;

(d) the second control portion (C2) in the tape printing device (6) stores, into a memory (56), the data indicative of the desired image transmitted from the data transmission means (C1), and controls the printing mechanism portion (PM) to print the desired image;

(e) the data inputting device (3, 4) is provided with: a memory (41) for storing the inputted data of the desired image; and a memory (43) for storing the

inputted information on the desired tape cassette (CS);
and

(f) the tape printing device (6) further includes a memory (56) for storing the detected information, the second control portion (C2) transmitting the detected information, stored in the memory (56), to the data inputting device (3, 4) through the connecting line (L), upon receipt of the status information requesting command (SCM)."

E. Claim 1 according to the fourth auxiliary request reads:

"1. A separate tape printing system (1) for printing a desired image on a desired tape (25), comprising:

a data generator (2) constructed of

a data inputting device (3, 4) for inputting data indicative of a desired image, **having a keyboard (4) and a coordinate inputting device (39),**

the data inputting device including displaying means (3) for displaying the desired image,

desired cassette information inputting means (59-62) for inputting information on a tape cassette (CS) desired to be printed with the desired document **and a controller (5); and**

a tape printing device (6) separated from the data inputting device (3, 4) connected to the data inputting device (3, 4) with a connecting line (L) for receiving the data transferred through the connecting line (L) from the data inputting device (3, 4) and for printing the desired image on a desired tape (25) based on the received data;

the tape printing device (6) including tape cassette receiving means (71) for receiving the tape cassette (CS) containing a tape (25) and for printing

the desired document on the tape (25) contained in the tape cassette (CS),

the controller (5) of the data generator (2) having a control portion (C1) for executing a routine for print data generation control and for transferring, to the tape printing device (6), a status information requesting command (SCM) for requesting the tape printing device (6) to transfer a status information (SI) on the tape printing device (6) through the connecting line (L);

the tape printing device (6) including:
information transferring means comprising cassette information detecting means (K) for detecting information related to the tape (25) and a tape cassette (CS) received in the tape cassette receiving means (71) and for transferring the information to the data inputting device (3, 4) through the connecting line (L), **and a control portion (C2) for executing a printing control routine and for transmitting upon receipt of the status information requesting command (SCM) the status information (SI) to the data generator (2) through the connecting line (L);**

the information on the tape (25) being displayed on the displaying means (3),

wherein the data inputting device (3, 4) further includes: information judging means for judging whether or not the information on the desired tape cassette (CS) inputted from the desired cassette information inputting means (59-62) agrees with the information on the tape cassette (CS) received in the tape cassette receiving means (71) of the tape printing device (6) transferred from the cassette information detecting means (K);

wherein

(a) ... (f)" [like (a) ... (f) in auxiliary request 3].

F. Claim 1 according to the fifth auxiliary request filed one day before the oral proceedings is based on claim 10 as granted with one amendment at the end (marked by bold characters):

"1. A separate tape printing apparatus for printing a desired document on a tape (25), comprising:

a data generator (A, 2) for generating dot image data indicative of a desired document, the data generator (A, 2) including:

input means (C, 4) for inputting characters and symbols constituting the desired document and for inputting various commands;

data storage means (D, 40) for storing data of the inputted characters and symbols;

display means (F, 3) for displaying the inputted characters and symbols; and

data development means (E) for developing the data received from said data storage means (D, 40) into dot image data for the print output;

desired cassette information inputting means (59, 60) for inputting information on a tape cassette (J, CS), desired to be printed with the desired document, which includes at least one of a desired tape width and a desired ink ribbon color, and

information judging means for judging whether or not the information on the desired tape cassette (J, CS) inputted from the desired cassette information inputting means (59, 60) agrees with the cassette information detected by the cassette information detection means (K);

a printer (B) separated from the data generator (A, 2) and connected with the data generator (A, 2) with a connecting line (L) for receiving the dot image data from the data generator (A) to print the desired document on the tape (25), the printer (A [sic]) including:

a tape cassette loading portion (71) for loading the tape cassette (J, CS), which contains a roll of tape (25) as printing medium and a roll of ink ribbon (10) to be used for printing on the tape (25);

a printing portion (6) for driving in response to the dot image data transferred from the data generator (A, 2) to print the desired document in dot patter[n]s on the tape from the tape cassette;

cassette information detection means (K) for detecting cassette information including at least one of tape width and ink ribbon color of the tape cassette (J, CS) loaded in the tape cassette loading portion (71); and

information transfer means (H) for transferring the cassette information detected by said cassette information detection means (K) to said data generator (A, 2) through the connecting line (L), the cassette information being displayed on the display means (F) of the data generator (A, 2), **and being at least one of the detected tape width or ink ribbon color.**"

