

United States Court of Appeals for the Federal Circuit

97-1512,-1542

CELERITAS TECHNOLOGIES, LTD.,

Plaintiff/Cross-Appellant,

v.

ROCKWELL INTERNATIONAL CORPORATION,

Defendant-Appellant,

Frederick A. Lorig, Bright & Lorig, of Los Angeles, California, and Rory J. Radding, Pennie & Edmonds, LLP, of New York, New York, argued for plaintiff-cross appellant. With them on the brief were Patrick F. Bright and Bruce R. Zisser, Bright & Lorig. Of counsel on the brief was Robert A. Appleby, Pennie & Edmonds LLP.

Richard S. Florsheim, Foley & Lardner, of Milwaukee, Wisconsin, argued for defendant-appellant. With him on the brief was Brian J. McNamara and Lawrence M. Sung, Foley & Lardner, of Washington, DC. Of counsel on the brief was Mark A. Flagel, Latham & Watkins, of Los Angeles, California.

Appealed from: United States District Court for the Central District of California

Senior Judge Edward Rafeedie

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ROCKWELL INTERNATIONAL CORPORATION,

Defendant-Appellant.

DECIDED: July 20, 1998

Before MAYER, Chief Judge, MICHEL and LOURIE, Circuit Judges.

LOURIE, Circuit Judge.

Rockwell International Corporation appeals from the decision of the United States District Court for the Central District of California denying Rockwell's motions for judgment as a matter of law and for a new trial following a jury verdict that Rockwell willfully infringed Celeritas Technologies, Ltd.'s patent, misappropriated its trade secrets, and breached a non-disclosure agreement relating to the protected subject matter. See Celeritas Techs., Ltd v. Rockwell Int'l Corp., 95-CV-6371 (May 30, 1997). Because substantial evidence supports the jury's verdict on the contract claim, we affirm the court's ruling with regard to both liability and damages on that claim. Because the claims of the patent have been shown to be anticipated as a matter of law, we reverse the denial of Rockwell's motion for JMOL regarding patent validity and direct entry of judgment for Rockwell on the patent claim.

Celeritas cross-appeals from the judgment, arguing that the district court should have added exemplary damages for misappropriation to the contract damages award. Because the district court did not err in determining that a stipulation precluded a recovery on more than one claim, we affirm the entry of judgment solely on the contract claim.

BACKGROUND

On July 28, 1993, Michael Dolan filed a patent application for an apparatus for increasing the rate of data transmission over analog cellular telephone networks. The resulting patent, U.S. Patent 5,386,590, assigned to Celeritas, issued on January 31, 1995 with two claims. As described in the patent, a conventional analog cellular communications system suffers from noise that the listener hears as a high frequency hiss. Analog cellular networks combat this noise by boosting the high frequency components of the transmitted signal (typically a speaker's voice) and then decreasing these components at the receiving end. From the listener's perspective, this pre-emphasis at the transmit end and de-emphasis at the receiving end has minimal effect on the sound of a speaker's voice. The de-emphasis on the receiving end, however, reduces the high frequency hiss and therefore increases the fidelity of the cellular communications channel.

A limiter circuit then "clips" the top of signals having high amplitudes so that the transmitted signal stays within an established range. The combined effect of the pre-emphasis and limiter circuits is substantially imperceptible in voice communication; however, it significantly impairs the transmission of data across the network.

The claimed invention overcomes the problem of distortion induced by the pre-emphasis and limiter circuits found in conventional analog cellular communications systems. The patent claims an apparatus that counteracts the adverse effects of the pre-emphasis and limiter circuits by de-emphasizing the data signal before presenting it to the cellular network. Claim 2, which is representative, reads as follows:

An apparatus for increasing the data output rate from a transmit modem in a duplex analog radio communication system having a single-carrier data signal, comprising:

a radio transmitter which receives said single-carrier data signal, said radio transmitter including a pre-emphasizer that increases the amplitudes of components of said single-carrier data signal in the range of 1,000 Hz to 3,000 Hz, said radio transmitter further including a limiter that limits the amplitudes of said single-carrier data signal;

a transmit modem which provides said single-carrier data signal as an input signal to said radio transmitter, said transmit modem encoding digital data onto said input signal as a plurality of modulation signal components, said transmit modem including a spectral shaper which selectively reduces amplitudes of said modulation signal components at higher frequencies to cause said input signal from said modem to said radio transmitter to have lower amplitudes at higher frequencies than at lower frequencies to reduce the effect of said limiter on said input signal.

The spectral shaper recited in the claim performs the de-emphasis function.

In September 1993, Dolan and other officials of Celeritas met with representatives from Rockwell to demonstrate their proprietary de-emphasis technology. Rockwell is the leading manufacturer of modem "chip sets" which contain the core functions of commercial modems, including the modulation function where de-emphasis is performed. The parties entered into a non-disclosure agreement (NDA), which covered the subject matter of the meeting and provided in pertinent part that Rockwell "shall not disclose or use any Proprietary Information (or any derivative thereof) except for the purpose of evaluating the prospective business arrangements between Celeritas and Rockwell."

The agreement provided that proprietary information "shall not include information which . . . was in the public domain on the date hereof or comes into the public domain other than through the fault or negligence of [Rockwell]." Furthermore, the agreement contained the following paragraph:

Injunctive Relief. Celeritas and Rockwell acknowledge that the extent of damages in the event of the breach of any provision of this Agreement would be difficult or impossible to ascertain, and that there will be available no adequate remedy at law in the event of any such breach. Each party therefore agrees that in the event it breaches any provision of this Agreement, the other party will be entitled to injunctive or other equitable relief, in addition to any other relief to which it may be entitled. The parties hereby waive any requirement for the posting of a bond or other security in connection with the granting of injunctive relief.

