

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JEFFREY D. BIRDSLEY, MICHAEL R. BRUCE,  
RAMA R. GORUGANTHU,  
BRENNAN V. DAVIS and ROSALINDA M. RING

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Appeal No. 2002-1743  
Application No. 09/047,866

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ON BRIEF

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Before KRASS, JERRY SMITH and SAADAT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 5-10, 12-17 and 19-23. Claims 2-4, 11 and 18 have been indicated by the examiner as being directed to allowable subject matter and form no part of this appeal.

The invention is directed to a transcoder-codec circuit that includes a digital signal processor that updates peak signal values in storage registers that are in the

receive and transmit signal paths, facilitating voice-switched hands-free radio operation.

Representative independent claim 1 is reproduced as follows:

1. A transcoder-codec circuit arrangement that supports voice-switched hands-free radio operation, comprising:

a first register arranged to store a value indicative of a peak signal in a receive signal path;

a first attenuator coupled to the receive signal path;

a second register arranged to store a value indicative of a peak signal in a transmit signal path;

a second attenuator coupled to the transmit signal path;

a digital signal processor coupled to the first and second registers and configured and arranged to update the value in the first register with a present peak receive signal level if the value in the first register is less than the present peak receive signal level, and arranged to update the value in the second register to a present peak transmit signal level if the value in the second register is less than the present peak transmit signal level; and

a microcontroller coupled to the first and second registers and to the first and second attenuators and configured to read values from the first and second register and adjust the first and second attenuators in response to the values.

The examiner relies on the following references:

Cleary, Jr. et al. (Cleary)	4,686,390	Aug. 11, 1987
Reesor	WO 93/06679	Apr. 01, 1993

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Claims 1, 5-10, 12-17 and 19-23 stand rejected under 35 U.S.C. §103 as unpatentable over Mitel in view of Cleary.

Reference is made to the brief and answer for the respective positions of appellants and the examiner.

### OPINION

\_\_\_\_\_ In rejecting claims under 35 U.S.C. §103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of

complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). 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 brief have not been considered and are deemed to be waived [see 37 CFR 1.192 (a)].

The examiner applies Mitel as follows:

The claimed first register is said to be shown as lower item 18 in Figure 1 and that this item stores a value indicative of a peak signal in a receive signal path. The claimed first attenuator is said to be shown as item 9 in Figure 1 of Mitel.

The claimed second register is said to be shown as upper item 18 in Figure 1 of Mitel and that this item stores a value indicative of a peak signal in a transmit signal path. The claimed second attenuator is said to be shown as item 8 in Figure 1 of Mitel.

The examiner points to page 10, lines 15-28 for the claimed microcontroller for reading values from the first and second registers and adjusting attenuation levels of signals in the receive signal path and the transmit signal path in response to values read from the first and second registers.

The examiner recognizes that Mitel does not disclose the details of updating the registers. Accordingly, the examiner turns to Cleary for a disclosure of a peak detection register and a process for updating the register. Cleary, indicates the examiner, discloses a method of ensuring the peak value stored always represents the peak value detected and that a signal processor is necessary to process the signals.

The examiner concludes that it would have been obvious “to incorporate the Cleary method of updating a peak value in a register into the handsfree telephone circuit of Mitel to insure no errors would occur in the measurement of the peak value and the circuit would operate without false peak measurements” (answer-page 5).

It appears to us that the examiner has established a prima facie case of obviousness, within the meaning of 35 U.S.C. §103, by identifying the state of the art, the differences between the instant claimed invention and the principal prior art reference and why the artisan would have been led to modify the principal prior art reference in order to arrive at the instant claimed subject matter. The burden shifted to appellants to show, by convincing argument or objective evidence, that the examiner’s reasoning is erroneous.

Appellants first argue that the applied combination of references fails to disclose the claimed digital signal processor (DSP) that is coupled to two registers that are each coupled to a receive and transmit signal path with the digital signal processor updating the respective peak signal values based on the receive/transmit signal level. However, the examiner explains, quite reasonably, in our view, that Cleary discloses a digital signal processor for updating peak signal values in a register to provide for the peak value detected and that a signal processor is “necessary” to process the signals.

Appellants argue that Cleary utilizes a comparator 36, which is not a DSP, to compare the comparator’s storage value with the storage value of storage register 32 that was previously clocked into register 32 by control circuit 30. Appellants’ argument is that Cleary only discloses one register versus the two registers of the instant claimed invention; that Cleary’s comparison only occurs when BCD counter reaches zero after counting through a 100-element display; and that register 32 is not DSP accessible nor controlled.

