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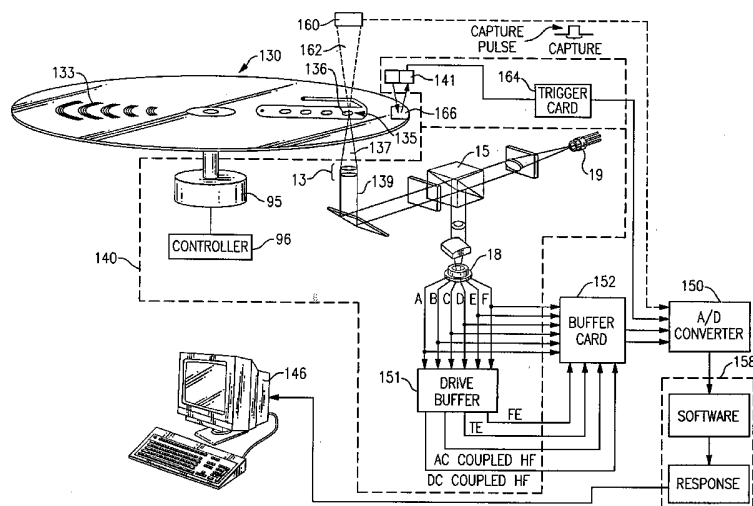
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published: with international search report

(88) Date of publication of the international search report: 8 April 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS AND APPARATUS FOR LOGICAL TRIGGERING OF AN OPTICAL BIO-DISC



(57) Abstract: Logical triggering methods and apparatus for use with optical bio-discs. Some embodiments place physical triggers on the surface of the disc. Other embodiments logically encode triggers in user data area of optical bio discs. Still other embodiments take advantage of common optical disc operational components such as pits, lands, and other information encoding indicia for the purpose of encoding triggers. Primary decoding components are used to decode logical triggers. Alternatively, an added secondary decoding component or a data processor may also be used for the purpose of processing triggers. Logical triggers may be encoded in a pit/land pattern, encoded in the time code control information of wobble signal of a CD-R/RW disc, encoded in the header address information of a DVD-RAM based disc, or may be superimposed on the operational logic of the drive. Other triggering patterns are invoked by chemical reaction caused by chemistry placed on the discs.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/02691

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G11B27/19 G11B27/24 G11B27/26 G01N35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED
Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G11B G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 672 600 A (BALSTON NEIL K ET AL) 9 June 1987 (1987-06-09) column 3, line 3 -column 4, line 35 column 5, line 49 -column 6, line 8; figure 2 column 6, line 62 -column 7, line 37; figure 4	1-5,140, 148-151
Y	--- US 6 143 248 A (KIEFFER-HIGGINS STEPHEN G ET AL) 7 November 2000 (2000-11-07) column 1, line 14-33 column 31, line 57 -column 32, line 41	1-5,140, 148-151
A	--- US 5 922 617 A (WANG MARK S ET AL) 13 July 1999 (1999-07-13) column 1, line 65 -column 2, line 59 column 8, line 11 -column 18, line 5 --- -/--	1-5,140, 148-151

Further documents are listed in the continuation of box C. Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier document but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 31 July 2003	Date of mailing of the international search report 15.12.03
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Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Stemmer, M
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/02691

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 00 26677 A (BURSTEIN LAB INC) 11 May 2000 (2000-05-11) page 6, line 7 -page 12, line 30 ---	1-5,140, 148-151
P,A	US 2002/122364 A1 (MCLNTYRE KEVIN ROBERT ET AL) 5 September 2002 (2002-09-05) the whole document ---	1-5,140, 148-151
P,A	WO 02 39446 A (BURSTEIN TECHNOLOGIES INC) 16 May 2002 (2002-05-16) the whole document -----	1-5,140, 148-151

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/02691

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-5, 140, 148-151

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-5,140,148-151
physical trigger
2. Claims: 6-8, 152-154
user data encoded trigger
3. Claims: 9-67, 155-211
logical trigger
4. Claims: 68-75, 220-226
user file size trigger
5. Claims: 76-88,141-147, 212-219
triggered actions
6. Claims: 89-90, 227-228
multilayer optical bio-disc
7. Claims: 91, 243
91, 243
8. Claims: 92-100,229-237
impressing a feature on a second layer
9. Claims: 101-104,238-241
address system
10. Claims: 105,242
encoding security features
11. Claims: 106-118

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

reading an addressable optical bio disc

12. Claims: 119-124

conducting a medical assay

13. Claims: 125-139

trigger encoded in operational components

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/02691

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