In March 1994, AT& T Paradyne began to sell a modem that incorporated de-emphasis technology. In that same month, Rockwell informed Celeritas that it would not license the use of Celeritas's proprietary technology, and concurrently began a development project to incorporate de-emphasis technology into its modem chip sets. Significantly, Rockwell did not independently develop its own de-emphasis technology, but instead assigned the same engineers who had learned of Celeritas's technology under the NDA to work on the de-emphasis development project. In January 1995, Rockwell began shipping its first prototype chip sets that contained de-emphasis technology. By the time of trial in 1997, Rockwell's sales were surpassing its projections.

On September 22, 1995, Celeritas sued Rockwell, alleging breach of contract, misappropriation of trade secrets, and patent infringement. In order to simplify the trial and avoid a duplicative recovery, Celeritas stipulated that it would accept the highest award under the three independent theories. The jury returned a verdict for Celeritas on each of the three theories, awarding Celeritas \$57,658,000 each on the patent infringement and breach of contract claims, and \$26,850,000 each in compensatory and exemplary damages on the trade secret misappropriation claim. The contract and patent infringement damages were based on a hypothetical lump-sum paid-up license for the use of the proprietary technology in Rockwell's products. The misappropriation damages were based on a finding that Celeritas's proprietary technology gave Rockwell a twenty-one month "head start" in its product development. After Rockwell moved for JMOL on liability and

for a new trial on damages, the court concluded that the patent infringement award erroneously included a royalty on post-judgment sales; the parties then agreed to a remittitur that reduced the award to \$17,484,160, which was doubled to \$34,968,320 in light of a finding of willful infringement. That award reflected multiplying a royalty rate by Rockwell's own 1994 projections of estimated sales through the last day of trial.

The court then entered judgment awarding Celeritas \$57,658,000 for breach of contract, \$85,820.05 in costs, and \$900,000 in attorney fees under 35 U.S.C. § 285 (1994) (court may award prevailing party attorney fees in an exceptional patent case). The court denied Rockwell's remaining motions. Rockwell now appeals and Celeritas cross-appeals to this court. We have jurisdiction under 28 U.S.C. § 1295(a)(1) (1994).

DISCUSSION

On appeal from a judgment denying a motion for JMOL, we reapply the standards used by the district court in ruling on the motion. See Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1173 (Fed. Cir. 1998) (in banc); Garter-Bare Co. v. Munsingwear, Inc., 723 F.2d 707, 709, 221 USPQ 751, 752 (9th Cir. 1984). Following a jury trial, an appellant "must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusion(s) implied from the jury's verdict cannot in law be supported by those findings." Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984) (citation omitted). We review the denial of a motion for a new trial for an abuse of discretion. See DMI, Inc. v. Deere & Co., 802 F.2d 421, 427, 231 USPQ 276, 280 (Fed. Cir. 1986); Landes Constr. Co. v. Royal Bank of Canada, 833 F.2d 1365, 1371 (9th Cir. 1987).

A. Breach of the NDA

Rockwell first argues that the district court erred by denying its motion for JMOL on the breach of contract claim. Citing the prior art submitted to the United States Patent and Trademark Office (PTO) by Celeritas, Rockwell argues that the evidence at trial clearly demonstrates that the de-emphasis technology disclosed to Rockwell was already in the public domain. Even if the technology were proprietary at the time of disclosure, Rockwell argues, the technology had entered the public domain before Rockwell used it, concededly no later than March 1994. Specifically, Rockwell asserts that AT& T Paradyne had already placed the technology in the public domain through the sale of a modem incorporating de-emphasis technology ("the modem"). Rockwell asserts that the technology was "readily ascertainable" because any competent engineer could have reverse engineered the modem. Rockwell further argues that any confidentiality obligation under the NDA regarding de-emphasis technology was extinguished once the '590 patent issued in January 1995.

Celeritas responds that substantial evidence supports the jury's verdict that Rockwell used its proprietary information. Celeritas argues that in order for a trade secret to enter the public domain in California, it must actually have been ascertained by proper means, and not merely have been ascertainable. Celeritas maintains that, in any event, the only evidence at trial supports the jury's implicit finding that the information was not readily ascertainable from inspection of the modem. Celeritas also argues that the issuance of its patent in 1995 is immaterial because Rockwell had already breached the agreement by using its proprietary information in 1994.

We agree with Celeritas that substantial evidence supports the jury's conclusion that Rockwell breached the

NDA. The jury implicitly found that the information given to Rockwell by Celeritas was proprietary. See Perkin-Elmer Corp., 732 F.2d at 893, 221 USPQ at 672-73 (stating that "the law presumes the existence of findings necessary to support the verdict the jury reached"). Unrebutted testimony established that Celeritas disclosed to Rockwell implementation details and techniques that went beyond the information disclosed in the patent. Thus, even if every detail disclosed in the patent were in the prior art, a fact never alleged by Rockwell, that fact would not undermine the jury's conclusion that Celeritas revealed proprietary information to Rockwell which it then used in developing its modem chip sets. Accordingly, Rockwell's reliance on the prosecution history of the '590 patent and the prior art submitted to the PTO is misplaced.

