

Note: This disposition is nonprecedential

# United States Court of Appeals for the Federal Circuit

2007-1243, -1244

BLACK & DECKER, INC.  
and BLACK & DECKER (U.S.), INC.,

Plaintiffs-Cross Appellants,

v.

ROBERT BOSCH TOOL CORPORATION,

Defendant-Appellant.

Dean D. Niro, Niro, Scavone, Haller & Niro, of Chicago, Illinois, argued for the plaintiff-cross appellant. With him on the brief were Raymond P. Niro, Paul C. Gibbons, and David J. Mahalek. Of counsel was Christopher J. Lee.

Jon R. Trembath, Merchant & Gould P.C., of Minneapolis, Minnesota, argued for defendant-appellant. With him on the brief was Erik G. Swenson. Also on the brief were Kirstin L. Stoll-DeBell and Elizabeth J. Reagan of Denver, Colorado.

Appeals from: The United States District Court for the Northern District of Illinois

Judge Amy J. St. Eve

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Appeal from the United States District Court for the Northern District of Illinois in case no. 04-CV-7955, Judge Amy J. St. Eve.

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DECIDED: January 7, 2008

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Before RADER, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and PROST, Circuit Judge.

PROST, Circuit Judge.

Robert Bosch Tool Corp. ("Bosch") appeals from a final judgment of the United States District Court for the Northern District of Illinois, relating to a patent infringement suit by Black & Decker, Inc. and Black & Decker (U.S.), Inc. (collectively "B&D") asserting U.S. Patent Nos. 6,308,059 ("the '059 patent") and 6,788,925 ("the '925 patent"). Black & Decker, Inc. v. Robert Bosch Tool Corp., No. 04-CV-7955 (N.D. Ill. Feb. 20, 2007) ("B&D JMOL"). Specifically, Bosch contests the district court's claim construction, the jury's infringement verdict, the jury instructions on obviousness, the district court's denial of inequitable conduct, the district court's denial of judgment as a

matter of law (“JMOL”) relating to willful infringement, and the district court’s award of enhanced damages to B&D. B&D cross-appeals one aspect of the district court’s injunction, which specifically excluded from the enjoined products one of Bosch’s radios not considered at trial. Black & Decker, Inc. v. Robert Bosch Tool Corp., No. 04-CV-7955 (N.D. Ill. Dec. 7, 2006) (“Injunction Order”). In light of problems with the district court’s claim construction, we amend that construction, vacate the infringement verdict, and remand for further proceedings. We affirm, however, the jury’s verdict on obviousness and the district court’s denial of Bosch’s inequitable conduct claim.

## BACKGROUND

The ’059 and ’925 patents relate to a combination of a radio and a battery charger. The radio contains a power supply that, when plugged into an alternating current (“AC”) outlet, supplies direct current (“DC”) to power the radio and charge the battery. When disconnected from the AC outlet, the radio may operate on DC power supplied by the battery. Such radios find particular utility on construction job-sites, which create high demand to recharge cordless power tools. In light of the variety of battery voltages used in cordless tools, the patents contemplate operation using a variety of battery voltages. The patents claim the invention with some variation; as an example for the purposes of our analysis, claim 1 of the ’059 patent recites (emphases added):

A combination battery charger and portable radio comprising:  
an enclosure;  
a radio disposed in said enclosure and including a radio receiver for receiving radio signals and generating audio output signals responsive thereto;  
an AC powered DC power supply disposed in said enclosure for powering said radio and generating a first DC output voltage having a magnitude sufficient to power said radio;

a removable DC power supply disposed in said enclosure for powering said radio, said removable DC power supply being selected to generate a second DC output voltage having a magnitude in a range that includes voltages both lower and higher than the magnitude of said first DC output voltage from said AC powered DC power supply; and  
a power conversion circuit disposed between said AC powered DC power supply and said removable DC power supply, and between said radio and said removable DC power supply, to enable said removable DC power supply to power said radio and be charged by said AC powered DC power supply, regardless of the magnitude of the second DC output voltage from said removable DC power supply.

