

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(2) is not binding precedent of the Board.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. 54

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAN-KI PARK

Appeal No.1998-1469
Application No. 08/351,045

ON BRIEF¹

Before FLEMING, GROSS, and LEVY, *Administrative Patent Judges*.

LEVY, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-29, which are all of the claims pending in this application.

¹The oral hearing scheduled for May 15, 2000 was waived by appellant in a communication received by facsimile on May 15, 2000.

BACKGROUND

The appellant's invention relates to a data recording device and method for recording data on a magnetic tape with error correction. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced as follows:

1. A data recording and reproducing device for recording and reproducing electrical signals onto and from a magnetic tape by means of a rotational head, said device comprising:

input/output means for receiving first data from and transmitting second data to an external system;

first memory means for storing the first data received through said input/output means;

controller means connected to said first memory means, for controlling said device;

digital signal processing means connected to said controller means, for converting the first data received from said first memory means into converted data conforming to a digital audio tape recorder format;

second memory means connected to said digital signal processing means, for storing said converted data received from said digital signal processing means;

recording amplifier means connected to said digital signal processing means, for amplifying the converted data received from said digital signal processing means to generate amplified data, and transmitting said amplified data to said rotational head for recording on the magnetic tape;

data strobe means for receiving reproduced data from the magnetic tape and converting said reproduced data into a reproduction signal;

first and second buffer means commonly connected to said data strobe means for receiving said reproduction signal from said data strobe means during both a recording mode and a reproduction mode of said device, said first and second buffer means alternately enabling transmission of said reproduction signal based on operating modes of said device comprised of said recording mode and said reproduction mode, said first buffer means enabling transmission of said reproduction signal during said recording mode, said second buffer means enabling transmission of said reproduction signal to said external system as said second data during said reproduction mode; and

comparing unit means connected to said first buffer means, for comparing said reproduction signal received from said first buffer means with said converted data stored in said second memory means during said recording mode of said device to detect data errors recorded on the magnetic tape;

said controller means correcting said data errors by sequentially enabling:

transmission of said first data from said first memory means to said digital signal processing means for conversion of said first data into said converted data conforming to said digital audio tape recorder format,

transmission of said converted data to said recording amplifier means for generation of said amplified data, and

transmission of said amplified data to said rotational head for re-recording of said amplified data onto the magnetic tape.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Taylor	3,863,228	Jan. 28, 1975
Yokogawa et al. (Yokogawa)	4,860,271	Aug. 22, 1989
Ichijo et al. (Ichijo)	5,267,100	Nov. 30, 1993

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Claims 1, 3-7, 9, 16-19, 26 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichijo.

Claims 2, 8, 10-15, 20 and 22-25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichijo in view of Yokogawa.

Claims 21, 27 and 29 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichijo in view of Taylor.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the final rejection (Paper No. 32, mailed February 8, 1996), the examiner's answer (Paper No. 40, mailed November 14, 1996) and the supplemental examiner's answer (Paper No. 45, mailed March 31, 1997) for the examiner's reasoning in support of the rejections, and to the appellant's brief (Paper No. 39, filed August 8, 1996), reply brief (Paper No. 43, filed January 14, 1997), supplemental reply brief (Paper No. 46, filed June 2, 1997) and the second supplemental reply brief (Paper No. 48, filed September 10, 1997) for the appellant's arguments thereagainst.

The examiner's answer set forth a new ground of rejection in which claims 1-29 were rejected under 35 U.S.C. § 112, second paragraph. In response to the new ground of rejection, appellant filed an amendment (Paper No. 41, filed January 14, 1997). In a communication from

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the examiner (Paper No. 44, mailed February 27, 1997) the examiner stated that the January 14, 1997 amendment had been entered, and that in view of the amendment, the new ground of rejection was withdrawn. We note that neither the reply brief nor either of the supplemental reply briefs contains an appendix listing a copy of the amended claims currently before the Board on appeal as required by 37 CFR §1.192(c)(9). However, the record is clear as to what are the proper claims on appeal.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we will reverse the rejections of claims 1-29 under 35 U.S.C. § 103.

Turning first to the rejection of claims 1, 3-7, 9, 16-19, 26 and 28 rejected under 35 U.S.C. § 103 as being unpatentable over Ichijo, the examiner has failed to set forth a *prima facie* case of obviousness. 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 teachings or suggestions. *See In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

Appellant asserts (brief, pages 6 and 7) that the following limitations of claim 1 are not met by

Ichijo:

digital signal processing means connected to said controller means, for converting the first data received from said first memory means into converted data conforming to a digital audio tape recorder format;

second memory means connected to said digital signal processing means, for storing said converted data received from said digital signal processing means;

.... and

comparing unit means connected to said first buffer means, for comparing said reproduction signal received from said first buffer means with said converted data stored in said second memory means during said recording mode of said data recording device to detect data errors recorded on the magnetic tape.

The examiner acknowledges (final rejection, page 4) that Ichijo does not teach the recited interconnection of the second memory means with the digital signal processor (DSP) means, i.e., that Ichijo does not teach that the second memory means (9, 11) receives the converted data from the DSP means prior to recording. The examiner takes the position (final rejection, page 4) that:

However, this distinction is interpreted merely as relocating the location of parts, and it would have been obvious to have modified Ichijo et al. by moving the DSP means prior to the second memory means because it has been held that mere location of parts, without more, is within the skill of the ordinary artisan. See *In re Japiske*, 86, USPQ 70 at 74.

