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**D E C I S I O N**  
of 6 December 1995

**Case Number:** T 0735/94 - 3.4.2

**Application Number:** 86304960.7

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**Language of the proceedings:** EN

**Title of invention:**  
Display device

**Patentee:**  
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**Opponent:**  
(01) Océ-Nederland B.V.  
(02) Xerox Corporation

**Headword:**  
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**Relevant legal provisions:**  
EPC Art. 123(3), 84, 54 and 56

**Keyword:**  
"Main request: protection extended: yes"  
"Auxiliary request: protection extended: no; clarity: yes;  
novelty: yes; inventive step: yes"

**Decisions cited:**  
-

**Catchword:**



Case Number: T 0735/94 - 3.4.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.2  
of 6 December 1995

**Appellant:**  
(Proprietor of the patent)

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office dated posted 21 July 1994  
revoking European patent No. 0 210 752 pursuant to  
Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** E. Turrini  
**Members:** M. Chomentowski  
B. J. Schachenmann

### Summary of Facts and Submissions

- I. The respondents (opponents) filed an opposition against the European patent No. 0 210 752 (application No. 86 304 960.7) on the grounds that the subject-matter of its claims lacked novelty or an inventive step having regard inter alia to D2 = GB-A-2077190 and a document US-A-4 332 464 equivalent to D5 = EP-A-0 030 160.
- II. The patent was revoked for lack of novelty having regard to D2.
- III. The appellant (proprietor) lodged an appeal against this decision.
- IV. In a communication accompanying the invitation for oral proceedings which had been requested auxiliarily by the appellant, the Board of appeal expressed the opinion that claim 1 filed with the statement of grounds of appeal appeared to lack clarity and that its subject-matter could lack an inventive step having regard to D2, alone or in combination with D5.
- V. During the oral proceedings of 6 December 1995, the appellant filed two new sets of claims and requested that the decision under appeal be set aside and that the patent be maintained in amended form according to a main request or an auxiliary request, indicated as alternative main, corresponding to these sets of claims.

Claim 1 of the **main request** reads as follows:

"1. A display device for use in an image forming apparatus which is capable of performing an image forming operation and is also capable of performing an image forming operation with one or more of a plurality

of different operation procedures, said apparatus also having means (541) for detecting the condition of the apparatus,

said device comprising a plurality of input keys (506, 513, 514, 517, 520, 522, 523), each of which corresponds to a respective one of said operation procedures and which on being operated by the user permits the apparatus to perform an image forming operation with that operation procedure;

a start key (501) for causing the apparatus to start an image forming operation;

display means (515) which normally displays a message representing the detected condition of the apparatus;

a manual guide key (508) which is operable by the user when guidance is required in the selection of the input keys or the removal of a malfunction of the apparatus and which on being operated causes the display means to display a first message in the form of a question, and a manual NO key (510) and a manual YES key (509) which are operable to answer the question negatively or positively respectively, said NO key on being operated to answer the first message causes the display means to display a different first message which is also in the form of a question, said first messages relating either to the selection of the operation procedure of the apparatus or to the removal of a malfunction of the apparatus, and said YES key on being operated to answer a first message causes the display means to display a second message relating to either a subsequent step in the selection of the operation procedure or a subsequent step in the removal of the malfunction of the apparatus."

The only claims of the **auxiliary request** read as follows:

"1. A display device for use in an image forming apparatus which is capable of performing an image

forming operation and is also capable of performing an image forming operation with one or more of a plurality of different operation procedures, said apparatus also having means (541) for detecting the condition of the apparatus,  
said device comprising a plurality of input keys (506, 513, 514, 517, 520, 522, 523), each of which corresponds to a respective one of said operation procedures and which on being operated by the user permits the apparatus to perform an image forming operation with that operation procedure;  
a start key (501) for causing the apparatus to start an image forming operation;  
display means (515) which normally displays a message representing the detected condition of the apparatus;  
a manual guide key (508) which is operable by the user when guidance is required in the selection of the input keys and which on being operated causes the display means to display a first message in the form of a question, and a manual NO key (510) and a manual YES key (509) which are operable to answer the question negatively or positively respectively, said NO key on being operated to answer the first message causes the display means to display a different first message which is also in the form of a question, said first messages relating to the selection of the operation procedure of the apparatus, and said YES key on being operated to answer a first message causes the display means to display a second message relating to a subsequent step in the selection of the operation procedure of the apparatus."

