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**D E C I S I O N**  
**of 8 October 2001**

**Case Number:** T 0786/98 - 3.4.2  
**Application Number:** 95304413.8  
**Publication Number:** 0692783  
**IPC:** G03B 27/02, G11B 7/00, G11B 7/28,  
G11B 5/86

**Language of the proceedings:** EN

**Title of invention:**  
Optical tape duplicator

**Applicant:**  
DISCOVISION ASSOCIATES

**Opponent:**

-

**Headword:**

-

**Relevant legal provisions:**  
EPC Art. 84

**Keyword:**  
"Main, first, second and third auxiliary request - clarity  
(no)"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 0786/98 - 3.4.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.4.2**  
**of 8 October 2001**

**Appellant:** DISCOVISION ASSOCIATES  
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Irvine, CA 92714 (US)

**Representative:** Bazzichelli, Alfredo  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 10 March 1998  
refusing European patent application  
No. 95 304 413.8 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** E. Turrini  
**Members:** M. A. Rayner  
V. Di Cerbo

## Summary of Facts and Submissions

- I. The present appeal is against the decision of the examining division refusing European patent application number 95 304 413.8 (publication number EP-A-692 783), which concerns an optical tape duplicator.
  
- II. The appellant requested setting aside of the decision and grant of a patent based on claims according to a main or one of three auxiliary requests filed with the statement setting out the grounds of appeal. Oral proceedings were requested by the appellant should rejection of the main request be envisaged by the board.
  
- III. Oral proceedings were appointed, consequent to the auxiliary request of the appellant. In a communication annexed to the summons to oral proceedings, the board expressed doubts about whether the wording of the claims was sufficiently clear in relation to the duplicate tape, these doubts being reinforced by reference to column 5, line 7 of the "A" publication relating to magneto-optical tape as a possibility for the duplicate. The board also expressed doubts about the clarity of the word "continuous" as recited in the first auxiliary request, since it seemed from column 5, lines 45 to 49 of the description that light intensity may have some relation to speed. So far as the light source recited in the second auxiliary request was concerned, the board observed that the description casted doubt on the clarity of the claims because lines 18 to 28 of column 7 explained that the magnification and collimation lenses are not necessary.

- IV. The appellant did not respond to the communication accompanying the summons nor even advise the board in advance that no attendance was to be made at the oral proceedings, which then took place in the absence of the appellant pursuant to Rule 71(2) EPC.
- V. The wording of the independent claims of the application is as follows:-

*Main request*

1. An optical tape duplicator, comprising:  
means (27) for emitting a beam (4) of radiant energy into a recording zone (5);  
an information bearing template-like master tape (2) only having first portions (32) being transmissive to said beam of radiant energy and second portions (31) being non-transmissive to said beam of radiant energy;  
an optical tape (3) that is sensitive to said beam of radiant energy;  
means (11,14,19) for holding said template-like master tape (2) in intimate contact with said optical tape (3) in said recording zone (5) such that said beam (4) of radiant energy passes through said transmissive first portions (32) of said template-like master tape (2) causing said optical tape (3) to be recorded by creating respective indicia (35) in said optical tape (3) where said optical tape (3) was exposed to said beam (4) of radiant energy.
7. A method for duplicating optical tape, said method comprising the steps of:  
emitting a beam (4) of radiant energy into a recording zone (5);  
holding an information bearing template-like

master tape (2) in intimate contact with an optical tape (3) having a recording surface (33) sensitive to said beam of radiant energy, said template-like master tape only having first portions (32) being transmissive to said beam (4) of radiant energy and second portions (31) being non-transmissive to said beam (4) of radiant energy;

moving said template-like master tape (2) and said optical tape (3) held in intimate contact with each other through said recording zone (5); and

exposing said template-like master tape (2) and said optical tape (3) to said beam (4) of radiant energy while moving through said recording zone (5) so that said a beam (4) of radiant energy passes through said transmissive first portions (32) of said template-like master tape causing said optical tape (3) to be recorded by creating respective indicia (35) in said optical tape (3) where said optical tape (3) was exposed to said beam (4) of radiant energy.

*First auxiliary request*

1. An optical tape duplicator, comprising:
  - means (27) for emitting radiant energy into a recording zone (5);
  - an information bearing master tape (2);
  - an optical tape (3) that is sensitive to said beam of radiant energy;
  - the optical tape duplicator having means (11,14,19) for holding said master tape (2) in intimate contact with said optical tape (3) in said recording zone (5)characterised in that:
  - said radiant energy is emitted in the form of a continuous beam (4), said master tape (2) is a

template-like master tape (2) only having first portions (32) being transmissive to said beam (4) and second portions (31) being non-transmissive to said beam (4), wherein said beam (4) passes through said transmissive first portions (32) of said template-like master tape (2) creating respective indicia (35) where said optical tape (3) was exposed to said beam (4).

