

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* HANS HECKMANN, REINHARD WEIBERLE,  
BERND KESCH, and PETER BLESSING

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Appeal 2007-1464  
Application 10/276,285  
Technology Center 3600

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Decided: August 31, 2007

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Before TERRY J. OWENS, LINDA E. HORNER, and ANTON W. FETTING,  
*Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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## STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 9-17, all the claims currently pending in the application. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We AFFIRM.

## THE INVENTION

Appellants claimed invention is directed to a method of triggering a component in a distributed safety-related system (Specification 1:2-4). Claim 9, reproduced below, is representative of the subject matter on appeal.

9. A method of triggering a component in a distributed safety-related system, the component being triggered by a first triggering module assigned to the component using a first microcomputer system, the method comprising:

(a) determining at least one triggering signal for the component by the first microcomputer system as a function of at least one input signal;

(b) determining at least one logic triggering signal at least partially by a monitoring arrangement that is independent of the first microcomputer system, as a function of the at least one input signal, wherein the monitoring arrangement monitors the first microcomputer system;

(c) comparing the at least one triggering signal with the at least one logic triggering signal;

(d) determining at least one enabling signal as a function of a result of the comparison in step (c); and

(e) relaying one of the at least one triggering signal and at least one signal that depends on the at least one triggering signal to the component when the at least one enabling signal has a selected value;

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wherein the distributed safety-related system includes at least one additional microcomputer system that is connected to the first microcomputer system for data transfer, and wherein at least one of steps (b) through (d) is executed by the at least one additional microcomputer system.

## THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Zittlau	US 6,157,887	Dec. 5, 2000
Zydek	US 6,502,019 B1	Dec. 31, 2002

The following rejections are before us for review:

1. Claims 9-16 stand rejected under 35 U.S.C. § 102(b) as anticipated by Zittlau.
2. Claim 17 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Zittlau and Zydek.<sup>1</sup>

## ISSUE

Appellants contend that (1) Zittlau fails to disclose “any enable-signal that has a selected value, as provided for in the context of the claim and as defined by the specification” (Appeal Br. 10), (2) Zittlau fails to disclose the “possibility of direct signaling”, *i.e.*, a signal line directly connected between the wheel modules (Appeal Br. 11), and (3) “[t]he arithmetic units in the ‘Zittlau’ reference do not monitor each other” (Appeal Br. 12). The Examiner found that (1) the “wheel

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<sup>1</sup> The Zydek reference was added in the Examiner’s answer in order to support the Official Notice originally taken in the Final Office Action.

braking demand signal is equivalent to Appellants' 'enable signal' and its value is based on the two desired values for braking force" (Answer 7), and (2) "[i]f the arithmetic units are programmed to detect failure of each other then they are monitoring each other" (Answer 8). The issues before us are (1) whether Appellants have shown that the Examiner erred in rejecting claims 9-16 as anticipated by Zittlau, and (2) whether Appellants have shown that the Examiner erred in rejecting claim 17 as unpatentable over Zittlau and Zydek.

#### FINDINGS OF FACT

The relevant facts include the following:

1. The customary definition of a microcomputer is a small computer usually equipped with a microprocessor. *Merriam-Webster's Collegiate Dictionary* 784 (11th ed. 2005).
2. The customary definition of microprocessor is a central processing unit (CPU) on a single chip. *Microsoft Press Computer Dictionary* 228 Microsoft Press (1991).
3. Appellants' Specification does not define the term microcomputer or microprocessor nor does it use these terms contrary to their customary definition.
4. Zittlau discloses a brake system for a motor vehicle including electronically actuated brake actuators (Zittlau, col. 1, ll. 5-7).
5. Zittlau teaches that the brake system includes a pedal unit including a plurality of sensors generating sensor signals, and a control unit including at least three arithmetic units (Zittlau, col. 2, ll. 9-13).

6. The values ascertained by the brake pedal sensors are transmitted as sensor signals to at least three arithmetic control units (or CPUs) 18, 19, and 20. All three arithmetic units calculate the braking demand of the drive from the sensor signals by the same rules and the same memorized characteristic curves (Zittlau, col. 4, ll. 9-14).

7. The calculated values are compared with one another in the three arithmetic units. If they are identical to one another within predetermined, close tolerances, then they represent the braking moment demanded by the driver (Zittlau, col. 4, ll. 15-19).

8. The braking moments generated in the form of control signals in the central controller 10 are transmitted, in the case of normal, unimpeded braking operations, to the brake actuators 4 via a bus driver 24 and the first data transmission channel 12 (Zittlau, col. 4, ll. 36-40).