"2. Image forming apparatus including a display device according to Claim 1".

VI. The appellant submitted the following arguments in support of his requests:

The new sets of claims are based on the claims as granted and are more specific with respect to some of the features of the display device and of the apparatus, for instance the feature that each input key for a special operation procedure corresponds to one such procedure. In the patent as granted, the operational procedures of claim 1 can be understood as covering as well operational procedures such as enlarging or reducing the size of the copy as also the removal of a malfunction of the apparatus; this is for instance shown in the patent, and in particular in column 8, where such actions concerning malfunctions are listed. Therefore, taking into account the content of the patent as granted, the protection has not been extended by the amendments resulting in the main request.

As concerns the claims according to the auxiliary request, they only differ from those of the main request in that they no longer mention the features concerning the removal of the malfunctions. Thereby, any doubt arising with regard to the requirements pursuant to Article 123(3) EPC and Article 84 EPC can be avoided. Thus, these claims are formally allowable and, in particular, clear. The apparatus of D2 does not lead to an apparatus having the capability that each input key for a special operation procedure corresponds to one such procedure since the button "OK" in D2 is not optional but necessary for operating the right operation procedure key. The apparatus of D5 does not lead either to an apparatus having such a capability since the button "ASSIST" (158) only causes upon operation thereof displaying of a frame of unspecified information. Therefore, although both documents show isolated features of the display device in dispute, they do not lead in an obvious way, without hindsight, to the device of the auxiliary request.

VII. The respondents argued substantially as follows in support of their requests for revoking the patent:

Since in claim 1 as granted the apparatus was not mentioned as concerning the additional alternative of removal of a malfunction of the apparatus, but only operational procedures thereof, the protection conferred by the claim of the main request is larger than that of claim 1 as granted. For this reason, the main request is to be rejected.

Claim 1 of the auxiliary request is not supported by the description in that sense that the text corresponding to Fig.3 to 7A, which concerns the only accurately described embodiment, does not teach about a device with the capabilities of using the HELP, YES and NO keys for an operation procedure in the way mentioned in the claim, in particular having regard to the steps for removing malfunctions of the apparatus shown in these Figures. Therefore, because of these discrepancies, the claim also lacks clarity.

Both D2 and D5 concern display devices for use in an image forming apparatus and contain a teaching for providing supplementary information by "progressive disclosure" of operation procedures; both documents show devices with manual keys for obtaining information and for executing the specific operation procedures, with keys having the same functions as the HELP, YES and NO keys of the patent in suit; this is in particular the case for the last line shown in the display of D2, wherein there is a selection between two alternative procedures. Therefore, the subject-matter of claim 1 of the auxiliary request lacks an inventive step.

**Reasons for the Decision**

1. The appeal is admissible.

2. *Main request*

2.1 Both the display devices of claim 1 as granted and of the main request are for use in an image forming apparatus which is capable of performing an image forming operation and is also capable of performing an image forming operation with one or more of a plurality of different operation procedures; both devices have a first key, i.e. the HELP key (508), for causing the display means (515) of the device to display a first message in the form of a question, and a YES key (509) and a NO key (510) which are operable to answer the question positively or negatively and which, on being operated, cause respective messages to be displayed on the display means. However, the device of granted claim 1, which comprises a HELP key (508) which is operable by the user when guidance is required in the selection of the operation procedure and which, on being operated, causes the display means to display a first message in the form of a question, is not mentioned as being such that, as the device of claim 1 of the main request, it comprises the additional capability that the HELP key is operable by the user when guidance is required either in the selection of an operation procedure or in the removal of a malfunction of the apparatus. Moreover, the device of granted claim 1 is not mentioned as being such that, as the device of claim 1 of the main request, it comprises the additional capability that by operating any of the YES or NO key, a message concerning either an operation procedure or the removal of a malfunction of the apparatus is displayed.

