

The opinion in support of the decision being entered today is *not* binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ELIOT M. CASE

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Appeal No. 2001-1346  
Application No. 08/771,469

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ON BRIEF

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Before FLEMING, GROSS, and BARRY, *Administrative Patent Judges*.  
BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

A patent examiner rejected claims 1-3, 5, 7, 9-17, and 19. The appellant appeals therefrom under 35 U.S.C. § 134(a). We reverse.

BACKGROUND

The appellant's invention concerns editing an encoded audio signal. Compressive encoding techniques have been developed to transmit digital audio data on low bandwidth data networks or to store larger amounts of such data in small data spaces. In particular, perceptual encoding operates by neither transmitting nor storing

portions of audio data that might not be perceived by an end user. (Spec. at 2.)

Component audio, in contrast, retains all portions of a digital audio signal. (*Id.*)

While waveform editors exist for linear encoded, digital audio signals, the appellant asserts that no graphical tools exist for directly editing perceptually encoded audio data or component audio data. (*Id.*) Consequently, he explains, such audio data must first be decoded to conventional high resolution audio for editing. (*Id.* at 2-3.) The edited audio data must be then be encoded. (*Id.* at 3.)

In contrast, the appellant's invention provides a graphical interface for editing perceptually encoded audio data or component audio data. (*Id.*) More specifically, the invention comprises a receiver for receiving an encoded audio signal having a plurality of frequency subbands. Control logic generates a spectral graph of the encoded audio signal, the graph including an amplitude of each frequency subband as a function of time. The control logic also allows a user to mark at least one selectable edit point of the encoded audio signal via an input device. A display unit presents the spectral graph including the marked edit point. (*Id.*)

A further understanding of the invention can be achieved by reading the following claim:

1. A graphic interface system for direct editing of a subband encoded audio signal having a plurality of frequency subbands, the system comprising:

a receiver for receiving the subband encoded audio signal;

control logic operative to generate a spectral graph of the subband encoded audio signal, the spectral graph including an amplitude of each of the plurality of frequency subbands of the subband encoded audio signal as a function of time, and to mark at least one selectable edit point of the subband encoded audio signal, wherein the at least one selectable edit point includes an amplitude of any one of the plurality of frequency subbands of the subband encoded audio signal at a selected time;

a display unit for displaying the spectral graph and the at least one selectable edit point; and

an input device for selecting the at least one selectable edit point.

Claims 1, 2, 17, and 19 stand rejected under 35 U.S.C. § 103(a) as obvious over *NuWAVE User's Manual Version 1.0* ("NuWave") (Aug. 21, 1996) in view of Syntrillium Software Corp., *Cool Edit 1.51* software ("Cool Edit") <<http://www.syntrillium.com/>> (1992-95) and M. Alexander Broadhead and Charles B. Owen ("Broadhead"), *Direct Manipulation of MPEG Compressed Digital Audio*, ACM Multimedia 95 - Electronic Proceedings (Nov. 5-9, 1995). Claim 3 stands rejected under § 103(a) as obvious over NuWave in view of Cool Edit and Broadhead further in view of Karkheinz Brandenburg et al., ("Brandenburg"), *ISO-MPEG Audio: A Generic Standard for Coding of High-*

*Quality Digital Audio*, J. Audio Eng. Soc'y, vol. 42, no. 10, 780-92 (Oct. 1994).

Claims 5, 7, and 9 stand rejected under § 103(a) as obvious over NuWave in view of Cool Edit and Broadhead further in view of U.S. Patent No. 4,718,097 ("Uenoyama").

Claims 10-12 and 14-16 stand rejected under § 103(a) as obvious over NuWave in view of Cool Edit, Broadhead, and Uenoyama further in view of U.S. Patent No. 5,544,248 ("Date"). Claim 13 stands rejected under § 103(a) as obvious over NuWave in view of Cool Edit, Broadhead, Uenoyama, and Date further in view of U.S. Patent No. 4,939,782 ("Gambarcuta").

#### OPINION

Rather than reiterate the positions of the examiner or appellant *in toto*, we address the main point of contention therebetween. Admitting that "NuWave does not disclose . . . direct editing of encoded data [or] . . . a spectrum display with editing points," (Examiner's Answer at 4), the examiner makes the following assertions.

Cool Edit teaches a method of displaying the spectrum of frequency band amplitudes and edit points in the examiner marked figure 1. The edit points are points in time, depicted as a line on the time vs [sic] frequency plot in figure 1. A division into discrete frequency bands is inherent in a digital spectrum analysis. The amplitude values are depicted along that line by different colors. Each edit point thus has a plurality of frequency band amplitudes associated with it, depicted by the colors along the edit point line. It would have been obvious to one of ordinary skill in the art at the time of the invention to use this type of display in any audio editing system, because it allows one to see which frequencies are prevalent as discussed in the "Spectral Viewing: section of Cool Edit.

(*Id.*) The appellant argues, "the spectral graph of the Cool Edit reference does not include an amplitude of each of the plurality of frequency subbands of a subband encoded audio signal as a function of time. . . ." (Appeal Br. at 9.)

"Analysis begins with a key legal question -- *what* is the invention *claimed*?" *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987). In answering the question, "the Board must give claims their broadest reasonable construction. . . ." *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1668 (Fed. Cir. 2000).

Here, independent claim 1 specifies in pertinent part the following limitations: "control logic operative to generate a spectral graph of the subband encoded audio signal, the spectral graph including an amplitude of each of the plurality of frequency subbands of the subband encoded audio signal as a function of time. . . ." Similarly, independent claim 17 specifies in pertinent part the following limitations: "computer readable instructions recorded on the storage medium, the instructions operative to generate a spectral graph of the subband encoded audio signal received by the receiver, the spectral graph including an amplitude of each one of the plurality of frequency subbands of the subband encoded audio signal as a function of time. . . ."

Giving the independent claims their broadest, reasonable construction, the limitations require generating a spectral graph including an amplitude of each one of a plurality of frequency subbands of a subband encoded audio signal **as a function of time**.

Having determined what subject matter is being claimed, the next inquiry is whether the subject matter would have been obvious. "In rejecting claims under 35 U.S.C. Section 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness." *In re Rijckaert*, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993)(citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)). "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

Here, although Cool Edit "will display waveforms by the by their [sic] frequency components," such that "[t]he more abundant a frequency is, the brighter the color displayed will be," the examiner fails to allege, let alone show, that the frequency components are generated as a function of time. We will not "resort to speculation," *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), as to such a

function. He further fails to allege, let alone show, that the other references cure the deficiency of NuWave and Cool Edit. Absent a teaching or suggestion of generating a spectral graph including an amplitude of each one of a plurality of frequency subbands of a subband encoded audio signal as a function of time, the examiner fails to present a *prima facie* case of obviousness. Therefore, we reverse the rejection of claim 1; of claims 2, 3, 5, 7, and 9-16, which depends therefrom; of claim 17; and of claim 19, which depends therefrom.

#### CONCLUSION

In summary, the rejections of claims 1-3, 5, 7, 9-17, and 19 under § 103(a) are reversed.

REVERSED

MICHAEL R. FLEMING  
Administrative Patent Judge

ANITA PELLMAN GROSS  
Administrative Patent Judge

LANCE LEONARD BARRY  
Administrative Patent Judge

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Page 9

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