The jury also implicitly found that the technology had not been placed in the public domain by the sale of the modem. California law appears somewhat unsettled regarding whether a trade secret enters the public domain when it is "readily ascertainable" or whether it must also be "actually ascertained" by the public. Compare ABBA Rubber Co. v. Seaquist, 235 Cal. App. 3d 1 (1991) (holding that a trade secret is protectable if it has not yet been ascertained by others) with American Paper & Packaging Products, Inc. v. Kirgan, 183 Cal. App. 3d 1318 (1986) (suggesting that a trade secret is not protectable if readily ascertainable by others). Because the judgment is supportable under either standard, we need not attempt to resolve this issue of state law. Suffice it to say that substantial evidence supports a finding that the technology implementing the de-emphasis function in the modem was not "readily ascertainable." In fact, Dolan's testimony, the only evidence cited by Rockwell, belies its contentions. In the very passage cited by Rockwell, Dolan stated that (1) a spectrum analyzer would be needed to discover the de-emphasis technology, (2) most engineers that he talked to did not have spectrum analyzers, and (3) only if an engineer had a spectrum analyzer and knew what to look for could the engineer discover that the modem had de-emphasis technology. His express caveat that the use of de-emphasis could have been discovered if it was being affirmatively pursued is not an admission that the technology would be "readily ascertainable." Because substantial evidence supports the conclusion that the information disclosed to Rockwell had not entered the public domain before its unauthorized use by Rockwell, the court did not err in denying Rockwell's motion for JMOL regarding its breach of the NDA.

B. Damages for breach of the NDA

Rockwell argues that the jury's damage award is not sustainable under California contract law and therefore that the district court abused its discretion by not ordering a new trial on contract damages. According to Rockwell a new trial is justified because (1) the contract expressly excludes damages based on a royalty bearing agreement, (2) the damage award is not directly related to any harm caused by the breach, and (3) Rockwell's liability for breach ended once the information entered the public domain.

Rockwell's first argument is without merit. The contract expressly provides that because damages may be difficult to calculate, injunctive relief is available. It does not preclude an award of damages. The clause providing for injunctive relief in fact clearly and unambiguously provides for an injunction "in addition to any other relief to which it may be entitled." The standard remedy for breach of contract is, of course, damages. Rockwell also relies on the contract definition of "proprietary information" which specifically excludes information that comes into the public domain. This contract provision clearly allows Rockwell to use information that is proprietary at the time of contracting only after it enters the public domain. It cannot be reasonably construed as relieving Rockwell of liability for use made of proprietary information before it enters the public domain.

Rockwell's second argument is also without merit. Celeritas was undoubtedly harmed. It is in the business of licensing its technology. Celeritas entered into the NDA with Rockwell with the reasonable expectation that Rockwell would compensate it for any use made of the disclosed information. This expectation was the motivating factor for Celeritas to share its knowledge with Rockwell. After Celeritas disclosed its proprietary technology to Rockwell, Rockwell was faced with two legitimate choices: it could have used the technology and entered into a licensing agreement with Celeritas or it could have refrained from using the technology. It chose instead to use the technology without compensating Celeritas. To compensate Celeritas for the breach, the jury properly determined the license fee Rockwell would have paid had it not breached the agreement.

As to quantum, the amount of the damage award is far from speculative. The evidence established that lump-sum paid-up licenses based on projected royalties were common in the industry. Celeritas's damages expert testified as to a reasonable royalty rate based on the past licensing practices of Celeritas, Rockwell, and others in the modem business. The expert then determined the lump-sum amount Rockwell would have paid by multiplying the royalty rate by Rockwell's 1994 sales projections for the accused devices and then discounting the total to net present value. By adopting this lump-sum amount as the proper measure of damages, the jury implicitly accepted the expert's methodology.

Rockwell's third argument confuses the remedy for breach of contract with California's statutory remedies for misappropriation of trade secrets. It may be true that in the absence of a contract, liability for Rockwell's misappropriation of Celeritas's trade secrets may be statutorily limited to the "head start" period. See Cal. Civ. Code § 3426.3 (West 1997) ("A complainant may recover damages for the actual loss caused by misappropriation. . . . If neither damages nor unjust enrichment caused by misappropriation are provable, the court may order payment of a reasonable royalty for no longer than the period of time the use could have been prohibited."). However, liability for breach of contract is not so limited.

Celeritas's damages may include that which Rockwell might have paid for use of the technology at the time of the breach in 1994 if it had chosen not to breach the contract. At that time, it did not know what its actual sales figures would be or that the '590 patent would issue less than one year later, or whether it would issue at all. Given Rockwell's desire to incorporate the technology into its products and the uncertainty as to future events, the methodology used by the expert and implicitly adopted by the jury was not improper. There was substantial evidence to support the jury's determination that Rockwell would have accepted a lump-sum paid-up license based on its forecasts had it not breached the contract and to support the jury's conclusion as to quantum. Of course, the jury did not know what licensing arrangement might have been worked out in March 1994, but such uncertainty does not bar contract recovery.

Damages for breach of contract must be clearly ascertainable. However, where the fact of damage has been established, the precise amount of the damage need not be calculated with absolute certainty. As long as there is available a satisfactory method for obtaining a reasonably proximate estimation of the damages, the defendant whose wrongful act gave rise to the injury will not be heard to complain that the amount thereof cannot be determined with mathematical precision.

DuBarry Int'l, Inc. v. Southwest Forest Indus., Inc., 231 Cal. App. 3d 552, 562 (1991) (quotation marks and citations omitted). Accordingly, the district court's denial of Rockwell's motion for a new trial on damages for Rockwell's breach of contract is affirmed.

