

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PHILIP R. WOODS

Appeal No. 96-3901
Application 08/192,638¹

ON BRIEF

Before HAIRSTON, FLEMING and RUGGIERO, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

¹ Application for patent filed February 7, 1994.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 15, all of the claims pending in the present application.

The invention relates to a method of measuring the read-to-write offset by incrementally measuring the amplitude of a test pattern across the width of a track.

The independent claim 1 is reproduced as follows:

1. In a disc drive system having a transducer with a read element that reads information from a track to produce a read signal and a write element that writes information to the track, a method of measuring a radial read-to-write offset between the read and write elements at a track on a disc surface of a disc in the disc drive system comprising:

writing a test signal to the track at a predetermined actuator offset;

incrementally moving the read element across a width of the track to measure a maximum amplitude in the read signal;

incrementally moving the read element across the width of the track to find first and second actuator offsets

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where the read signal has an amplitude approximately equal to a predeter- mined percentage of the maximum amplitude;

calculating a midpoint between the first and second actuator offsets; and

setting the radial read-to-write offset equal to a difference between the midpoint and the predetermined actuator offset.

The Examiner relies on the following references:

Bremmer	4,485,418	Nov. 27, 1984
Miwa et al. (Miwa)	4,644,421	Feb. 17, 1987
Volz et al. (Volz)	4,969,059	Nov. 6, 1990
Ishida (Canadian patent)	2,079,666	Apr. 24, 1993

Claims 1 through 3, 6 through 8, 10, 12, 13 and 15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ishida in view of Bremmer. Claims 4, 5 and 11 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ishida in view of Bremmer further in view of Miwa. Claims 9 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ishida in view of Bremmer and Miwa, and further in

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view of Volz. Rather than reiterate the arguments of Appellant and the Examiner, reference is made to the briefs² and answers³ for the respective details thereof.

OPINION

We will not sustain the rejection of claims 1 through 15 under 35 U.S.C. § 103.

The Examiner has failed to set forth a *prima facie* case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such

² Appellant filed an appeal brief on November 24, 1995. We will refer to this appeal brief as simply the brief. Appellant filed a reply appeal brief on May 13, 1996. We will refer to this reply appeal brief as the reply brief. The Examiner responded to the reply brief with a supplemental Examiner's answer and thereby the reply brief has been entered and considered.

³ The Examiner responded to the brief with an Examiner's answer, mailed March 11, 1996. We will refer to the Examiner's answer as simply the answer. The Examiner responded to the reply brief with a supplemental Examiner's answer mailed June 5, 1996. We will refer to the supplemental Examiner's answer as simply the supplemental answer.

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teachings or suggestions. *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable 'heart' of the invention." *Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), *cert. denied*, 117 S.Ct. 80 (1996) *citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

Appellant argues on pages 7 through 10 of the brief and in the reply brief that Bremmer, Miwa, Volz and Ishida, together or individually, fail to teach or suggest determining a radial read-to-write offset between the read and write elements at a

track on a disc surface of a disc drive system by incrementally moving the element across a width of the track to measure a maximum amplitude in the read signal and incrementally moving the read element across the width of the track to find first and second actuator offsets where the read

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signal has an amplitude approximately equal to a predetermined percentage of the maximum amplitude. We note that on pages 7 and 8 of the brief Appellant quotes the claim language of each of the independent claims 1, 6, 10 and 15, which recites the above limitations.

The Examiner states on page 5 of the answer that Bremmer discloses measuring a maximum read amplitude to define a reference voltage. The Examiner then responds to Appellant's arguments on page 8 of the answer that Bremmer teaches in column 4, lines 17-20, that "[t]he reference level 20 is selected to have a value more or less midway between the maximum and minimum track signal amplitude." The Examiner argues that from the above teachings, those skilled in the art would have no other way to determine a maximum track sign amplitude than selecting the largest amplitude of the reproduced signals.

In the reply brief, Appellant responds by pointing out that Figure 3 of Bremmer, reference level 20, which the Examiner presumes is a maximum track signal amplitude, is not shown

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connected to the disc 16. Rather, it is an independent reference level which is sent to offset measuring system 28 via line 40. Appellant further points to Figure 4 which does not show the reference voltage 20 connected to the recording head 43, but rather, the reference voltage 20 is connected to a comparator 42 via line 40.

Upon a careful review of the references, we find that none of the references teaches or suggests determining a radial read-to-write offset between the read and write elements at a track on a disc surface of a disc drive system by incrementally moving the element across a width of the track to measure a maximum amplitude in the read signal and incrementally moving the read element across the width of the track to find first and second actuator offsets where the read signal has an amplitude approximately equal to a predetermined percentage of the maximum amplitude as recited in each of the independent claims 1, 6, 10 and 15. We find that Bremmer teaches in column 2, lines 25-40, that the reference voltage 20 is a predetermined voltage which is typically within the

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range of one half of the peak to valley amplitude. Bremmer does not teach measuring the maximum amplitude in the read signal for each disc drive system.

We appreciate the Examiner's argument that Bremmer teaches that the reference level is based on a maximum and minimum track signal amplitude which, as the Examiner reasons, requires the measurement of the track maximum amplitude. However, "[t]o establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) *citing Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id. citing Continental*, 948 F.2d at 1269, 20 USPQ2d at 1749. From reading Bremmer as a whole, we find that

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Bremmer does not teach measuring the maximum amplitude in the read signal for the track but simply provides a predetermined reference voltage which Bremmer hopes to be close enough to the actual maximum amplitude.

We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge, or is capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a *prima facie* case. *In re Knapp-Monarch Co.*, 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); *In re Cofer*, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966). Therefore, we will not sustain the rejection of claims 1 through 15 under 35 U.S.C. § 103.

We have not sustained the rejection of claims 1 through 15 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.

REVERSED

KENNETH W. HAIRSTON)

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	Administrative Patent Judge)	
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)	BOARD OF
PATENT)	
	MICHAEL R. FLEMING)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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)	
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