G. Claim 1 according to the sixth auxiliary request filed at the oral proceedings is based on claim 10 as granted, with amendments marked by bold characters:

"1. A separate-**type** tape printing **system (1)** for printing a desired **image** on a **desired** tape (25), comprising:

a data generator (A, 2) for generating dot image data indicative of a desired document, the data generator (A, 2) including:

input means (C, 4) for inputting characters and symbols constituting the desired document and for inputting various commands;

data storage means (D, 40) for storing data of the inputted characters and symbols;

display means (F, 3) for displaying the inputted characters and symbols; and

data development means (E) for developing the data received from said data storage means (D, 40) into dot image data for the print output;

desired cassette information inputting means (4) for inputting information on a tape cassette (J, CS), desired to be printed with the desired document, which includes at least one of a desired tape width and a desired ink ribbon color, and

information judging means for judging whether or not the information on the desired tape cassette (J, CS) inputted from the desired cassette information inputting means (4), agrees with the cassette information detected by the cassette information detection means (K);

a printer (B) **which is a separate body** from the data generator (A, 2) **and not integrated therewith** and connected with the data generator (A, 2) with a connecting line (L) for receiving the dot image data from the data generator (A) to print the desired document on the tape (25), the printer (B) including:

a tape cassette loading portion (71) for loading the tape cassette (J, CS), which contains a roll of tape (25) as printing medium and a roll of ink ribbon (10) to be used for printing on the tape (25);

a printing portion (6) for driving in response to the dot image data transferred from the data generator (A, 2) to print the desired document in dot patterns on the tape from the tape cassette; **and**

cassette information detection means (K, **59-62**) for detecting cassette information including at least one of tape width and ink ribbon color of the tape cassette (J, CS) loaded in the tape cassette loading portion (71);

wherein the data generator (A, 2) includes a control portion (C1) for transmitting a status information requesting command (SCM) to the printer (B) via the connecting line (L),

wherein the printer (B) further includes information transfer means (H, C2) for transferring, upon receipt of the status information requesting command (SCM), the cassette information detected by said cassette information detection means (K) to said data generator (A, 2) through the connecting line (L), the cassette information being displayed on the display means (F) of the data generator (A, 2), and being at least one of the detected tape width or ink ribbon color."

II. The respondent/opponent requests that the appeal be dismissed. His main argument is that none of the versions of claim 1 relates to novel and inventive subject-matter in particular in the light of the following evidence:

D7: EP-A-0 534 794

D8: EP-A-0 497 352

D14: "Sign World", May 1988, page 13

D16: "Sign World", February 1992, pages 26 and 27

D17: Kroy 360/460 DT Owner's Manual dated "6/92"

In addition, the respondent has put forward objections under Rule 57a EPC (amendments not occasioned by any ground for opposition), Article 123(2) EPC (inadmissible intermediate generalisation) and Article 84 EPC (lack of essential features in amended versions of claim 1). The priority date claimed by the patent has also been contested (intermediate generalisation with respect to the priority document).

III. The appellant has raised doubts about the public availability of D17 and regards that manual for a printer as an in-house document of the printer manufacturer.

Moreover, the appellant submits that D17 does not anticipate a printer having means for detecting and transmitting information on a tape cassette currently installed in the printer. While D17 describes means for judging whether an installed tape cassette matches a desired tape cassette, D17 does not disclose that the currently installed tape cassette is identified *automatically*. The tape information may have to be inputted by the user when installing the cassette.

IV. At the end of the oral proceedings, the chairman of the Board pronounced its decision.

Reasons for the Decision

1. Availability of D17 to the public

D17 is a manual designed to instruct the owners of Kroy 360 or 460 tape printers. The Board is convinced that

those printers were on the market before the priority date claimed by the patent (21 September 1993). References to the Kroy model 360 are included in trade journals D14 and D16 (published May 1988 and February 1992, respectively), with D16 additionally mentioning the enhanced Kroy 460 model. At the same time, it is well-established practice that instruction manuals are delivered together with electronic devices to which they refer. D17 bears a date "6/92" which is consistent with the abovementioned marketing history of Kroy printers. Furthermore, as printers are computerised mass products, it is highly unlikely that they might have been all produced and then just kept on stock together with their instruction manuals. In the absence of any tangible reason for such an unlikely scenario, the Board has no doubt about the public availability of D17 prior to the effective date of the patent, applying the balance of probabilities as its standard of proof in such a situation (T 55/01, Reason 4.1; not reported in the OJ EPO).