Appellant responds by asserting (brief, pages 5-7) that the claimed invention does not merely define a rearrangement of parts because in the present invention, the data comparison is performed between sets of data that are encoded, whereas Ichijo, in contradistinction, compares

sets of data that are not encoded, which requires the use of synchronizing circuit (8) in order to synchronize the operations of decoder (7) with the operations of encoder/decoder (5). The examiner responds by asserting (answer, page 4) that by modifying comparator (23) of Ichijo to use coded signals, the skilled artisan could delete decoder (7) and simplify the operation of Ichijo since, according to the examiner, this would constitute the omission of an element and its corresponding function.

In making our determination as to whether or not Ichijo teaches or fairly suggests the modifications advanced by the examiner to arrive at the claimed invention, we first turn to the disclosure of Ichijo. We find that in Ichijo, incoming data from an external line is stored in second order buffer memory (13). When a start signal is supplied to timing signal generator (14), signal OPEN (Figure 2D) becomes high to transfer data from second order buffer memory (13) to first order memory block (10) (col. 4, lines 40-44). First order memory block (10) includes blocks g_1 - g_8 , with each block having the capacity to store digital data for one frame recorded on a magnetic tape when rotary drum 1 makes a complete rotation (col. 2 line 68 - col.3, line 2). Buffer (9) is a latch for transferring data from first order memory (10) to encoder/decoder (5), which encodes the digital data to be recorded (col. 2, lines 50-51). RF signal processor (4) amplifies the signal which is recorded on a magnetic tape by recording heads (2a, 2b). Reproduction heads (also called ascertaining heads col. 2, lines 41-43) reproduce the data recorded on the magnetic tape by recording heads (2a, 2b). After amplification by RF amplifier (6), the amplified data is decoded and synchronized with the encoding/decoding operations of encoder/decoder (5) by synchronization circuit (8). Comparator (23) compares the digital data reproduced and decoded through ascertaining heads (3a, 3b) from the magnetic tape with digital data read via buffer (11) from first order block memory (10) and supplies the result to timing signal generator (14) (col. 3, lines 52-56). When there is a difference between both inputs to the

comparison means, the transfer of digital data from the second order buffer memory (13) to the first order block memory (10) is inhibited and the previous data in the unit block, i.e., $g_1 \dots g_8$ of first order block memory (10) is maintained in the first order block memory (10) and will be rerecorded on the magnetic tape (col. 6, lines 36-42).

For the examiner's rejection to be sustained, we would have to conclude that it would have been obvious to have "relocated the parts" to provide the claimed interconnection between the second memory means and the signal processing means so that the signal processing occurs prior to the data reaching buffers i.e., second memory means (9, 11); modified the comparator to compare coded data; deleted decoder (7), and converted the data into digital audio tape format. At the outset, we find no suggestion or teaching to relocate the signal processing prior to the buffers (9,11) because Ichijo teaches comparing unencoded data from blocks $g_1 - g_8$ of first order block memory (10) with decoded data reproduced by ascertaining heads (3a, 3b). We see no suggestion or teaching to store the coded data from the signal processing means in the second memory other than from appellant's disclosure. The examiner's proposed deletion of the decoder (7) is inconsistent with his reliance on decoder (7) for the claimed first buffer means (final rejection, page 3). In addition, claim 1 calls for data strobe means for receiving reproduced data from the magnetic tape. The examiner relies upon decoders (5 and 7) as the data strobe means. However, as only decoder (7) receives reproduced data from the magnetic tape, deletion of the decoder (7) would result in the limitation regarding the data strobe means also not being met by Ichijo. In addition, claim 1 also calls for the second buffer to receive the reproduced signal from the magnetic tape. The examiner relies on the encoder/decoder (5) of Ichijo for the claimed second buffer. However, firstly, encoder/decoder (5) of Ichijo does not receive the signal reproduced from the magnetic tape. It receives the signal that was outputted to the magnetic

heads (2a, 2b) by RF amplifier (4) (col. 2, lines 54-57) which is not the same as the signal reproduced from the magnetic tape by ascertaining heads (3a, 3b). Secondly, upon deletion of decoder (7) as advanced by the examiner, the synchronization circuit (8) of Ichijo as well as the decoder function of encoder/decoder (5) would have to be deleted for the recording apparatus to operate. Accordingly, the claim limitations regarding the second buffer would also not be ~~While~~ we do agree with the examiner that one of ordinary skill in the art would have considered it obvious to have conformed the converted data to a digital audio tape format, as is well known in the art and has not been disputed by appellant, the rejection of claim 1 under 35 U.S.C. § 103 cannot be sustained. Accordingly, the rejection of claim 1 under 35 U.S.C. § 103 is reversed.

With regard to the other independent claims 3, 4 and 17, all three of these claims set forth storing the converted digital signal in a second memory as well as the first and second buffers, with claim 4 also reciting the data strobe means. Accordingly, the rejection of these claims is reversed for the same reasons as discussed, *supra*.

As claims 5-7, 9, 16, 18, 19, 26 and 28 all depend from one of claims 1, 3, 4 or 17, the rejection of claims 5-7, 9, 16, 18, 19, 26 and 28 is reversed.

Turning now to the rejection of dependent claims 2, 8, 10-15, 20, and 22-25 under 35 U.S.C. § 103 as being unpatentable over Ichijo in view of Yokogawa, as Yokogawa does not overcome the deficiencies of Ichijo, the rejection of claims 2, 8, 10-15, 20, and 22-25 under 35 U.S.C. § 103 is reversed.

Turning lastly to the rejection of dependent claims 21, 27 and 29 under 35 U.S.C. § 103 as being unpatentable over Ichijo in view of Taylor, as Taylor does not overcome the deficiencies of Ichijo, the rejection of claims 21, 27 and 29 under 35 U.S.C. § 103 is also reversed.

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