After a trial, the jury found that Bosch had infringed claims 1, 2, 6, 7, and 10 of the '059 patent and claim 1 of the '925 patent, and that those same claims were not invalid, but that claims 2 and 10 of the '925 patent were invalid as anticipated and obvious. Injunction Order; B&D JMOL. Based on the jury's finding that Bosch willfully infringed the patents, the district court enhanced damages by fifty percent. Black & Decker, No. 04-CV-7955 (N.D. Ill. Nov. 20, 2006). The district court denied Bosch's inequitable conduct claim after a bench trial. Black & Decker, No. 04-CV-7955 (N.D. Ill. Oct. 24, 2006) ("Inequitable Conduct").

The district court issued an injunction directed at the Bosch radios considered at trial, but specifically exempted a newer model radio that the court had excluded from trial by granting a motion in limine. Injunction Order. Considering post-trial motions, the district court denied Bosch's motions for JMOL and for a new trial that it did not infringe B&D's patents, willfully or otherwise. Black & Decker, No. 04-CV-7955 (N.D. Ill. Dec. 22, 2006; Jan. 12, 2007). Finally, the district court granted B&D's motion for JMOL that claims 2 and 10 of the '925 patent were not invalid as anticipated or obvious in light of the asserted prior art. B&D JMOL. This appeal and cross-appeal followed. We have jurisdiction pursuant to 28 U.S.C. 1295(a).

## DISCUSSION

### I

On appeal, Bosch challenges the district court's construction of "power conversion circuit," which the district court construed as a "circuit that changes electrical energy." Bosch contends that the proper construction should require a plurality of DC to DC ("DC/DC") converters, which can convert an input DC voltage to a different output DC voltage, either higher or lower. It also asserts error in the court's refusal to construe "regardless" as used in the claims.

B&D claims that, by failing to object to the claim construction jury instructions and failing to argue claim construction in its motion for JMOL, Bosch has waived the ability to challenge those constructions. It also disputes the correct construction for "power conversion circuit," asserting that the district court correctly construed the broad claim language by refusing to limit it to the preferred embodiment as captured by the dependent claims.

As an initial matter, we agree with Bosch that the Seventh Circuit futility exception controls the wavier issue here. Because Bosch proposed and argued for its construction at the Markman hearing, "[o]bjection under Rule 51 was not required to preserve the right to appeal the Markman ruling." Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 381 F.3d 1371, 1381 (Fed. Cir. 2004) (considering the applicable rule under Seventh Circuit precedent).

The district court based its construction of "power conversion circuit" in large part on the principle of claim differentiation, because dependent claims require a power conversion circuit ("PCC") that produces a voltage different from the power supply or

battery. Black & Decker, No. 04-CV-7955, slip op. at 17 (N.D. Ill. Sept. 28, 2005). That doctrine, however, cannot serve as a basis to give a patent scope beyond the invention it discloses. See Kraft Foods, Inc. v. Int'l Trading Co., 203 F.3d 1362, 1368 (Fed. Cir. 2000). Any presumption arising here from the dependent claims fails to override the proper construction of “power conversion circuit” provided by the claims, the specification, and the prosecution history. Accordingly, as discussed below, the district court erred by construing “power conversion circuit” without sufficient consideration of factors beyond those three words and the dependent claims.

#### A

The surrounding claim language provides an important consideration for construing a particular term within a claim. Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005). To provide for functionality with a variety of battery voltages, the patents claim a “power conversion circuit . . . to enable [the battery] to power [the] radio and be charged by [the power supply], regardless of the [battery voltage].” E.g., '059 patent, col.5 ll.38–45. Claim 1 of the '925 patent requires only that the PCC enables the battery to power the radio regardless of battery voltage. '925 patent, col.5 ll.46–50. In either case, the surrounding claim language requires that the PCC operates to enable certain functionality in the combination radio.