An original version of D17 as presented during the oral proceedings before the Board comprises a spiral binding so that it would be difficult to exchange individual sheets after assembly of the manual (as opposed to a loose-leaf collection which may be updated at a later stage, as pointed out by the appellant). The Board thus has no doubt about the authenticity of the sheet bearing the date "6/92" and the other sheets setting out technical features of the Kroy 360 and 460 printers.

2. *Disclosure of D17*

In terms of claim 1 as granted, D17 discloses a separate tape printing system in that a tape printing device (*Kroy 360 printer module*) is connected to a separated data inputting device (*Kroy 360 input module*) which are connected through a connecting line (*printer interface cable, see page 2-2; page 3-3 "Remote and concurrent operation"*). Alternatively, instead of using a dedicated data inputting device, remote print control is possible from other computer systems acting as host processors for the printer module (*page 6-11*).

The printing system of D17 is designed to print a desired image (*e.g. characters of a formatted text, see sections 4 and 5*) on a desired tape (*having a width related to the desired point size of text characters, see section 4.1 on page 4-4 and section 5.3.7 on page 5-12*).

The data inputting device includes displaying means for displaying the desired image (*i.e. text; pages 3-1, 4-1*).

The data inputting device further includes means for inputting information about the desired tape cassette (*indirectly, i.e. by inputting the desired character size according to sections 4.1 and 5.3.7; see also point 8.1 below*).

The data generated at the data inputting device (*input module*) is transferred to the printing device (*printer module*) over the connecting line (*interface cable*).

The printing device (*printer module*) receives a tape cassette in a cartridge holding tray (*pages 2-4 to 2-6*).

The data inputting means compares the selected text size automatically with the width of the installed tape

cassette (page 4-5, second paragraph) and, thus, comprises means for judging whether the desired tape width matches the installed tape width. When a mismatch is detected, information on the tape is displayed on the display screen (page A-5: "Error: Tape too small for document").

3. *Introductory comment based on D7, D8 and D17*

3.1 The automatic comparison pointed out in D17 (page 4-5) presupposes that the comparing means of the data inputting device has obtained the information which defines the tape cassette currently installed in the printer. That is a crucial piece of information without which the automatic comparison would not work. However, the parties have not shown any conclusive statement in D17 of the manner in which the information on the installed tape cassette is obtained by the data inputting device. On the other hand, even if it is assumed in favour of the appellant that the printing system of D17 does not automatically detect information on the installed tape cassette (whereas claim 1 provides for automatic detection), the pertinent teaching of D7 or D8 is directly applicable to the printing system of D17 and suggests an automatic mode of detecting information on the installed tape cassette (see point 4.1).

3.2 Combinations of D17 with D7 or D8 have been discussed at the oral proceedings in relation to the auxiliary requests and will be addressed in the following. As claim 1 of the main request is broader than claim 1 according to each auxiliary request, prior art

objections to the auxiliary requests will *a fortiori* apply to the main request.

4. *First auxiliary request*

- 4.1 Setting out from a tape printing system according to D17 (as evaluated at point 2 above), the disclosure of a tape printing device in D7 will be considered pertinent by a skilled person. That document teaches an automatic mode of detecting information on the type of tape cassette currently installed in a tape printer. While D7 primarily deals with an automatic recognition of the installed tape width, it also contemplates a manual entry of that information through a keyboard (column 9, lines 7 to 10); hence, substituting one type of data entry for the other is obvious to obtain tape information in either an automatic or inexpensive manual fashion.

In D7, particular reference may be had to Figure 2A (projecting pieces 17, 18 encoding the width of tape 5 in cassette CS); Figure 7 (step S30); column 4, line 55 to column 4, line 20; column 7, lines 25 to 33.

As the automatic tape detection is considered beneficial even in an integrated-type printer like the one of D7 (where the operator could easily check the tape cassette locally), it is evident that such a tape detection mode is even more attractive in a situation where the printer is remote from the data inputting device (like in D17), i.e. where the operator would have to walk over to a different room, for example. That obvious benefit provides an additional incentive to apply the teaching of D7 to the system of D17.