9. Data is exchanged between the CPUs 18 and 19 which makes it possible for the electronic braking moment demands calculated in the first CPU 18 as well as the state of the CPU 18 to be monitored by the second CPU 19 (Zittlau, col. 4, ll. 54-59).

#### PRINCIPLES OF LAW

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987).

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“To 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. 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.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (internal quotation marks omitted).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). *See also KSR*, 127 S.Ct. at 1734, 82 USPQ2d at 1391 (“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 17-18, 148 USPQ at 467.

## ANALYSIS

### *Rejection of claims 9-16 as anticipated by Zittlau*

Appellants argue claims 9-16 as a group (Appeal Br. 10-12). We select claim 9 as a representative claim, and the remaining claims 10-16 stand or fall with claim 9. 37 C.F.R. § 41.37(c)(1)(vii) (2006).

Appellants contend that Zittlau fails to “describe any enable-signal that has a selected value, as provided for in the context of the claim and as defined by the specification” (Appeal Br. 10). The Examiner found that the “wheel braking demand signal is equivalent to Appellants’ ‘enable signal’” (Answer 7). We agree with the Examiner.

Appellants argue that “with the presently claimed subject matter, not only may a true/false value as an enable-signal be transferred, but *selected values* (which according to the specification may have a given and well-defined resolution)” (Appeal Br. 10). However, the only reference in Appellants’ Specification to the value of the enable-signal is to a logic “1” or “0” (Specification 12:7-10). The Examiner found that the “wheel braking demand signal [of Zittlau] is equivalent to Appellants’ ‘enable signal’ and its value is based on the two desired values for braking force” (Answer 7). More specifically, the Examiner found that “[w]hen it is above zero (i.e. a selected value) it will be relayed to actuate the component” (*Id.*). Appellants have not provided any argument or evidence to rebut the Examiner’s finding that the wheel braking demand signal of Zittlau is equivalent to the claimed enabling signal.

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Appellants further contend that “Figure 4...shows that the power electronic is enabled over a signal line (SFmx) directly connected between the wheel modules (Rm)” and “[t]his possibility of direct signaling is totally missing the ‘Zittlau’ reference” (Appeal Br. 11). The method as recited in claim 9 does not require that the power electronic is enabled over a signal line directly connected between the wheel modules. As such, Appellants arguments are not commensurate with the scope of claim 9.

Appellants also argue that the arithmetic units of Zittlau do not monitor each other (Appeal Br. 12). We find this assertion unfounded given that Zittlau specifically discloses that state of the first arithmetic unit 18 may be monitored by the second arithmetic unit 19 (Finding of Fact 9).

Finally, Appellants argue that the arithmetic logic units of Zittlau are not microcomputer systems (Reply Br. 10). We agree that an arithmetic logic unit (ALU) as commonly used is not a microcomputer system or microprocessor. To the contrary, a microprocessor is commonly made up of one or more ALUs. Nevertheless, Zittlau discloses that the arithmetic units may be CPUs, *i.e.*, central processing units (Finding of Fact 6). The Specification does not specifically define the term microcomputer system or microprocessor nor does it utilize these terms contrary to their customary meaning (Finding of Fact 3). The customary meaning of microcomputer is a small computer usually equipped with a microprocessor (Finding of Fact 1). The customary meaning of the term microprocessor is a central processing unit (CPU) on a single chip (Finding of Fact 2). Accordingly, we find that the broadest reasonable interpretation of a microprocessor or

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microprocessor system as utilized in the specification includes a CPU. As such, we sustain the Examiner's rejection of claims 9-16 as anticipated by Zittlau.

*Rejection of claim 17 as unpatentable over Zittlau and Zydeck*

Appellants argue that claim 17 is allowable for the same reasons as claim 16 (Appeal Br. 13). We were not persuaded by Appellants' arguments as to the patentability of claim 16. As such, we sustain the Examiner's rejection of claim 17 as unpatentable over Zittlau and Zydek for those reasons presented, *supra*, with respect to claims 9-16.

CONCLUSIONS OF LAW

We conclude that Appellants have not shown that the Examiner erred in rejecting claims 9-16 under 35 U.S.C. § 102(b) as anticipated by Zittlau, and claim 17 under 35 U.S.C. § 103(a) as unpatentable over Zittlau and Zydek.

DECISION

The decision of the Examiner to reject claims 9-16 as anticipated by Zittlau and claim 17 as unpatentable over Zittlau and Zydek is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

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