2.2 In this respect, it is to be noted that, according to claim 1 of the main request, actuation of the HELP key (508) when guidance is needed causes displaying a first message; actuation of the NO key to answer the first message causes displaying a different first message, said first messages relating either to the selection of the operation procedure of the apparatus or to the removal of a malfunction of the apparatus; actuation of the YES key to answer a first message causes the display means to display a second message relating to either a subsequent step in the selection of the operation procedure or a subsequent step in the removal of the malfunction of the apparatus. Thus, for instance, with the device of the main request, after having chosen by actuation of the NO key a message concerning the removal of the malfunction of the apparatus, the user could cause, by actuating then the YES key, displaying of a second message relating to either a subsequent step in the selection of the operation procedure or a subsequent step in the removal of the malfunction of the apparatus. However, there is no indication that the device according to claim 1 of the granted patent, even taking into account the description and drawings, has the capability that, after a different first message relating to the removal of the malfunction of the apparatus is displayed by actuation of the HELP key and then of the NO key, and without again actuating the HELP key, a second message by actuation of the YES key could concern a specific operation of the apparatus such as for instance enlargement or reduction of the size of the copies.

2.3 Indeed, the appellant has pointed out that it is relevant for the interpretation of granted claim 1 that a number of messages are listed in the granted patent (see column 8, lines 5 to 29), such as "SORTER NOT READY", "CLOSE FRONT COVER" or "REMOVING USED TONER",

which are directly derivable as being related to a malfunction of the apparatus and to the removal of said malfunction. It is also to be noted that, according to the granted patent (see column 6, lines 31 to 38), the YES and NO keys (509, 510) can be used to reply to displayed questions or suitable operations can be effected by proceeding in accordance with a displayed operating procedure for instance for removal of jammed paper or service call procedure in exactly the same way as for instance for effecting enlarged or reduced copying, i.e., by actuation of enlargement key (513) or reduction key (514), respectively. However, as convincingly argued by the respondents, it is not derivable from the granted patent that selection of the operation procedure and removal of the malfunction of the apparatus are both to be construed as operation procedures. According to the only detailed examples of the granted patent (see column 5, lines 24 to 41; column 6, line 39 to column 7, line 58; Fig.3 to 6, 7A, 7B), after actuation of the HELP key (508), by answering the question "USING COPIER CONTROL KEYS?" (second step of Fig. 3 and step ST8 of Fig. 7A) by the NO key, the display means is caused to display a different first message "REMOVING PAPER MISFEED?" which directly relates to a malfunction of the apparatus; then, the YES key, on being operated, directs either to an unspecified further displaying procedure (2) in accordance with Fig. 3 or, according to Fig. 7A, to no more action. As already mentioned in the preceding paragraph, there is no indication that the device of the granted patent, after a different first message relating to the removal of the malfunction of the apparatus is displayed by actuation of the HELP key and then the NO key, and without again actuating the HELP key, is capable of displaying a second message by actuation of the YES key concerning a specific operation of the apparatus such as for instance enlargement or reduction of the size of the copies.

2.4 Therefore, the claims of the main request comprise a HELP key which is more versatile than the one defined in claim 1 of the granted patent, so that claim 1 of the main request does not satisfy the requirement of Article 123(3) EPC that the claims of a the European patent may not be amended during opposition proceedings in such a way as to extend the protection conferred, and thus the main request is not allowable (Art. 102(3) EPC).

3. *Auxiliary request*

3.1 Allowability of the amendments

Since there are no specific objections concerning the allowability of the amendments resulting in the claims of the auxiliary request and since in particular these claims concern, as the claims of the granted patent and those of the original patent application, a device wherein on operation of the HELP key and then of the NO and YES key the user can be provided with specific information about different operation procedures and subsequent steps of said procedures, the requirements that the claims of the European patent may not be amended during opposition proceedings in such a way as to extend the protection conferred and that the European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed, respectively, are satisfied (Art. 123(3) and (2) EPC).

