

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TODD B. ANDERSON
and
MARK D. HAGEN

Appeal No. 1999-0216
Application No. 08/526,197

ON BRIEF

Before THOMAS, RUGGIERO, and BLANKENSHIP, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-10, which are all of the claims pending in the present application.

The claimed invention relates to a phase modulated servo method and apparatus for use in a disk file which includes at least one disk having at least one disk surface for storing data. At a predefined location of the disk surface, a series

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of servo tracks of a predetermined high gain servo pattern are written. According to page 5, lines 21-32 of Appellants' specification, the use of the high gain servo pattern, as compared to a conventional phase modulated servo pattern, produces a modified waveform with a minimized baseline and reduced error due to head instability.

Claim 1 is illustrative of the invention and reads as follows:

1. Apparatus for demodulating a phase modulated servo signal in a disk file, said servo signal having a baseline, said apparatus comprising:

at least one disk mounted for rotation about an axis and having at least one disk surface for storing data;

means for writing at a predefined location of said disk surface a series of servo tracks of a predetermined high gain servo pattern, said high gain servo pattern producing a readback signal where the baseline is minimized; said predetermined high gain servo pattern including 360° phase difference information within each servo track; said predetermined high gain servo pattern providing said readback signal having a predetermined high phase change for a predetermined radial displacement and said readback signal being at the baseline a predetermined small percent of time, whereby said readback signal does not flatten out at the baseline;

means for detecting said servo tracks for identifying servo phase information; and

means for demodulating a phase modulated servo signal.

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The Examiner relies on the following prior art:

Axmear et al. (Axmear)	4,549,232	Oct. 22, 1985
Volz et al. (Volz)	5,185,681	Feb. 09, 1993
Fujiwara (Published Japanese Kokai Patent Application) ¹	JP 1-220101	Sep. 01, 1989

R. L. Comstock and T. A. Schwarz (Schwarz), "Triple-Layer Magnetic Recording Track Following Servo Concept With Alternating Single-Frequency Servo Tracks," 16 IBM Technical Disclosure Bulletin, No. 6, pp. 1821-23 (November 1973).²

Claims 1 and 4-7 stand finally rejected under 35 U.S.C. § 102(b) as being anticipated by Axmear. Claims 2, 3, and 8-10 stand finally rejected under 35 U.S.C. § 103. As evidence of obviousness, the Examiner offers Axmear in view of Fujiwara and Volz with respect to claims 2, 8, and 9, Axmear in view of Schwarz with respect to claim 3, and Axmear alone with respect to claim 10.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief (Paper No. 18)³ and

¹ A copy of a translation provided April 2001 by the U.S. Patent & Trademark Office is enclosed with this decision.

² Since the Examiner has referred to this reference by using the second listed author's name, Schwarz, we will do so also for consistency.

³ A Reply Brief filed by Appellants on August 1, 1997, deemed by the Examiner (communication dated August 13, 1997, Paper No. 21) as not being

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Answer (Paper No. 19) for the respective details.

addressed solely to new points of argument in the Answer, was not entered and, accordingly, will not be considered in this appeal.

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OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the Examiner, and the evidence of anticipation and obviousness relied upon by the Examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Brief along with the Examiner's rationale in support of the rejections and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the Axmear reference does not fully meet the invention as set forth in claims 1 and 4-7. We are further of the view that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in the appealed claims 2, 3, and 8-10. Accordingly, we reverse.

We consider first the Examiner's 35 U.S.C. § 102(b) rejection of claims 1 and 4-7 as being anticipated by Axmear. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of

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inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.), cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

With respect to independent claims 1 and 7, the Examiner attempts to read the various limitations on the disclosure of Axmear. In particular, in addressing the minimized baseline feature of independent claims 1 and 7, the Examiner (Answer, page 4) points to the description at column 2, lines 3-16 of Axmear.

After reviewing the disclosure of Axmear in light of the arguments of record, we are in agreement with Appellants' position as stated in the Answer. We find no basis on the record for the Examiner's interpretation of Axmear as expressed in the Answer. The Examiner asserts that Axmear discloses the claimed minimized baseline feature by referring to Axmear's suggestion that servo signals are kept from "riding on a base line . . ." (Axmear, column 2, line 8). In

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actuality, however, Axmear, in discussing the importance of not including coherent low frequency patterns in the written servo patterns, states "[i]f this is not done, then the analog servo signals end up riding on a base line which is not flat" (column 2, lines 7-9). In our view, the reading of this statement in its entirety can only lead to the conclusion that Axmear is suggesting only that a baseline characteristic (i.e., flatness) is being addressed, not that the baseline is minimized as set forth in the appealed claims.

It is further our opinion that even assuming, arguendo, that to the extent that Axmear's flattening of the baseline can be considered to be a minimization, the Examiner has not shown how this would necessarily result in a readback signal with the characteristics as claimed. For example, independent claims 1 and 7 require that the readback signal be "at the baseline a predetermined small percent of time . . ." and that the readback signal "does not flatten out at the baseline." Any conclusion that either or both of these signal characteristics would occur as a result of the baseline flattening in Axmear, absent a clear showing by the Examiner, could only be based on unwarranted speculation about what is

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actually described by Axmear.

In view of the above discussion, since all of the claim limitations are not present in the disclosure of Axmear, the Examiner's 35 U.S.C. § 102(b) rejection of independent claims 1 and 7, as well as claims 4-6 dependent thereon, is not sustained.

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Turning to the Examiner's 35 U.S.C. § 103 rejection of independent claim 10 based on Axmear alone, we do not sustain this rejection as well. In addressing the limitations of claim 10, the Examiner asserts the well known aspects of including a disk device in a housing for protective purposes. Independent claim 10, however, includes identical limitations as they appear in claims 1 and 7 directed to baseline minimization, a feature which we found lacking in Axmear as discussed supra.

With respect to the Fujiwara, Volz, and Schwarz references, applied by the Examiner to address the 1/4 data cylinder spacing, outer guard band recording, and magneto-resistive head features of dependent claims 2, 3, 8, and 9, we find nothing in any of these references which would overcome the innate deficiencies previously discussed with regard to Axmear. Accordingly, the Examiner's obviousness rejection of dependent claims 2, 3, 8, and 9 is not sustained.

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In summary, we have not sustained any of the Examiner's rejections of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 1-10 is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
)	
)	
)	
HOWARD B. BLANKENSHIP)	
Administrative Patent Judge)	

JFR:hh

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