

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 June 2001 (14.06.2001)

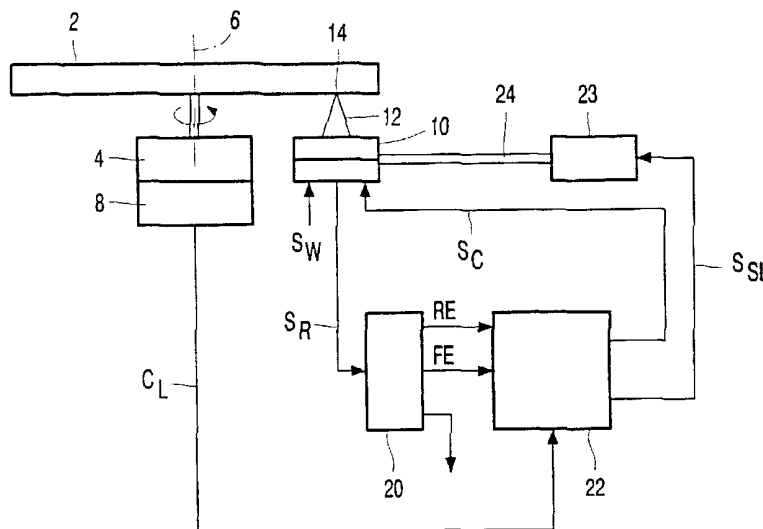
PCT

(10) International Publication Number
WO 01/43125 A3

- (51) International Patent Classification⁷: G11B 7/09, 21/10 (74) Agent: DE JONG, Durk, J.; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (21) International Application Number: PCT/EP00/11800 (81) Designated States (*national*): CN, JP, KR.
- (22) International Filing Date: 24 November 2000 (24.11.2000) (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).
- (25) Filing Language: English (88) Date of publication of the international search report: 29 November 2001
- (26) Publication Language: English Published: — with international search report
- (30) Priority Data: 99204183.0 10 December 1999 (10.12.1999) EP (71) Applicant: KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors: DEKKER, Anthonius, L., J.: Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). AKKERMANS, Antonius, H., M.: Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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: DEVICE FOR SCANNING A ROTATING INFORMATION CARRIER



(57) Abstract: A device according to the invention for scanning a rotating information carrier (2) comprises a transducer (10) and control means (20, 22) for controlling a scanning parameter of the transducer (10), such as the radial position and the setting of a focus. The control means comprise difference signal generating means (20) for generating a difference signal (RE) which is indicative of a difference between a current value and a desired value of the scanning parameter, and correction signal generating means (22) for generating a correction signal (SC) in response to the difference signal. The correction signal generating means (22) comprise a delay loop having first in first out memory means for generating a delayed signal and feedback filter means for filtering the delayed signal. The device comprises rotation speed detecting means (8) for generating a clock signal (CL) having a frequency which is indicative of the rotation speed of the information carrier (2), the delay in the memory means being proportional to a period of the clock signal.



WO 01/43125 A3

INTERNATIONAL SEARCH REPORT

International Application No
P./EP 00/11800

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G11B7/09 G11B21/10				
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				
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) PAJ, EPO-Internal, WPI Data, IBM-TDB				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	PATENT ABSTRACTS OF JAPAN vol. 003, no. 089 (E-126), 28 July 1979 (1979-07-28) & JP 54 067406 A (NEC CORP), 30 May 1979 (1979-05-30)	1,2		
Y	abstract	3		
A	page 1, line 10 - line 16 ---	5,6,8		
X	PATENT ABSTRACTS OF JAPAN vol. 005, no. 126 (P-075), 14 August 1981 (1981-08-14) & JP 56 065211 A (NEC CORP), 2 June 1981 (1981-06-02)	1,2		
Y	abstract ---	3		
-/--				
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input type="checkbox"/> Patent family members are listed in annex.				
° Special categories of cited documents :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; border: none; vertical-align: top;"> "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 "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 "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. "&" document member of the same patent family </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"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 "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 "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. "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "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) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"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 "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 "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. "&" document member of the same patent family			
Date of the actual completion of the international search		Date of mailing of the international search report		
3 May 2001		22.05.01		
Name and mailing address of the ISA		Authorized officer		
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		Poth, H		

INTERNATIONAL SEARCH REPORT

International Application No

P /EP 00/11800

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 010, no. 190 (P-474), 4 July 1986 (1986-07-04) & JP 61 034736 A (MATSUSHITA ELECTRIC IND CO LTD), 19 February 1986 (1986-02-19) abstract	3
A	page 1, line 5	7,9

A	PATENT ABSTRACTS OF JAPAN vol. 013, no. 266 (P-887), 20 June 1989 (1989-06-20) & JP 01 059639 A (MATSUSHITA ELECTRIC IND CO LTD), 7 March 1989 (1989-03-07) abstract	4

A	PATENT ABSTRACTS OF JAPAN vol. 005, no. 034 (E-048), 4 March 1981 (1981-03-04) & JP 55 159644 A (NIPPON HAMONDO KK), 11 December 1980 (1980-12-11) abstract	4

A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 089 (P-1320), 4 March 1992 (1992-03-04) & JP 03 272065 A (SONY CORP), 3 December 1991 (1991-12-03) abstract	8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 00/11800

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.:

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: 1-4

"Mapping parameter control"

2. Claims: 5,6

"Rotation speed dependent frequency signal"

3. Claims: 7,9

"Frequency dependent correction"

4. Claim : 8

"Differentiated difference signal"

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

F /EP 00/11800

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 54067406 A	30-05-1979	JP 1331847 C JP 60057085 B	14-08-1986 13-12-1985
JP 56065211 A	02-06-1981	NONE	
JP 61034736 A	19-02-1986	JP 1840793 C JP 5048537 B	25-04-1994 21-07-1993
JP 01059639 A	07-03-1989	NONE	
JP 55159644 A	11-12-1980	NONE	
JP 03272065 A	03-12-1991	NONE	