

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHANNES J. VERBOOM

Appeal No. 2006-1970
Application No. 10/014,392¹

ON BRIEF

Before BARRY, BLANKENSHIP, and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-31, which are all of the claims pending in this application.

We affirm.

BACKGROUND

Appellant's invention relates to data storage systems wherein data may accurately be stored and/or retrieved by incorporating periodic multi-purpose reference bytes integrated

¹ Application for patent filed October 22, 2001.

with the data itself. According to Appellant, by including these periodic reference bytes, in addition to synchronization and timing bytes that are typically included at the beginning of a data sector, the system can continually update and/or adjust its phase control and gain control as needed (specification, page 3). An understanding of the invention can be derived from a reading of exemplary independent claim 1, which is reproduced as follows:

1. A method of storing data on a storage medium having data storage areas and retrieving the stored data which includes the ability to predict readout errors when the stored data is retrieved, comprising:

interleaving the data with a plurality of reference fields, each reference field including a defined data pattern;

storing the interleaved data within the data storage areas such that the reference fields are at predetermined locations;

upon demand, retrieving the interleaved data;

analyzing the retrieved interleaved data by testing the retrieved reference field to determine if the retrieved reference field meets a predetermined shape condition and a predetermined amplitude condition; and

determining whether readout errors have been encountered based upon the results of the interleaved data analysis.

The Examiner relies on the following prior art references:

Verboom et al. (Verboom)	5,574,706	Nov. 12, 1996
Kuroda et al. (Kuroda)	5,875,163	Feb. 23, 1999

Appeal No. 2006-1970
Application No. 10/014,392

Claims 1, 3, 10, 13, 14, 16, 17, 19, 20, 22, 23, 26 and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kuroda.

Claims 2, 9, 11, 12, 15 and 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuroda.

Claims 4-8, 18, 21, 24 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kuroda in combination with Verboom.

Rather than reiterate the opposing arguments, reference is made to the brief (filed August 17, 2005), the reply brief (filed December 22, 2005) and the answer (mailed October 18, 2005) for the respective positions of Appellant and the Examiner. Only those arguments actually made by Appellant have been considered in this decision. Arguments which Appellant could have made but chose not to make in the briefs have not been considered (37 CFR § 41.37(c)(1)(vii)).

OPINION

35 U.S.C. § 102 rejection of the claims

Regarding claim 1, the Examiner's position is that Kuroda teaches recording pre-information in every sync frame which is periodically interleaved onto the disk every 1488T units (T being a unit of length) (answer, pages 4 and 16). The Examiner further

Appeal No. 2006-1970
Application No. 10/014,392

characterizes phase comparing circuits 14 and 15 and amplitude phase equalizing circuits 16 and 17 as means for determining if the retrieved pre-information meets a predetermined shape and whether readout errors have been encountered (answer, page 5).

In rebuttal, while acknowledging that Kuroda is related to a rotation control apparatus for controlling a spindle motor within a drive system and the rotation control is achieved by coordinating various structures such as grooves, tracks and pre-pits (brief, page 6), Appellant further argues that the pre-pits form pre-information on the disk which is used within a sync frame (id.). Addressing the nature of pre-pits, Appellant asserts that the pre-pits may form different types of information, such as sync information, but all are represented by preformed pits on the media surface (brief, page 7).

The Examiner responds by stating that although the pre-pits are formed in the recording media prior to recording the pre-information, Kuroda clearly describes the pre-information as data that is recorded and is a part of a sync frame (answer, page 16). The Examiner then asserts that contrary to Appellant's arguments, after the pre-pits are formed, Kuroda distributes and records data pre-information into a plurality of sync frames (answer, pages 17-18).

Appeal No. 2006-1970
Application No. 10/014,392

Appellant's rebuttal to the examiner's argument initially distinguishes reference fields from synchronization fields (reply brief, page 7) and points out that Kuroda also lacks any discussion of the detection of readout errors or the adjustment of various operating parameters, such as a readout gain (reply brief, page 8).

A rejection for anticipation requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. See Atlas Powder Co. v. IRECO Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). The inquiry as to whether a reference anticipates a claim must focus on what subject matter is encompassed by the claim and what subject matter is described by the reference. As set forth by the court in Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), it is only necessary for the claims to "'read on' something disclosed in the prior art reference, i.e., all limitations of the claim are found in the reference, or 'fully met' by it." See also Atlas Powder Co. v. IRECO Inc., 190 F.3d at 1346, 51 USPQ2d at 1945 (Fed. Cir.