To understand this requirement, we must consider three possibilities: (1) the battery provides approximately the same voltage as the power supply, (2) the battery provides a higher voltage than the power supply, and (3) the battery provides a lower voltage than the power supply. The claims contemplate all of these three conditions. E.g., '059 patent, col.5 ll.32–37. Under all conditions, we assume that the power supply

can power the radio directly. With a battery of the same voltage as the power supply, either the battery or the power supply may power the radio; similarly, the power supply can charge the battery directly. With a battery of a higher voltage than the power supply, the PCC must increase the voltage from the power supply in order to charge the battery, and reduce the voltage from the battery in order to power the radio from the battery. Conversely, for a battery of a lower voltage than the power supply, the PCC must increase the voltage from the battery in order to power the radio, and reduce the voltage from the power supply in order to charge the battery appropriately.

Combining all of these possibilities, as the claims require, a PCC that enables the desired functionality must contain circuitry to both increase and reduce voltages. Accordingly, a proper construction for “power conversion circuit” must include the requirement that the circuit can both increase and reduce voltages.

## B

Beyond the language of the claims, the specification also provides meaningful guidance when construing claim terms. Phillips, 415 F.3d at 1317. The claim, however, should contain a linguistic “hook,” or some point to tie it to a concept from the specification. NTP, Inc. v. Research In Motion, Ltd., 418 F.3d 1282, 1310 (Fed. Cir. 2005) (quoting Renishaw PLC v. Marposs Societa’ per Azioni, 158 F.3d 1243, 1248 (Fed. Cir. 1998)). Here, the claim does exactly that by using the term “conversion.”

While the specification of the patents here does not use the exact phrase “power conversion circuit,” it does touch on conversion a limited number of times. First, the Summary of the Invention states:

An optional variable voltage feature permits use of battery packs lower or higher than 12 volts to be used by the radio. The variable voltage feature

includes a socket having a plurality of contacts mating with an adapter, matching predetermined requirements of a DC source battery pack, and a double pole single throw on/off switch controlling a DC/DC power source converter for supplying power to said radio.

'059 patent, col.2 ll.57–64 (emphasis added). Then, describing the preferred embodiment, it states:

In an alternate embodiment, additional circuitry is provided to permit the use of battery packs lower or higher than 12 volts to be used in radio 1. In this embodiment, socket 45 is replaced with socket 70 which now has six contacts mating with adapter 61, which match the requirements of a particular battery pack 60. The on/off switch is now upgraded to a double pole single throw variety for controlling output DC/DC converter 68 for battery operation of radio 1. This extra pair of contacts eliminate the “standby” losses of converter 68 when radio 1 is turned off.

Charging DC/DC converter 69 is selected via relay 70 when the charger is turned on. Although electromagnetic relay 70 is shown, a solid state relay can be used instead. If battery pack 60 has a voltage rating higher than 12 volts (e.g. 18 volts), the output converter 68 is a step down type reducing the battery voltage to a nominal 12 volts while charge converter 69 is a step up converting a nominal 12 volts from the charger to a nominal 18 volts at the battery. If the battery voltage were lower than 12 volts (e.g. 9.6 volts), the output converter 68 is a step up type while the charging converter 69 is a step down type. Diodes 56 and 67 are used for power steering while diodes 66 and 65 are used for DC/DC converter isolation.

Id. at col.4 l.55 to col.5 l.10 (emphases added). The specification does not elsewhere use a form of “convert” in the context of permitting various voltage batteries. Both portions of the specification cited above describe a circuit that adjusts voltage using a DC/DC converter. In the first example, from the Summary of the Invention, the patent describes a circuit that adjusts the power of the battery to allow it to power the radio. In the second example, from the Detailed Description, the patent describes a circuit that both raises and lowers voltage, to allow the battery to power the radio and to allow the power supply to charge the battery.