7. A method for duplicating optical tape, said method including the steps of emitting radiant energy into a recording zone (5); holding an information bearing master tape (2) in intimate contact with an optical tape (3) having a recording surface (33) sensitive to said radiant energy; and moving said master tape (2) and said optical tape (3) held in intimate contact with each other through said recording zone (5);

characterised in that:

the radiant energy is emitted in form of a continuous beam (4), said master tape (2) is a template like master tape (2) only having first portions (32) being transmissive to said beam (4) and second portions (31) being non-transmissive to said beam (4), and further characterized by the step of:

exposing said master tape (2) and said optical tape (3) to said beam (4) while moving through said recording zone (5) so that said beam (4) passes through said transmissive first portions (32) of said master tape (2) causing said optical tape (3) to be recorded by creating respective indicia (35) in said optical tape (3) where said optical tape (3) was exposed to said beam (4).

*Second auxiliary request*

1. An optical tape duplicator, comprising means (27)

for emitting radiant energy into a recording zone (5);  
an information bearing master tape (2); an optical tape  
(3) that is sensitive to said beam of radiant energy;  
and means (11,14,19) for holding said master tape (2)  
in intimate contact with said optical tape (3) in said  
recording zone (5);

characterised by including:

means (28, 29, 30) for collimating said beam (4)  
so that said radiant energy is emitted in the form of a  
beam (4), wherein said master tape (2) is a template-  
like master tape (2) only having first portions (32)  
being transmissive to said beam (4) and second portions  
(31) being non-transmissive to said beam (4) so that  
said beam (4) passes through said transmissive first  
portions (32) of said template-like master tape (2) to  
create respective indicia (35) where said optical tape  
(3) was exposed to said beam (4).

7. A method for duplicating optical tape, comprising  
the steps of:

emitting radiant energy into a recording zone (5);  
holding an information bearing master tape (2) in  
intimate contact with an optical tape (3) having a  
recording surface (33) sensitive to said radiant  
energy;

and

moving said master tape (2) and said optical tape (3)  
held in intimate contact with each other through said  
recording zone (5), characterised in that:

the radiant energy is emitted in the form of a beam  
(4);

said master tape (2) is a template like master tape (2)  
only having first portions (32) being transmissive to  
said beam (4) and second portions (31) being non-  
transmissive to said beam (4), further characterized by

the steps of:

collimating said beam (4); and  
exposing said master tape (2) and said optical tape (3) to said collimated beam (4) while moving through said recording zone (5) such that said beam (4) passes through said transmissive first portions (32) of said master tape (2) causing said optical tape (3) to be recorded by creating respective indicia (35) in said optical tape (3) where said optical tape (3) was exposed to said collimated beam (4).

*Third auxiliary request*

1. An optical tape duplicator, including means (27) for emitting radiant energy into a recording zone (5); an information bearing master tape (2); an optical tape (3) that is sensitive to said beam of radiant energy; and means (11,14,19) for holding said master tape (2) in intimate contact with said optical tape (3) in said recording zone (5),  
characterised by including:

means for collimating said beam (4) so that said radiant energy is emitted in the form of a continuous beam (4) wherein said master tape (2) is a template-like master tape (2) only having first portions (32) being transmissive to said beam (4) and second portions (31) being non-transmissive to said beam (4) so that said beam (4) passes through said transmissive first portions (32) of said template-like master tape (2) to create respective indicia (35) where said optical tape (3) was exposed to said beam (4).

7. A method for duplicating optical tape, comprising the steps of:  
emitting radiant energy into a recording zone (5);



holding an information bearing master tape (2) in intimate contact with an optical tape (3) having a recording surface (33) sensitive to said radiant energy;

and

moving said master tape (2) and said optical tape (3) held in intimate contact with each other through said recording zone (5); characterised in that:

the radiant energy is emitted in the form of a continuous beam (4);

said master tape (2) is a template like-master tape (2) only having first portions (32) being transmissive to said beam (4) and second portions (31) being non-transmissive to said beam (4), said method being further characterized by the steps of:

collimating said beam (4); and

exposing said master tape (2) and said optical tape (3) to said collimated beam (4) while moving through said recording zone (5) such that said collimated beam (4) passes through said transmissive first portions (32) of said master tape (2) causing said optical tape (3) to be recorded by creating respective indicia (35) in said optical tape (3) where said optical tape (3) was exposed to said collimated beam (4).

