APPELLEE'S BRIEF

2011-1120

United States Court of Appeals for the Federal Circuit

SEIKO EPSON CORPORATION,
Plaintiff/Counterclaim Defendant-Appellant,

and

EPSON RESEARCH AND DEVELOPMENT, INC.
and EPSON AMERICA, INC.,
Counterclaim Defendants,

v.

CORETRONIC CORPORATION,
Defendant/Counterclaimant-Appellee,

and

OPTOMA TECHNOLOGY, INC.,
Defendant-Appellee.

Appeal from the United States District Court for the Northern District of California in case no. 06-CV-6946, Judge Marilyn Hall Patel

BRIEF OF APPELLEES CORETRONIC CORPORATION AND OPTOMA TECHNOLOGY, INC.

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CERTIFICATE OF INTEREST

Counsel for Appellees Coretronic Corporation and Optoma Technology, Inc., certifies the following:

1. The full name of every party or amicus represented by me is:

Coretronic Corporation and Optoma Technology, Inc.

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

Not applicable.

3. All parent corporations and any publicly held companies that own ten percent or more of the stock of the party or amicus curiae represented by me are:

Dynamic Time Investments, Limited, a foreign company registered in the Cayman Islands, is the parent company of Optoma Technology and Coretronic Corporation owns more than ten percent of the stock of Optoma Technology, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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Dated: March 28, 2011

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I. STATEMENT OF RELATED CASES

Appellees Coretronic Corporation ("Coretronic") and Optoma Technology, Inc. ("Optoma") are not aware of any pending case that may directly affect or be affected by the Court's decision in this case.

II. STATEMENT OF THE ISSUES

The statement of the issues of Appellant Seiko Epson Corporation ("SEC") is argumentative. The basic issue before the Court is whether the district court's Judgment is correct as a matter of law. SEC's appeal presents the following issue:

1. Whether the district court properly found that there was no material issue of fact that the differences between Nakamura and claims 1, 2 and 5 would have been obvious to one of ordinary skill in the art at the time the invention was made in light of the teachings of Gourdine.

III. COUNTER STATEMENT OF THE CASE

On a previous appeal in this case, this Court vacated the district court's claim construction of "directly conducts cooling air" and adopted SEC's narrower construction, "transmits cooling air without substantial contamination by internal sources of heat." A0043. Applying that construction, this Court determined that Nakamura does not satisfy the

"directly conducts cooling air" limitation and therefore vacated the district court's ruling that Nakamura anticipates the asserted claims of the '158 patent, rendering them invalid and remanded the action to the district court for further proceedings. The opinion carefully qualified the scope of its order, stating "[o]ur decision is limited to holding that the district court erred in its construction of 'directly conducts cooling air' and that, under a narrower construction, the Nakamura reference fails to disclose the required structure." A0045. Additionally, the opinion concluded "we do not rule out the possibility that other prior art, standing alone or in combination with the Nakamura reference, might sustain the district court's finding of invalidity." A0045.

In response to Coretronic's renewed motion for summary judgment of invalidity, the district court indeed found that other prior art, namely the Gourdine patent, in combination with the Nakamura reference, rendered the claims invalid. Because the district court had already found each element of claim 1 present in Nakamura and SEC's arguments with regard to the teachings of Nakamura were essentially the same as those it raised in its opposition to Coretronic's 2008 motion, the focus of the district court's order was the single element this Court had found missing from Nakamura, namely a second air intake port on the outer case that "directly conducts

cooling air from outside to the ventilating path." The district court agreed with Coretronic that Gourdine teaches this limitation and determined that applying Gourdine's teaching to Nakamura would be obvious to one of ordinary skill in the art at the time of filing. Accordingly, the district court held the asserted claims invalid.

SEC argues that in granting Coretronic's motion for summary judgment, the district court refused to revisit the factual underpinnings of its previous holding of anticipation. This is incorrect. A1734-35. The district court's opinion makes clear that the district court did reconsider these underpinnings and SEC's arguments. The district court compared SEC's 2010 memoranda in opposition to its 2008 memoranda. A0009. While noting that SEC's 2010 memorandum expands upon its previous argument, the district court determined that SEC "provided no compelling reason for the court to reconsider its earlier decision rejecting this argument." A0009, citing both the district court's 2009 opinion and the "law of the case" doctrine. In other words, the district court *did* revisit the issue of what Nakamura discloses. As SEC made essentially the same arguments, it is not surprising that the district court reached the same conclusion as in 2009. Even if the district court had meant to rely entirely on the "law of the case" doctrine, to do so the district court had to consider whether the first decision

was clearly erroneous and determine, as it must have, that the answer to that question is no.