C. Patent Validity

The district court awarded Celeritas attorney fees under 35 U.S.C. § 285 as the prevailing party in an exceptional patent case. Rockwell argues that the infringement verdict, which is the basis for the award, cannot stand and that the district court erred by not granting its motion for JMOL on the issue of patent invalidity. Rockwell asserts that the claims of the patent are invalid as anticipated by either of two references.

One prior art reference cited by Rockwell was an article published in 1991 by the Telebit Corporation entitled, "The Static Characteristics of Analog Cellular Radio Channels and Their Effects Upon Data Transmission," CCITT Study Group XVII, Delayed Contribution D 136, Geneva, Oct. 29 - Nov. 6, 1991. Rockwell argues that the Telebit article discloses each limitation of the '590 patent claims. Celeritas responds that Rockwell has a heavy burden in sustaining that position because the Telebit article was disclosed to the PTO during prosecution of the '590 patent and the patent obviously was granted despite the existence of that reference. See Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464, 1467, 15 USPQ2d 1525, 1527 (Fed. Cir. 1991) (stating that "the burden of showing . . . invalidity . . . is especially difficult when the prior art was before the PTO examiner"). Celeritas further argues that substantial evidence supports the jury's implicit finding that the Telebit article fails to disclose a single carrier modem that incorporates de-emphasis (i.e., the "spectral shaper" of claim 2 of the patent).

In the PTO and to the jury, Celeritas emphasized that the article taught away from the claimed invention, teaching the solution of amplitude reduction, and expressly stating that de-emphasis would not work well in a single-carrier system. For example, Celeritas informed the PTO that:

[m]ore importantly, the Telebit article teaches away from Applicant's invention. First it should be understood that the Telebit article describes a simulation of a modem and a cellular radio system. The Telebit article describes a modem that uses a large number of simultaneous carriers to transmit data in contrast to single carrier modems for which Applicant's invention is intended, and teaches that the use of de-emphasis would not work for single carrier systems.

(emphasis in original). In addition to its "teaching away" argument, Celeritas asserts that the Telebit article fails to disclose a modem that uses a single-carrier data signal and that the de-emphasis circuit disclosed is not "in" the modem as required by claim 2. Rockwell responds that the Telebit article clearly discloses each limitation of the claims.

We agree with Rockwell that no reasonable jury could have determined that the Telebit article did not anticipate the claims of the patent. It is well settled that a claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference. See Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715, 23 USPQ 1264, 1270 (Fed. Cir. 1984). A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. Thus, the question whether a reference "teaches away" from the invention is inapplicable to an anticipation analysis. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983) ("The law of anticipation does not require that the reference 'teach' what the subject matter of the patent teaches [I]t is only necessary that the claims under attack, as construed by the court, 'read on' something disclosed in the reference."), overruled in part on other grounds, SRI Int'l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1125, 227 USPQ 577, 588 (Fed. Cir. 1985) (in banc).

As a factual matter, the Telebit article itself and the testimony offered at trial conclusively demonstrate that the article discloses the use of a single-carrier data signal, not only multi-carrier signals. As Celeritas's own

witnesses testified, the Telebit article describes a test signal that sends twenty-one tones to simulate a modulated signal. The article states that the test signal, composed of twenty-one tones, has "a probability distribution of magnitude that closely matches that of a V.29 modem." Dolan, the inventor of the '590 patent, testified that the V.29 signal is a single-carrier data signal. Thus, contrary to Dolan's statement to the PTO that the Telebit article only discloses the use of a "large number of simultaneous carriers," the article actually does disclose a simulated single-carrier data signal.

Regarding the use of de-emphasis in the transmit modem, the article states:

4.1 De-emphasis in the Modem Transmitter

As discussed in Section 2.2, pre-emphasis of a wideband signal before limiting severely constrains the signal power and thereby the performance in the presence of noise and interference. To counteract the pre-emphasis a one-pole low-pass filter was simulated at the modem output

This de-emphasis would cause severe inter-symbol interference in a single-carrier data signal; it may be feasible only for multicarrier signals.

It is clear that the first paragraph in this passage describes a simulated de-emphasis circuit at the output of a simulated modem, which the record shows must be the simulated V.29 modem using a single-carrier data signal. This is confirmed by the second paragraph, which discloses the results of the simulated single-carrier data signal and indicates difficulties with it. The article does clearly disclose the use of a de-emphasis circuit in a modem using a single-carrier data signal. The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed. The modem in the article is not disclosed to be inoperative. It may be that Dolan invented a solution to the problem cited in the article; however, the invention as claimed is not limited to the Dolan solution to that problem; the broad claims at issue read on what is disclosed in the Telebit article. Because it is beyond dispute that the Telebit article discloses each of the claimed limitations, the claims are anticipated and hence invalid. Accordingly, the district court erred by not granting Rockwell's motion for JMOL that the patent is invalid.

D. Misappropriation of Trade Secrets

Because we affirm the determination of liability under the contract claim, we also need not consider Rockwell's arguments regarding the jury's verdict for misappropriation of trade secrets. This portion of the verdict was not incorporated into the district court's judgment because Celeritas stipulated that it would accept the liability theory with the highest damage award. However, we need to consider the issue of Celeritas's cross-appeal.

Celeritas argues that the court clearly erred by not combining the contract award with the exemplary damage award. Rockwell responds that the stipulation suggested and agreed to by Celeritas bars such a recovery. We agree with Rockwell that Celeritas elected its remedy. That remedy was for breach of contract, and the exemplary damages accompanied the misappropriation award, which was not elected. Celeritas stipulated to accept the single highest award from the three causes of action consisting of patent infringement, trade secret misappropriation, and breach of contract in order to avoid complex jury instructions dealing with avoiding duplicative damages. This stipulation is reflected in the following colloquy between counsel for Celeritas and the court:

Counsel: Your Honor will only be required to enter judgment on the highest of those awards. . . .