B&D argues that only the preferred embodiment contains a DC/DC converter and

that we should not limit construction of the “power conversion circuit” to such a device. But we can find nothing in the patent that discloses a PCC other than the one shown in the preferred embodiment. Indeed, at oral argument, counsel for B&D admitted that Figure 6 of the patents, illustrating a more general embodiment, does not contain a power conversion circuit. Oral Arg. at 20:58–21:02, available at: <http://www.cafc.uscourts.gov/oralarguments/mp3/2007-1243.mp3> (“[I]t’s not present in [figure] six. There’s no conversion circuit in six.”). The specification consistently describes a circuit that has the ability to change voltages using a DC/DC converter. For that reason, we conclude that the specification requires that a “power conversion circuit” includes a DC/DC converter.

While the specification requires a “power conversion circuit” to include a DC/DC converter, it does not limit the PCC to only such a device. Both instances in the specification discussing conversion also describe a circuit containing other electrical components such as switches. Additionally, the specification does not consistently require multiple DC/DC converters in the PCC, as the appellant urges. The first use of “converter,” in the Summary of the Invention, describes only a single converter. We therefore reject Bosch’s suggestion that the proper construction requires two DC/DC converters.

### C

The prosecution history further confirms the correct construction of “power conversion circuit.” Remarking on an amendment submitted to the examiner after an interview, the applicant described the invention as including a “power conversion circuit that adjusts the voltage that is either supplied by the [power supply] to the [battery], or

supplied by the [battery] to the radio. In the preferred embodiment, the power conversion circuit is implemented by a pair of DC/DC converters . . . .” ’059 patent prosecution, Amendment of Apr. 26, 2001, at 7. This statement confirms that (1) the PCC must adjust voltage up and down and (2) the PCC in the preferred embodiment uses two DC/DC converters. As we have discussed, the surrounding claim language also requires the PCC both increase and reduce voltage. And the fact that the preferred embodiment uses two DC/DC converters comports with the specification’s requirement that the PCC includes a DC/DC converter. In sum, the prosecution history confirms the proper construction of “power conversion circuit” provided by the claim language and the specification.

#### D

As mentioned, above, the district court’s reliance on claim differentiation cannot survive the definition for “power conversion circuit” provided by the claim, the specification, and the prosecution history. Further, our construction—requiring circuitry to increase and reduce voltages and requiring a DC/DC converter—does not make redundant the requirement in dependent claim 2 of the ’059 patent that the PCC generates a third voltage sufficient to power the radio. A PCC meeting the limitations of claim 1 may generate a voltage equal to that of the power supply, and thus would not satisfy the “third voltage” requirement of claim 2.

Therefore, because the dependent claims do add additional limitations, and because even if they did not, the presumption of scope applied to the independent claims under the doctrine of claim differentiation here does not overcome the definition from the intrinsic record, we reject the district court’s reliance on that doctrine. Giving

appropriate consideration to the surrounding claim language, the specification, and the prosecution history, we construe “power conversion circuit” as a circuit that can increase and reduce DC voltages and includes a DC/DC converter.

## E

Bosch also argues that the district court erred by refusing to construe the “regardless” claim term. Besides proposing a boundless construction, Bosch also argues that the term should require operation on any battery voltage available at the time of the invention. We reject Bosch’s arguments, and instead agree with B&D and the district court that the plain meaning of “regardless” suffices here. As B&D points out, the claims describe a “range” of battery voltages, which provides a limiting context to the “regardless” term.

## II

Because the district court incorrectly construed “power conversion circuit,” we vacate the infringement verdict and the willfulness finding and remand for further proceedings to resolve the factual question of infringement. We reject Bosch’s argument that we should hold as a matter of law that its combination radios cannot infringe claim 1 of the ’925 patent based on the “charger” limitation.