3.2 Clarity

The display device of the auxiliary request is for use in an image forming apparatus which is capable of performing an image forming operation and is also capable of performing an image forming operation with

one or more of a plurality of different operation procedures; thereby, it is specified that the image forming operation with a specific operation procedure differs from the image forming operation, operated by using only the start key (501); said device comprises a plurality of input keys (506, 513, 514, 517, 520, 522, 523), each of which corresponds to a respective one of said operation procedures and which on being operated by the user permits the apparatus to perform an image forming operation with that operation procedure; the manual guide key (508) is operable by the user when guidance is required in the selection of the input keys and, on being operated, it causes the display means to display a first message in the form of a question; the NO key on being operated to answer the first message causes the display means to display a different first message which is also in the form of a question, said first messages relating to the selection of the operation procedure of the apparatus, and said YES key on being operated to answer a first message causes the display means to display a second message relating to a subsequent step in the selection of the operation procedure of the apparatus.

It is to be noted that, for avoiding contradictory information, the description and the drawings (see in particular column 5, lines 32 to 41; column 6, lines 31 to 38; column 7, lines 9 to 18; column 8, lines 1 to 29; Fig. 3 and Fig. 7A) are to be adapted by eliminating any teaching that, upon operation of the HELP key and then directly of the NO key, a different first message not related to the selection of the operation procedure of the apparatus could be displayed. Concerning the claims of the auxiliary request, since the operation procedures are defined in relation to the actuation of a plurality of input keys each corresponding to a respective one of said operation procedures, and since by answering YES or

NO only operation procedures are concerned, they correctly define the device.

### 3.3 Novelty

3.3.1 A display device for use in an image forming apparatus is known from D2 (see page 1, lines 67 to 127; page 2, line 11 to page 8, line 27; Fig. 1, 2 and 3A to 3F); the apparatus is capable of performing an image forming operation and is also capable of performing an image forming operation with one or more of a plurality of different operation procedures; the apparatus also has means, for instance the machine interface (90) of the control circuit (19), for detecting the condition of the apparatus;

said device comprises input keys ("1", "2", "3" grouped with keyboard 79); said input keys correspond to specific operation procedures in that sense that it is by actuation of said keys that specific operation of the apparatus with a desired operation procedure can be set by a user;

the device also comprises a start key (18) for causing the apparatus to start an image forming operation and display means (13, 15) which normally display a message representing the detected condition of the apparatus;

said device further comprises a manual guide key ("OK"), which is operable by the user for selection of the keys ("1", "2", "3") and thus of the corresponding specific operation procedures and which, on being operated causes the display means to display a first message which can be understood as being in the form of a question: ("DARKER COPY", "NO");

the device is such that the user can answer to said question by operating the key "3", thereby causing the display means (15) to display a different first message which is also in the form of a question, i.e. "ALTERNATE PAPER TRAY 1", "ALTERNATE PAPER TRAY 2", "NO", said

first messages relating to the selection of the operation procedure of the apparatus; indeed, there is a key ("2") which on being operated to answer a first message, namely the second first message ("ALTERNATE PAPER TRAY 1", "ALTERNATE PAPER TRAY 2", "NO"), causes the display means (15) to display a second message relating to a subsequent step ("ALTERNATE PAPER 2") in the selection of the operation procedure of the apparatus.

3.3.2 However, the appellant's argument that, contrary to the subject-matter in dispute, in the device of D2 the key ("OK") is not optionally operable by a user to obtain guidance in the selection of the input keys, is convincing for the following reasons: there is no teaching in D2 that, without pressing beforehand the "OK" key, operation of the keys "1", "2" or "3", which are primarily the keys for selecting the number of copies, also permit to operate according to, for instance, the procedure corresponding to "DARKER COPY"; there is otherwise no derivable teaching about a specific input key for an operation procedure such as "DARKER COPY"; in particular, the elements such as (35) or (43), which, in Fig. 2, are shown above the indications "DARKER COPY" and "NO" of the display device (15) are only display elements for information and no keys for operation. It is also to be noted that, in the device of D2 (see steps 187 to 193 in Fig. 3C), the other key, i.e. key (1), does not cause on being operated display on the display means of a second message relating to a subsequent step in the selection of the input key for bringing about the first operation procedure.