These three different causes of action give us different remedies for that wrong [use of technology without paying for it]. And we, Celeritas, see them as alternatives and will not ask the court to add them together.

The Court: In other words, you will accept the highest of the three?

Counsel: Correct.

The Court: Not require the court to try to determine whether there is any duplicative.

Counsel: I don't think that is necessary. I think that would be greedy, your honor. I think my stipulation is made. We'll take the highest amount and will be done with it.

It is thus clear from the record that Celeritas stipulated that judgment would be entered on a single claim. Celeritas cannot now avoid its stipulation in an attempt to increase its overall damage award. The purpose of the stipulation was to avoid an inquiry into the overlap in the damage awards arising from multiple related claims. The district court did not understand Celeritas to be reserving the right to exemplary tort damages regardless of the claim selected, and neither do we. It ill lies in the mouth of a party who waives a form of damages in the district court in order not to be greedy to be seeking to override that waiver in the appeals court. Accordingly, we affirm the district court's judgment awarding damages solely on the contract claim.

CONCLUSION

The jury's verdict awarding Celeritas damages for breach of contract was supported by substantial evidence and the theory under which damages were awarded was not legally unsound. Thus, the district court did not err in denying Rockwell's motion for JMOL on liability and for a new trial on damages. Pursuant to Celeritas's stipulation, the district court properly awarded Celeritas damages only on its breach of contract claim. The district court erred, however, by not granting a JMOL that the claims of the '590 patent are anticipated by the Telebit article. The patent is invalid. Accordingly, the district court's award of attorney fees under 35 U.S.C. § 285 is reversed.

AFFIRMED-IN-PART and REVERSED-IN-PART

COSTS

No costs.

Footnotes

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The claimed invention overcomes the problem of distortion induced by the pre-emphasis and limiter circuits found in conventional analog cellular communications systems. The patent claims an apparatus that counteracts the adverse effects of the pre-emphasis and limiter circuits by de-emphasizing the data signal before presenting it to the cellular network. Claim 2, which is representative, reads as follows:

An apparatus for increasing the data output rate from a transmit modem in a duplex analog radio communication system having a single-carrier data signal, comprising:

a radio transmitter which receives said single-carrier data signal, said radio transmitter including a pre-emphasizer that increases the amplitudes of components of said single-carrier data signal in the range of 1,000 Hz to 3,000 Hz, said radio transmitter further including a limiter that limits the amplitudes of said single-carrier data signal;

a transmit modem which provides said single-carrier data signal as an input signal to said radio transmitter, said transmit modem encoding digital data onto said input signal as a plurality of modulation signal components, said transmit modem including a spectral shaper which selectively reduces amplitudes of said modulation signal components at higher frequencies to cause said input signal from said modem to said radio transmitter to have lower amplitudes at higher frequencies than at lower frequencies to reduce the effect of said limiter on said input signal.

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Injunctive Relief. Celeritas and Rockwell acknowledge that the extent of damages in the event of the breach of any provision of this Agreement would be difficult or impossible to ascertain, and that there will be available no adequate remedy at law in the event of any such breach. Each party therefore agrees that in the event it breaches any provision of this Agreement, the other party will be entitled to injunctive or other equitable relief, in addition to any other relief to which it may be entitled. The parties hereby waive any requirement for the posting of a bond or other security in connection with the granting of injunctive relief.

In March 1994, AT& T Paradyne began to sell a modem that incorporated de-emphasis technology. In that same month, Rockwell informed Celeritas that it would not license the use of Celeritas's proprietary technology, and concurrently began a development project to incorporate de-emphasis technology into its modem chip sets. Significantly, Rockwell did not independently develop its own de-emphasis technology, but instead assigned the same engineers who had learned of Celeritas's technology under the NDA to work on the de-emphasis development project. In January 1995, Rockwell began shipping its first prototype chip sets that contained de-emphasis technology. By the time of trial in 1997, Rockwell's sales were surpassing its projections.

On September 22, 1995, Celeritas sued Rockwell, alleging breach of contract, misappropriation of trade secrets, and patent infringement. In order to simplify the trial and avoid a duplicative recovery, Celeritas stipulated that it would accept the highest award under the three independent theories. The jury returned a verdict for Celeritas on each of the three theories, awarding Celeritas \$57,658,000 each on the patent infringement and breach of contract claims, and \$26,850,000 each in compensatory and exemplary damages on the trade secret misappropriation claim. The contract and patent infringement damages were based on a hypothetical lump-sum paid-up license for the use of the proprietary technology in Rockwell's products. The misappropriation damages were based on a finding that Celeritas's proprietary technology gave Rockwell a twenty-one month "head start" in its product development. After Rockwell moved for JMOL on liability and for a new trial on damages, the court concluded that the patent infringement award erroneously included a royalty on post-judgment sales; the parties then agreed to a remittitur that reduced the award to \$17,484,160, which was doubled to \$34,968,320 in light of a finding of willful infringement. That award reflected multiplying a royalty rate by Rockwell's own 1994 projections of estimated sales through the last day of trial.