Incidentally, the same reasoning can be based on D8 which discloses another tape printer arranged to obtain tape information (tape width; ink material) automatically. Reference is made to Figure 2 (tape width detecting unit 31; ink material detecting unit 32); column 4, line 32 to column 5, line 40; Figures 10A to 10E (display of tape width); column 12, paragraphs 3 and 4.

4.2 The amendments with respect to granted claim 1 (bold text portions in point I.B above) are assessed as follows.

4.2.1 The wording "which is a separate body" specifies that the tape printing device is arranged at some physical distance from the data inputting device, in line with the disclosure of the application as filed, see e.g. column 7, paragraph 1 of EP-A2-0 644 506 (referred to as "A2" specification). That amendment has been introduced by the appellant to overcome any broad construction of the term "separate" which might encompass printing and data inputting devices integrated in one housing and separated only by a wall therein.

However, as the Kroy input module and printer module according to D17 constitute separate bodies interconnected by an interface cable (D17, page 2-2), the separation feature does not distinguish the claimed printing system from the prior art system of D17.

4.2.2 A further aspect of claim 1 (first auxiliary request) concerns the exact manner in which the information on

the currently installed tape cassette is obtained by the data inputting device. According to the claim, the data inputting device takes the initiative by requesting status information from the tape printing device, and the tape printing device responds by feeding back the requested information (which has been acquired by the cassette information detecting means).

- (a) By requesting tape information from the printer before sending a print job to the printer, the data inputting device ensures that a print job will be sent to a suitable printer having a tape cassette of requisite tape width. Wastage of tape material and operator time can thus be avoided even when the tape cassette of a remote printer has been exchanged shortly before the print job. That can be regarded as an objective technical problem solved by said aspect of claim 1 (status information requesting command issued by the data inputting device). The Board regards that problem as one that is inevitably encountered in practice when using a remote printer; hence, identifying the problem does not provide an inventive step.

- (b) Said problem has been solved in the tape printing device according to D7 in the way suggested by amended claim 1. D7 (column 7, lines 25 to 33) states that operation of a print key on the data inputting device (D7, Figure 1, keyboard 3) starts a printing process (Figure 7) during which the tape width of a cassette (CS) loaded in the printing mechanism (PM) is detected and stored (step S30; sensors 20, 21; memory 44).

While D7 concerns an integrated tape printing system, the skilled person setting out from D17 (separate-type system) will still consider the teaching of D7 with respect to data communication flows because D7 deals with tape recognition. D7 illustrates that it is beneficial to have the data inputting device request the tape information even in an integrated-type environment, i.e. in a situation where the operator can check the tape cassette without having to walk over to a remote printer. That benefit obviously increases when the printer is arranged in a separate body which may be located in a different room and subject to an unnoticed exchange of the tape cassette.

- 4.3 The Board concludes from the foregoing analysis that a tape printing system according to amended claim 1 does not involve an inventive step from D17 in the light of D7, contrary to the requirements of Articles 52(1) and 56 EPC.

5. *Second auxiliary request*

- 5.1 As to the automatic acquisition of information on the type of tape cassette, reference is made to D7 as discussed above (point 4.1).

- 5.2 The amendments with respect to granted claim 1 (bold text portions in point I.C) are assessed as follows.

- 5.2.1 The data inputting device (3, 4) is supplemented by a coordinate inputting device (39) to form a data generator (2). The coordinate inputting device (39) may be embodied by a mouse (A2, column 7, lines 30/31).

Using a mouse in addition to a keyboard to enhance an operator's data entry facilities was an obvious choice for that purpose before the priority date claimed by the patent.

- 5.2.2 As to the (obvious) general purpose and handling of a status information request command, reference is made to point 4.2.2 above.

The specific assignment of tasks to the control portion (C1) of the data generator (2) and to the control portion (C2) of the tape printing device only reflects software routines that a skilled programmer would design when implementing the printing function of D17 and the status request operation according to D7 as elaborated with respect to the first auxiliary request. Providing the peripheral tape printing device with a control portion of its own to perform the obvious functions of the printing device follows the technological trend and is a technical necessity where the input module is designed to be operable separately from the printing module, such as in the system of D17 (page 3-3, section 3.1.2).

- 5.3 Therefore, the tape printing system according to claim 1 of the second auxiliary request does not involve an inventive step.