3.3.3 An image forming apparatus is known from D5 (see page 1, first paragraph to page 2, last paragraph; page 4, eight first lines and twenty-fifth to twenty-sixth lines;

page 9, penultimate paragraph to page 11, second paragraph; page 12, second and third paragraphs; Fig. 14 to 17 and 33); this apparatus is capable of performing its image forming operation with a plurality of different operation procedures, e.g. "VARIABLE DENSITY", and it has means for detecting the condition of the apparatus; said device comprises:

input keys, for instance the key (160) corresponding to said operation procedure ("VARIABLE DENSITY"), by which operation of the apparatus with said desired operation procedure ("VARIABLE DENSITY") can be set by a user; a display means (the frame) which normally displays a message representing the detected condition of the apparatus, and which displays messages providing guidance to the user when said guide keys are operated; said guide keys comprise:

a first key (the button "ASSIST" (158)) which, on being operated, causes the display means (the frame) to display information; further keys, for instance the key (160), which are operable; the further key ("VARIABLE DENSITY" (160)) of Fig. 15, on being operated, causes display on the display means of a further message, for instance "SELECT DENSITY TO CORRESPOND TO YOUR ORIGINALS") relating to a following step in the selection of the input key for bringing about the first operation procedure ("VARIABLE DENSITY") (see Fig. 17). Therefore, there is known from D5 (see in particular page 2, second paragraph), which belongs to the same technical field, a teaching for providing supplementary information by "progressive disclosure" of the same operation procedure.

3.3.4 However, as convincingly pointed out by the appellant, D5 (see page 9, last paragraph to page 11, first paragraph, especially page 10, second paragraph, first to fifth lines) states in relation to Fig. 15 showing the basic user frame comprising all the keys and in

particular the keys ("VARIABLE DENSITY" (160)), ("IMAGE REDUCTION (159)), and ("ASSIST" (158)): "Should the user become uncertain of his next step, he can touch the ASSIST button 158 and a frame of instructions will appear to assist him in using this system. A more interesting effect occurs with the IMAGE REDUCTION 159 and VARIABLE DENSITY 160 buttons, since these bring up operational frames such as those shown in Figures 16 and 17." Other information concerning the content of said frame of instructions is not derivable from D5 so that said button "ASSIST" (158) is not a "HELP" key in the sense of the patent in suit, which causes the display of a first message which can be answered by "YES" or "NO".

3.3.5 Therefore, since the further prior art documents are less relevant, the subject-matter of Claim 1 of the auxiliary request is novel in the sense of Article 54 EPC.

3.4 Inventive step

3.4.1 The display device of the auxiliary request is, in accordance with the patent in suit (see column 1, lines 3 to 23), for solving problems of, for instance, wasted copying because of mistaken operational procedure which result from the variety of functions available in the apparatus, whereby the user, until he becomes familiar therewith, needs to refer to manuals each time a problem or a particular procedure operation occurs. With the device in suit, the permanent user does not need the key "HELP", which is optional, but the occasional user will receive, by using this key, information in form of questions which he can answer by "YES" or "NO", thereby arriving at the right input key for the operational procedure he has selected. The apparatus of D2 does not lead to an apparatus having such a capability since the button "OK" is not optional

but necessary for operating the right keys for a selected operation procedure; moreover, this known device does not comprise specific keys for specific operation procedures, but keys such as the key "1" of the keyboard for selecting the number of copies which can also correspond to a plurality of operations such as "DARKER COPY" or "ALTERNATE PAPER TRAY 1" which are listed in the display (15). The disclosure of D5 does not lead either to an apparatus having such a capability since the button "ASSIST" (158) indeed causes upon operation displaying of a frame of information, which is not further specified. Therefore, although both documents, as well as other prior art documents, show features of the display device in dispute, the arguments of the respondents concerning its obviousness having regard to D2 and D5, alone or in combination, are not convincing because, as argued by the appellant, this would be the result of an "ex-post facto" reasoning. Therefore, the subject-matter of claim 1 of the auxiliary request involves an inventive step in the sense of Article 56 EPC and, thus, it is allowable (Art. 52(1) EPC). Since the image forming apparatus of claim 2 includes a display device according to claim 1, it is allowable, so that the patent can be maintained in this amended form, with the description and drawings adapted thereto (Art. 102(3) EPC).

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent in amended form on the basis of Claims 1 and 2 submitted at the oral proceedings of 6 December 1995 as auxiliary ("Alternative Main") request, and the description and drawings to be adapted.

The Registrar:



P. Martorana

The Chairman:



E. Turrini