The court then entered judgment awarding Celeritas \$57,658,000 for breach of contract, \$85,820.05 in costs, and \$900,000 in attorney fees under 35 U.S.C. § 285 (1994) (court may award prevailing party attorney fees in an exceptional patent case). The court denied Rockwell's remaining motions. Rockwell now appeals and Celeritas cross-appeals to this court. We have jurisdiction under 28 U.S.C. § 1295(a)(1)

(1994).

DISCUSSION

On appeal from a judgment denying a motion for JMOL, we reapply the standards used by the district court in ruling on the motion. See Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1173 (Fed. Cir. 1998) (in banc); Garter-Bare Co. v. Munsingwear, Inc., 723 F.2d 707, 709, 221 USPQ 751, 752 (9th Cir. 1984). Following a jury trial, an appellant "must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusion(s) implied from the jury's verdict cannot in law be supported by those findings." Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984) (citation omitted). We review the denial of a motion for a new trial for an abuse of discretion. See DMI, Inc. v. Deere & Co., 802 F.2d 421, 427, 231 USPQ 276, 280 (Fed. Cir. 1986); Landes Constr. Co. v. Royal Bank of Canada, 833 F.2d 1365, 1371 (9th Cir. 1987).

A. Breach of the NDA

Rockwell first argues that the district court erred by denying its motion for JMOL on the breach of contract claim. Citing the prior art submitted to the United States Patent and Trademark Office (PTO) by Celeritas, Rockwell argues that the evidence at trial clearly demonstrates that the de-emphasis technology disclosed to Rockwell was already in the public domain. Even if the technology were proprietary at the time of disclosure, Rockwell argues, the technology had entered the public domain before Rockwell used it, concededly no later than March 1994. Specifically, Rockwell asserts that AT& T Paradyne had already placed the technology in the public domain through the sale of a modem incorporating de-emphasis technology ("the modem"). Rockwell asserts that the technology was "readily ascertainable" because any competent engineer could have reverse engineered the modem. Rockwell further argues that any confidentiality obligation under the NDA regarding de-emphasis technology was extinguished once the '590 patent issued in January 1995.

Celeritas responds that substantial evidence supports the jury's verdict that Rockwell used its proprietary information. Celeritas argues that in order for a trade secret to enter the public domain in California, it must actually have been ascertained by proper means, and not merely have been ascertainable. Celeritas maintains that, in any event, the only evidence at trial supports the jury's implicit finding that the information was not readily ascertainable from inspection of the modem. Celeritas also argues that the issuance of its patent in 1995 is immaterial because Rockwell had already breached the agreement by using its proprietary information in 1994.

We agree with Celeritas that substantial evidence supports the jury's conclusion that Rockwell breached the NDA. The jury implicitly found that the information given to Rockwell by Celeritas was proprietary. See Perkin-Elmer Corp., 732 F.2d at 893, 221 USPQ at 672-73 (stating that "the law presumes the existence of findings necessary to support the verdict the jury reached"). Unrebutted testimony established that Celeritas disclosed to Rockwell implementation details and techniques that went beyond the information disclosed in the patent. Thus, even if every detail disclosed in the patent were in the prior art, a fact never alleged by Rockwell, that fact would not undermine the jury's conclusion that Celeritas revealed proprietary information to Rockwell which it then used in developing its modem chip sets. Accordingly, Rockwell's reliance on the prosecution history of the '590 patent and the prior art submitted to the PTO is misplaced.

The jury also implicitly found that the technology had not been placed in the public domain by the sale of the

modem. California law appears somewhat unsettled regarding whether a trade secret enters the public domain when it is "readily ascertainable" or whether it must also be "actually ascertained" by the public. Compare ABBA Rubber Co. v. Seaquist, 235 Cal. App. 3d 1 (1991) (holding that a trade secret is protectable if it has not yet been ascertained by others) with American Paper & Packaging Products, Inc. v. Kirgan, 183 Cal. App. 3d 1318 (1986) (suggesting that a trade secret is not protectable if readily ascertainable by others). Because the judgment is supportable under either standard, we need not attempt to resolve this issue of state law. Suffice it to say that substantial evidence supports a finding that the technology implementing the de-emphasis function in the modem was not "readily ascertainable." In fact, Dolan's testimony, the only evidence cited by Rockwell, belies its contentions. In the very passage cited by Rockwell, Dolan stated that (1) a spectrum analyzer would be needed to discover the de-emphasis technology, (2) most engineers that he talked to did not have spectrum analyzers, and (3) only if an engineer had a spectrum analyzer and knew what to look for could the engineer discover that the modem had de-emphasis technology. His express caveat that the use of de-emphasis could have been discovered if it was being affirmatively pursued is not an admission that the technology would be "readily ascertainable." Because substantial evidence supports the conclusion that the information disclosed to Rockwell had not entered the public domain before its unauthorized use by Rockwell, the court did not err in denying Rockwell's motion for JMOL regarding its breach of the NDA.

B. Damages for breach of the NDA

Rockwell argues that the jury's damage award is not sustainable under California contract law and therefore that the district court abused its discretion by not ordering a new trial on contract damages. According to Rockwell a new trial is justified because (1) the contract expressly excludes damages based on a royalty bearing agreement, (2) the damage award is not directly related to any harm caused by the breach, and (3) Rockwell's liability for breach ended once the information entered the public domain.

Rockwell's first argument is without merit. The contract expressly provides that because damages may be difficult to calculate, injunctive relief is available. It does not preclude an award of damages. The clause providing for injunctive relief in fact clearly and unambiguously provides for an injunction "in addition to any other relief to which it may be entitled." The standard remedy for breach of contract is, of course, damages. Rockwell also relies on the contract definition of "proprietary information" which specifically excludes information that comes into the public domain. This contract provision clearly allows Rockwell to use information that is proprietary at the time of contracting only after it enters the public domain. It cannot be reasonably construed as relieving Rockwell of liability for use made of proprietary information before it enters the public domain.