## III

Bosch also argues on appeal that the jury instructions regarding the standard for obviousness require a new trial or even reversal of the jury’s verdict finding the claims nonobvious. In Bosch’s view, the Supreme Court’s rejection of the teaching, suggestion, motivation test in KSR International Co. v. Teleflex, Inc., 127 S. Ct. 1727 (2007), requires us to grant Bosch a new trial on obviousness. Although Bosch did not

object at trial, Seventh Circuit precedent holds that, in order to preserve an issue for appeal, a party does not have to object to jury instructions that later become erroneous under a change in the law. Phillips v. Cameron Tool Corp., 950 F.2d 488, 291 (7th Cir. 1991).

We agree with Bosch that the jury instructions stated a standard inconsistent with KSR—that Bosch had to show a rigid and inflexible “motivation or suggestion.” This court has already said that the teaching, suggestion, motivation test remains good law for obviousness, only a rigid application of that test is problematic. The problem for Bosch on appeal, however, is that it fails to identify evidence in the record that could support a jury’s verdict of obviousness even under the correct standard.

Additionally, because our altered claim construction narrows the district court’s construction, it therefore does nothing to bolster Bosch’s invalidity arguments. Accordingly, we affirm the jury’s verdict of non-obviousness.

#### IV

Bosch further disputes the district court’s denial of Bosch’s claim of inequitable conduct. The district court found a lack of intent to deceive on the part of the prosecuting attorney. Inequitable Conduct, slip op. at 4–14. While Bosch argues that related co-pending applications not disclosed during prosecution of the ’095 and ’925 patents would have provided information material to patentability, we do not find an abuse of discretion in the trial court’s decision. Due to their filing date, the references could not have served as prior art to the application here. Further, no evidence demonstrates the examiner would have declared an interference. Indeed, according to Bosch’s expert, the priority dates of the two applications differed too much for the

examiner to have declared an interference. Finally, even if Bosch could establish materiality, nothing indicates the district court would have or should have changed its conclusion on intent.

## V

In light of our disposition of the claim construction issue on appeal, and consequent vacating of the infringement verdict, the issue of willful infringement becomes moot. Should the trial court need to revisit the issue on remand, however, we note that, as Bosch argues on appeal, our recent en banc decision in In re Seagate may well affect the court's willfulness analysis. 497 F.3d 1360 (Fed. Cir. 2007).

While B&D correctly states that Seagate did not affect Bosch's argument that it did not have knowledge of the patents in suit, that would not necessarily resolve the issue. The district court, in deciding the enhanced damages issue, recognized that "Bosch had legitimate defenses to Black & Decker's infringement claims." Further, the jury found two claims invalid as obvious, showing that the appellant also made a credible invalidity argument.

As we stated in Seagate, the patentee must prove the "infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." Id. at 1371. Under this objective standard, both legitimate defenses to infringement claims and credible invalidity arguments demonstrate the lack of an objectively high likelihood that a party took actions constituting infringement of a valid patent.

## VI

In light of our conclusion with respect to claim construction, the cross-appeal regarding the scope of the permanent injunction becomes moot. Should the issue arise

again on remand, however, we note that B&D has raised serious questions about the district court's exclusion of certain products from the scope of the injunction.

At trial, the district court excluded evidence of Bosch's PB10-DC "Advanced" combination radio from trial. Then, when issuing the permanent injunction, the court explicitly excluded from that injunction the Advanced product. Injunction Order. The exclusion of evidence from trial may have appropriately penalized B&D for failing to update its interrogatory answers when it learned of the Advanced product; the exclusion prevented B&D from automatically applying an infringement verdict to that product. The injunction, however, took the much more significant step of requiring B&D to assert claims against the Advanced product in a new suit without regard to its similarity to the products explicitly included in the injunction. The district court provided no rationale to explain why B&D should not have the opportunity to demonstrate that the Advanced product constitutes nothing more than a colorable variation from the enjoined products. Int'l Rectifier Corp. v. IXYS Corp., 383 F.3d 1312, 1317–18 (Fed. Cir. 2004).

#### CONCLUSION

For the foregoing reasons, we affirm-in-part, vacate-in-part, and remand to the district court for further proceedings.