6. *Third auxiliary request*

- 6.1 As to the automatic acquisition of information on the tape cassette, reference is made to D7 as discussed above (point 4.1).

6.2 Features (a) to (f) appended to claim 1 (see point I.D) are assessed as follows.

- (a) Sending a status request command from the data inputting device when the user instructs a print job is suggested by D7, as discussed at point 4.2.2 above.
- (b) Both D17 and D7 show printing mechanism portions arranged in their respective tape printing devices.
- (c) D17 (page 4-5) allows printing to take place only when the desired point size (hence the desired tape width) matches the width of the installed tape. Once the tape width is detected automatically (D7), that check will be performed based on the tape information which has been detected automatically.
- (d) Peripheral printers usually comprise local memories (for print job data) and decentralised computing power to control the printing mechanism and process.
- (e) Data inputting devices usually comprise storage capacity for inputted text and parameters, in particular where the text is to be processed and the parameters are to be used repeatedly.
- (f) The function of the status information request command has been addressed at point 4.2.2. Transmission, upon request, of the detected tape information from the printer to the data inputting

device will readily proceed through an intermediate working memory of the peripheral printer control. In addition or as an alternative, a medium- or long-term storage of the tape information in the printing device will be envisaged to by-pass slow tape detector responses, to log a cassette history, or the like. Storage of operating parameters is a matter of routine design.

6.3 Therefore, the tape printing system according to claim 1 of the third auxiliary request does not involve an inventive step.

7. *Fourth auxiliary request*

The features of claim 1 of the fourth auxiliary request have been addressed in the preceding auxiliary requests. Each of those features has been found obvious, and the Board does not see any non-obvious working-interrelationship.

Hence, the tape printing system according to claim 1 of the fourth auxiliary request does not involve an inventive step.

8. *Fifth auxiliary request*

To avoid repetitions, only additional aspects of claim 1 will be addressed.

8.1 According to claim 1 of the fifth auxiliary request, the tape cassette information to be inputted (information on the desired cassette) and to be

displayed (detected information on the installed tape cassette) specifically includes the tape width and/or ink ribbon colour, i.e. with respect to tape width the claim only specifies what has been assumed before and with respect to the ribbon colour allows a further option.

As has been pointed out above, the tape width is considered and checked in the printing apparatuses of D17 (page 4-5), D7 (Figure 7, steps S30, S46) and D8 (Figure 9, step A23). In D17, a desired tape width is effectively entered by inputting the desired point size of a text character which inherently determines the required tape width (D17, sections 4.1 and 5.3.7). In any event, an explicit entry of a desired tape width is just like assigning a desired paper size (A4, B5, or the like) to a document in the editing mode of a word processor, for the same purpose, namely either to control an appropriate paper feed of the printer or to inhibit printing when the required paper size is not available in the printer.

Displaying the value of the tape width once it has been detected is a matter of routine and is explicitly disclosed by D8 (Figures 10A to 10E: "16 mm", "8 mm"; column 12, from line 20 onwards).

Incidentally, while the ink ribbon colour is not a mandatory feature of the amended claim 1, the Board notes that D8 relates to both a tape width detecting unit (31) (column 4, last paragraph) and an ink material detecting unit (32) (column 5, paragraph 2) in relation to a tape printing apparatus.

8.2 Developing image data into dot patterns for output to a printing device is a standard way of driving a printer. It is also addressed in D7 (column 7, from line 25), for example.

8.3 Hence, the tape printing system according to claim 1 of the fifth auxiliary request does not involve an inventive step.

9. *Sixth auxiliary request*

The features of claim 1 of the sixth auxiliary request, which is a supplemented version of claim 1 of the fifth auxiliary request, have been addressed in the preceding auxiliary requests. Each of those features has been found obvious, and the Board does not see any non-obvious working-interrelationship.

Hence, the tape printing system according to claim 1 of the sixth auxiliary request does not involve an inventive step.

10. *Conclusions*

10.1 The subject-matter of claim 1 according to each of the auxiliary requests lacks an inventive step, contrary to the requirements of Article 56 EPC. At least that objection applies a *fortiori* to the main request which includes the broadest version of claim 1.

10.2 While the respondent's objections under Articles 84, 87(1) and 123(2) and Rule 57a EPC may have been overcome by suitable amendments, the Board has put

aside the additional grounds in view of the central deficiency with respect to inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

M. Kiehl

S. V. Steinbrener