Rockwell's second argument is also without merit. Celeritas was undoubtedly harmed. It is in the business of licensing its technology. Celeritas entered into the NDA with Rockwell with the reasonable expectation that Rockwell would compensate it for any use made of the disclosed information. This expectation was the motivating factor for Celeritas to share its knowledge with Rockwell. After Celeritas disclosed its proprietary technology to Rockwell, Rockwell was faced with two legitimate choices: it could have used the technology and entered into a licensing agreement with Celeritas or it could have refrained from using the technology. It chose instead to use the technology without compensating Celeritas. To compensate Celeritas for the breach, the jury properly determined the license fee Rockwell would have paid had it not breached the agreement.

As to quantum, the amount of the damage award is far from speculative. The evidence established that

lump-sum paid-up licenses based on projected royalties were common in the industry. Celeritas's damages expert testified as to a reasonable royalty rate based on the past licensing practices of Celeritas, Rockwell, and others in the modem business. The expert then determined the lump-sum amount Rockwell would have paid by multiplying the royalty rate by Rockwell's 1994 sales projections for the accused devices and then discounting the total to net present value. By adopting this lump-sum amount as the proper measure of damages, the jury implicitly accepted the expert's methodology.

Rockwell's third argument confuses the remedy for breach of contract with California's statutory remedies for misappropriation of trade secrets. It may be true that in the absence of a contract, liability for Rockwell's misappropriation of Celeritas's trade secrets may be statutorily limited to the "head start" period. See Cal. Civ. Code § 3426.3 (West 1997) ("A complainant may recover damages for the actual loss caused by misappropriation. . . . If neither damages nor unjust enrichment caused by misappropriation are provable, the court may order payment of a reasonable royalty for no longer than the period of time the use could have been prohibited."). However, liability for breach of contract is not so limited.

Celeritas's damages may include that which Rockwell might have paid for use of the technology at the time of the breach in 1994 if it had chosen not to breach the contract. At that time, it did not know what its actual sales figures would be or that the '590 patent would issue less than one year later, or whether it would issue at all. Given Rockwell's desire to incorporate the technology into its products and the uncertainty as to future events, the methodology used by the expert and implicitly adopted by the jury was not improper. There was substantial evidence to support the jury's determination that Rockwell would have accepted a lump-sum paid-up license based on its forecasts had it not breached the contract and to support the jury's conclusion as to quantum. Of course, the jury did not know what licensing arrangement might have been worked out in March 1994, but such uncertainty does not bar contract recovery.

Damages for breach of contract must be clearly ascertainable. However, where the fact of damage has been established, the precise amount of the damage need not be calculated with absolute certainty. As long as there is available a satisfactory method for obtaining a reasonably proximate estimation of the damages, the defendant whose wrongful act gave rise to the injury will not be heard to complain that the amount thereof cannot be determined with mathematical precision.

DuBarry Int'l, Inc. v. Southwest Forest Indus., Inc., 231 Cal. App. 3d 552, 562 (1991) (quotation marks and citations omitted). Accordingly, the district court's denial of Rockwell's motion for a new trial on damages for Rockwell's breach of contract is affirmed.

C. Patent Validity

The district court awarded Celeritas attorney fees under 35 U.S.C. § 285 as the prevailing party in an exceptional patent case. Rockwell argues that the infringement verdict, which is the basis for the award, cannot stand and that the district court erred by not granting its motion for JMOL on the issue of patent invalidity. Rockwell asserts that the claims of the patent are invalid as anticipated by either of two references.

One prior art reference cited by Rockwell was an article published in 1991 by the Telebit Corporation entitled, "The Static Characteristics of Analog Cellular Radio Channels and Their Effects Upon Data Transmission," CCITT Study Group XVII, Delayed Contribution D 136, Geneva, Oct. 29 - Nov. 6, 1991. Rockwell argues that the Telebit article discloses each limitation of the '590 patent claims. Celeritas responds that Rockwell has a heavy burden in sustaining that position because the Telebit article was disclosed to the

PTO during prosecution of the '590 patent and the patent obviously was granted despite the existence of that reference. See Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464, 1467, 15 USPQ2d 1525, 1527 (Fed. Cir. 1991) (stating that "the burden of showing . . . invalidity . . . is especially difficult when the prior art was before the PTO examiner"). Celeritas further argues that substantial evidence supports the jury's implicit finding that the Telebit article fails to disclose a single carrier modem that incorporates de-emphasis (i.e., the "spectral shaper" of claim 2 of the patent).

In the PTO and to the jury, Celeritas emphasized that the article taught away from the claimed invention, teaching the solution of amplitude reduction, and expressly stating that de-emphasis would not work well in a single-carrier system. For example, Celeritas informed the PTO that:

[m]ore importantly, the Telebit article teaches away from Applicant's invention. First it should be understood that the Telebit article describes a simulation of a modem and a cellular radio system. The Telebit article describes a modem that uses a large number of simultaneous carriers to transmit data in contrast to single carrier modems for which Applicant's invention is intended, and teaches that the use of de-emphasis would not work for single carrier systems.

(emphasis in original). In addition to its "teaching away" argument, Celeritas asserts that the Telebit article fails to disclose a modem that uses a single-carrier data signal and that the de-emphasis circuit disclosed is not "in" the modem as required by claim 2. Rockwell responds that the Telebit article clearly discloses each limitation of the claims.