VI. At the end of the oral proceedings the board gave its decision.

### **Reasons for the Decision**

1. The appeal complies with the provisions mentioned in Rule 65(1) EPC and is therefore admissible.
2. *Main request - Clarity (Article 84 EPC)*

2.1 The independent claims make reference to creating respective indicia in an "optical" tape 3. The board understands that in an optical recording process, bits of binary data are recorded in an optical recording layer as a track of optically detectable pits or spots effected by scanning the recording layer with a focused beam of radiation (e.g. that produced by a laser) while intensity-modulating the beam with the binary information. Recovery of the recorded information is achieved by scanning the recording layer for transmission or reflection variations caused by the irradiated pits or spots.

2.2 On the other hand, the description explains that the recording method can *alternatively* be magneto-optical (see column 5, line 7) with addition of suitable magnets or electromagnets to the duplicator. However, the board understands that in a magneto-optical recording process, a series of data bits are recorded in a magnetic recording layer as a track of oriented magnetic domains. During recording, the orientation of these domains is changed by scanning the magnetic layer with an intensity-modulated laser beam while subjecting the layer to a magnetic field in a direction perpendicular to the magnetic layer. The beam intensity, at high power, is sufficient to heat the recording layer to a temperature above its Curie point.

2.3 Since optical and alternatively magneto-optical tape are usable according to the description whereas the claim requires an optical tape, an inconsistency exists between the independent claims and the description, leading to a lack of clarity of the former.

2.4 While the board appreciates that the inconsistent

passage could easily have been deleted from the description, the conduct of the appellant, simply and without prior notification not turning up to oral proceedings, was not conducive to resolving this issue in its favour. The board therefore reached the conclusion that independent claims 1 and 7 do not to satisfy Article 84 EPC.

*First auxiliary request - Clarity (Article 84 EPC)*

- 3.1 Apart from being cast in the two part form specified in Rule 29(1), claims 1 and 7 according to the first auxiliary request differ from those of the main request by virtue of the recitation of the word "continuous" applied to the beam of radiant energy. This amendment does not cure the lack of clarity existing in the claims according to the main request nor is the word itself present in the documents as filed. A review of the description reveals in fact that means are provided for moving the tapes in intimate contact through the recording zone at a "maximum" (column 5, lines 46 to 49 of the "A"-publication) or "recording" (column 7, lines 49 to 50 of the "A"-publication) speed directly proportional to the intensity of the beam of radiant energy. Since the "maximum" and "recording" speeds are different, the beam intensities concerned must also be different. This difference implies a light beam which varies and is thus not continuous, which is accordingly inconsistent with the claims, which are thus indeterminate in this respect, leading to a lack of clarity of the subject matter claimed additional to that relating to the "optical" tape. Accordingly, the subject matter of claims 1 and 7 of the first auxiliary request do not satisfy the requirements of Article 84 EPC.

*Second auxiliary request - Clarity (Article 84 EPC)*

- 4.1 Apart from being cast in the two part form specified in Rule 29(1), claim 1 and 7 according to the second auxiliary request differ from those of the main request by virtue of the features relating to "collimating" the beam of radiant energy. This amendment does not cure the lack of clarity existing in the claims according to the main request. A review of the description reveals there are numerous references in the description to embodiments with a collimation lens 29 (see column 4, line 31; column 5, line 35 or column 7, line 16). However, column 7, lines 24 to 28 recite that "Depending on the dimensions of either laser diode array used, magnification lens 28 and *collimation lens* 29 may or may not be required to achieve a beam sufficient to cover the recording width of the optical tape." Therefore, depending on the laser diode dimensions, the description envisages embodiments in which no collimation is involved. There is again therefore an inconsistency between the description and claims, which leads to a lack of clarity of the latter additional to that relating to the "optical" tape. Accordingly, the subject matter of claims 1 and 7 of the second auxiliary request do not satisfy the requirements of Article 84 EPC.

*Third auxiliary request - Clarity (Article 84 EPC)*

- 5.1 Since this request contains all three of the terms ("optical tape", "continuous" and "collimating"), the subject matter of claims 1 and 7 of the third auxiliary request do not satisfy the requirements of Article 84 EPC for reasons corresponding to those given with respect to the preceding requests.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

P. Martorana

E. Turrini