Appellants’ arguments are tantamount to requiring a bodily incorporation of the elements of Cleary into the structure of Miter. This is not required under 35 U.S.C. §103. The test of obviousness is not whether features of a secondary reference may be bodily incorporated into the primary reference’s structure, nor whether the claimed

invention is expressly suggested in any one or all of references; rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. One cannot show nonobviousness by attacking references individually where a rejection is based on a combination of references. It is not necessary that the device shown in one reference can be physically inserted into the device shown in the other reference to justify combining their teachings in support of rejection. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

While Cleary may not have two registers, Mitel does depict two registers, one in each of the receive/transmit paths and Cleary is simply employed by the examiner to show that *each* register of Mitel would be modified by Cleary's teaching since Mitel is concerned with the measurement of peak values and Cleary suggests a method to insure that no errors occur in the measurement of the peak value. The examiner states a compelling case for the artisan to have employed Cleary's technology in the Mitel device so that Mitel's circuit would operate "without false peak measurements" (answer-page 5).

While appellants argue that there is an advantage to their invention in that "the DSP of Appellants' claimed invention updates the values of the two registers without requiring a time delay circuit nor a BCD counter that is dependent on the number of

display elements as in *Cleary*" (brief-page 4), we find nothing in the instant claims which would preclude a time delay or BCD counter. Arguments directed to unclaimed elements are not persuasive of nonobviousness of the instant claimed subject matter.

Appellants also argue that the peak detect filters 18 of Mitel are not "processor-accessible storage registers" (brief-page 4), as claimed. However, at pages 9-10 of the answer, the examiner cites page 8, lines 8-26, of Mitel, showing that register 40, part of peak detect filters 18, is loaded with "peak(n)." The examiner concludes that register 40 does, indeed, store a peak value, and is, therefore, a storage register, contrary to appellants' position.

Since the examiner's rationale appears reasonable and we have nothing in rebuttal from appellants tending to show that Mitel's peak detect filters 18 may not constitute storage registers, we find for the examiner that the claimed storage registers are taught by Mitel.

At page 5 of the brief, appellants argue that "[s]ince the *Mitel's* filters 18 do not provide the DSP accessible storage function as claimed they fail to correspond to the claimed registers for storing a value indicative of a peak signal as in Appellants' claimed invention." This argument is misplaced because, again, appellants are arguing the references individually, rather than in combination. It is true that Mitel does not provide

the DSP accessible storage function, but the examiner relies on Cleary for the DSP, the examiner has shown why Mitel's elements 18 are considered to be storage registers and the examiner has explained why the artisan would have sought to modify Mitel by Cleary's teachings in order to insure that no errors occur in the measurement of the peak value. Accordingly, it is not persuasive for appellants to merely contend that Mitel's filters 18 do not provide the DSP accessible storage functions as claimed.

Appellants contend that the microcontroller of claim 1 is coupled to the same two registers as the DSP and reads the values in the two registers so as to adjust the attenuators in the claimed circuit but that Mitel does not utilize the registers of peak detect filter 18 to adjust the attenuators. Rather, argue appellants, the registers of peak detect filter 18 are used to form an output signal representing the short term average audio level and that this is different than the registers accessed by an external microprocessor used to control the receive attenuators.

Appellants do appear to have a point here. Independent claims 1, 10 and 17, in one form or another, all require something (a microcontroller in claims 1 and 10) coupled to the first and second registers and to the first and second attenuators so as to read values from the first and second register and adjust the first and second attenuators in response to the values. The examiner's position is that Mitel discloses

this at page 10, lines 15-28. However, our perusal of that portion of Mitel tells a different story. While that portion of Mitel suggests an external microprocessor for programming registers, for affecting overall loop attenuation, user control of the speaker volume and adjustment of the positive swing of the attenuator, we find nothing therein remotely suggesting any connection of this external microprocessor/microcontroller to the first and second registers, which the examiner identifies as peak detect filters 18, such that the microprocessor/microcontroller reads values from registers in filters 18 and adjusts first and second attenuators in response to those values. In fact, looking at Figure 1 of Mitel, there appears to be no connection from either of filters 18 to any external microprocessor/microcontroller.

Since the examiner does not properly address this microcontroller limitation in the response to appellants' argument, we find that any prima facie case of obviousness that the examiner may have made has certainly been overcome by appellants' argument.

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Accordingly, we will not sustain the examiner's rejection of claims 1, 5-10, 12-17 and 19-23 under 35 U.S.C. §103.

The examiner's decision is reversed.

REVERSED

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
JERRY SMITH	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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	)	
MAHSHID D. SAADAT	)	
Administrative Patent Judge	)	

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