We agree with Rockwell that no reasonable jury could have determined that the Telebit article did not anticipate the claims of the patent. It is well settled that a claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference. See Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 715, 23 USPQ 1264, 1270 (Fed. Cir. 1984). A reference is no less anticipatory if, after disclosing the invention, the reference then disparages it. Thus, the question whether a reference "teaches away" from the invention is inapplicable to an anticipation analysis. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983) ("The law of anticipation does not require that the reference 'teach' what the subject matter of the patent teaches [I]t is only necessary that the claims under attack, as construed by the court, 'read on' something disclosed in the reference."), overruled in part on other grounds, SRI Int'l v. Matsushita Elec. Corp. of Am., 775 F.2d 1107, 1125, 227 USPQ 577, 588 (Fed. Cir. 1985) (in banc).

As a factual matter, the Telebit article itself and the testimony offered at trial conclusively demonstrate that the article discloses the use of a single-carrier data signal, not only multi-carrier signals. As Celeritas's own witnesses testified, the Telebit article describes a test signal that sends twenty-one tones to simulate a modulated signal. The article states that the test signal, composed of twenty-one tones, has "a probability distribution of magnitude that closely matches that of a V.29 modem." Dolan, the inventor of the '590 patent, testified that the V.29 signal is a single-carrier data signal. Thus, contrary to Dolan's statement to the PTO that the Telebit article only discloses the use of a "large number of simultaneous carriers," the article actually does disclose a simulated single-carrier data signal.

Regarding the use of de-emphasis in the transmit modem, the article states:

4.1 De-emphasis in the Modem Transmitter

As discussed in Section 2.2, pre-emphasis of a wideband signal before limiting severely constrains the signal power and thereby the performance in the presence of noise and interference. To counteract the pre-emphasis a one-pole low-pass filter was simulated at the modem output

This de-emphasis would cause severe inter-symbol interference in a single-carrier data signal; it may be feasible only for multicarrier signals.

It is clear that the first paragraph in this passage describes a simulated de-emphasis circuit at the output of a simulated modem, which the record shows must be the simulated V.29 modem using a single-carrier data signal. This is confirmed by the second paragraph, which discloses the results of the simulated single-carrier data signal and indicates difficulties with it. The article does clearly disclose the use of a de-emphasis circuit in a modem using a single-carrier data signal. The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed. The modem in the article is not disclosed to be inoperative. It may be that Dolan invented a solution to the problem cited in the article; however, the invention as claimed is not limited to the Dolan solution to that problem; the broad claims at issue read on what is disclosed in the Telebit article. Because it is beyond dispute that the Telebit article discloses each of the claimed limitations, the claims are anticipated and hence invalid. Accordingly, the district court erred by not granting Rockwell's motion for JMOL that the patent is invalid.

D. Misappropriation of Trade Secrets

Because we affirm the determination of liability under the contract claim, we also need not consider Rockwell's arguments regarding the jury's verdict for misappropriation of trade secrets. This portion of the verdict was not incorporated into the district court's judgment because Celeritas stipulated that it would accept the liability theory with the highest damage award. However, we need to consider the issue of Celeritas's cross-appeal.

Celeritas argues that the court clearly erred by not combining the contract award with the exemplary damage award. Rockwell responds that the stipulation suggested and agreed to by Celeritas bars such a recovery. We agree with Rockwell that Celeritas elected its remedy. That remedy was for breach of contract, and the exemplary damages accompanied the misappropriation award, which was not elected. Celeritas stipulated to accept the single highest award from the three causes of action consisting of patent infringement, trade secret misappropriation, and breach of contract in order to avoid complex jury instructions dealing with avoiding duplicative damages. This stipulation is reflected in the following colloquy between counsel for Celeritas and the court:

Counsel: Your Honor will only be required to enter judgment on the highest of those awards. . . .

These three different causes of action give us different remedies for that wrong [use of technology without paying for it]. And we, Celeritas, see them as alternatives and will not ask the court to add them together.

The Court: In other words, you will accept the highest of the three?

Counsel: Correct.

The Court: Not require the court to try to determine whether there is any duplicative.

Counsel: I don't think that is necessary. I think that would be greedy, your honor. I think my stipulation is made. We'll take the highest amount and will be done with it.

It is thus clear from the record that Celeritas stipulated that judgment would be entered on a single claim. Celeritas cannot now avoid its stipulation in an attempt to increase its overall damage award. The purpose of the stipulation was to avoid an inquiry into the overlap in the damage awards arising from multiple related claims. The district court did not understand Celeritas to be reserving the right to exemplary tort damages regardless of the claim selected, and neither do we. It ill lies in the mouth of a party who waives a form of damages in the district court in order not to be greedy to be seeking to override that waiver in the appeals court. Accordingly, we affirm the district court's judgment awarding damages solely on the contract claim.

CONCLUSION

The jury's verdict awarding Celeritas damages for breach of contract was supported by substantial evidence and the theory under which damages were awarded was not legally unsound. Thus, the district court did not err in denying Rockwell's motion for JMOL on liability and for a new trial on damages. Pursuant to Celeritas's stipulation, the district court properly awarded Celeritas damages only on its breach of contract claim. The district court erred, however, by not granting a JMOL that the claims of the '590 patent are anticipated by the Telebit article. The patent is invalid. Accordingly, the district court's award of attorney fees under 35 U.S.C. § 285 is reversed.

AFFIRMED-IN-PART and REVERSED-IN-PART

COSTS

No costs.

Footnotes