Appeal No. 2006-1970
Application No. 10/014,392

1999) (quoting Titanium Metals Corp. Of Am. v. Banner, 778 F.2d 775, 781, 227 USPQ 773, 778 (Fed. Cir. 1985)).

In determining the subject matter encompassed by claim 1, we note that the claim merely requires that the data be interleaved with the reference fields without describing the relationship between the data and the reference byte. In that regard, as argued by the Examiner (answer, page 17), the analysis should not be made with respect to the data, but actually on retrieved reference fields. Additionally, the claimed readout error is not limited to data recording error and instead, could be an error arising from synchronization problems. We also remain unconvinced by Appellant's argument (reply brief, page 8) that the alleged absence of discussions related to "readout of the data fields" and adjustment of various operating parameters based on this "data" readout in Kuroda distinguishes the claims over the applied prior art.

Therefore, while Kuroda describes forming the pre-pits corresponding to the pre-information on the land tracks of the storage medium prior to shipping the DVD's (col. 5, lines 18-21), it is also disclosed that the pre-information is recorded in a portion of the length of 14T frame in the head part of the sync frame (col. 5, lines 54-58). The recorded pre-information is

Appeal No. 2006-1970
Application No. 10/014,392

then recorded at the positions 14T while sync signal of a length of 14T is recorded at the heads of all of the sync frames and data (col. 6, lines 41-51). Therefore, whether the pre-pits are recorded prior to recording the data or afterwards, the pre-information is recorded as a part of the sync frame in an interleaved manner, which in turn, determines any readout errors that may be related to synchronization problems as a part of data recording errors. Thus, considering the features encompassed by claim 1 and our analysis of Kudora and based on the principles outlined above, we find that the Examiner has properly corresponded the pre-information recorded within the sync frames to the claimed reference fields which may be analyzed to determine whether a readout error has happened.

In view of the analysis above, we find that the Examiner has met the burden of providing a prima facie case of anticipation as Kudora teaches the method steps of claim 1. Accordingly, we sustain the rejection of claims 1, 13 and 22 as well as claims 3, 10, 14, 16, 17, 19, 20, 23, 26 and 31, which are argued by Appellant as one group rejected under 35 U.S.C. § 102 over Kudora.

35 U.S.C. § 103 rejection of the claims

Appellant argues that nothing in Kudora describes the features recited in claims 2, 9, 11, 12, 15 and 27-30 related to

Appeal No. 2006-1970
Application No. 10/014,392

the reference byte including an amplitude bit and a shape bit to determine the compliance of the reference field with the predetermined conditions (brief, page 8). In response, the Examiner refers to various parts of Kudora (cols. 7, 8 and Figure 4) and asserts that by describing an amplitude-phase equalizing circuit, the reference provides for the recited determination of gain and phase characteristics (answer, page 20). The Examiner further asserts that the reference status data SC is based on the phase and amplitude information which would have suggested to one of ordinary skill in the art conversion of reference status SC to any other digital form in the reference field.

In response, Appellant provides no arguments to defend patentability of the dependent claims. Since Appellant identifies no clear flaw in the reasoning of the Examiner, nor points to any evidence of record indicating that the findings of the Examiner are unsupported, we find the Examiner's reliance on the proposed modifications of Kudora to be reasonable and sufficient to support a prima facie case of obviousness. Therefore we sustain the 35 U.S.C. § 103 rejection of claims 2, 9, 11, 12, 15 and 27-30 over Kudora.

Regarding the rejection of the remaining claims over the combination of Kudora and Verboom, Appellant merely repeats the

Appeal No. 2006-1970
Application No. 10/014,392

same arguments stated above with respect to claim 1 and adds that no further suggestion is found in Verboom to cure the deficiencies of Kudora (brief, page 9). Again, weighing the opposing arguments, we find ourselves unpersuaded by Appellant's position that the combination is flawed because the features of the base claim is missing from Kudora. For essentially the same reasons outlined above with respect to claim 1, we sustain the 35 U.S.C. § 103 rejection of claims 4-8, 18, 21, 24 and 25 over Kuroda and Verboom.

CONCLUSION

In view of the forgoing, the decision of the Examiner rejecting claims 1, 3, 10, 13, 14, 16, 17, 19, 20, 22, 23, 26 and 31 under 35 U.S.C. § 102 and rejecting claims 2, 4-9, 11, 12, 15, 18, 21, 24, 25 and 27-30 under 35 U.S.C. § 103 is affirmed.

Appeal No. 2006-1970
Application No. 10/014,392

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

LANCE LEONARD BARRY)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
HOWARD B. BLANKENSHIP)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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MAHSHID D. SAADAT)	
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Appeal No. 2006-1970
Application No. 10/014,392

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