The district court also properly considered and rejected SEC's argument that one of ordinary skill would not have been motivated to combine Nakamura and Gourdine because that argument focuses too narrowly on "what would result from a literal fusion of the preferred embodiments disclosed in Nakamura and Gourdine." A0012. The district court recognized that the correct inquiry is whether a projector designer of ordinary skill "facing the wide range of needs created by developments in the field of endeavor" would have seen a benefit "to installing a dedicated air path to better cool the power supply." A0012, citing *KSR Intl. Co. v. Teleflex, Inc.*, 550 U.S. 398, 424 (2007). The district court answered this question in the affirmative, properly reasoning that even though applying Gourdine's technique to Nakamura might have necessitated some alterations to the literal embodiments disclosed in the references. Therefore, the district court held that claim 1 and 2 are obvious in light of Nakamura and Gourdine.

With regard to claim 5, the district court noted, as before, that Nakamura discloses the power unit's air inlet and air outlet and the second cooling air intake port. The district court determined that, while Nakamura

does not disclose an exhaust vent on the outer case that directly conducts cooling air to the outside of the outer case, Nakamura renders claim 5 obvious. A0013. The district court observed that Gourdine strengthens this conclusion, because Gourdine, in addition to teaching directing fresh air to a component using a duct, teaches using a conduit to directly exhaust the secondary air flow to the exterior of the cabinet. Hence, it would be obvious to a person of ordinary skill to combine this teaching of Gourdine with the projector of Nakamura. Accordingly, the district court again properly concluded that claim 5 is obvious as a matter of law.

IV. COUNTER STATEMENT OF THE FACTS

The '158 patent describes and claims a projector that includes a cooling system that efficiently cools the power unit and polarized light conversion device while preventing airborne debris from contaminating the system. A0110. The Summary of the Invention section of the specification states that the invention

> directly conduct[s] fresh air from outside the outer case from the cooling air intake port to the inlet of the ventilating path. Because the cooling air conducting means directly conducts fresh air to the ventilating path, and because fresh air is cooler than the air in the outer case, the interior of the power unit can be cooled with high efficiency.

A0110, col. 2 line 67 to col. 3 line 6. The patent also states that the duct recited in claim 1, connecting the second air intake port and the air inlet of

the power unit, "only introduces fresh air from the cooling air intake port to the ventilating path...[and] prevents the air from the outer case, which is hotter than the fresh air, from entering into the ventilating path." A0111, col. 3, 18-21. This Court determined in its 2010 decision that those statements in the specification "demonstrate that the thrust of the invention is not simply to pass any form of cooler air through the power unit, but rather to inject 'fresh' air from outside the case directly into the ventilating path." A0044.

As noted above, the district court found the asserted claims invalid as obvious over a combination of the prior art patent publication "Nakamura" and the prior art Gourdine patent. There is no dispute that Nakamura has the claimed optical unit element. There is no dispute that Nakamura has a power unit and an outer case that stores the optical unit and the power unit. There is no dispute that Nakamura discloses the claimed first cooling air intake port located on the outer case that provides cooling air from outside of the outer case to the optical unit. *See* Opening Br. at 9-10 (air from intake port 36 is used to cool liquid crystal display panels 21, 26 and 23). With respect to claim 2, which recites a ventilating fan, there is no dispute that Nakamura discloses two such fans (cooling fans 32 and 35). A1226 (Biber Decl.) at ¶ 18 and A1278 (Nakamura) at ¶ 0009-0010.

In light of this Court's 2010 opinion, Nakamura *lacks* the final element of claim 1, a second air intake port that directly conducts cooling air from the outside of the case to the ventilating path provided inside the power unit for circulating air. A0006. Coretronic demonstrated on remand, however, that the asserted claims are obvious in light of a combination of Nakamura and Gourdine, with the teachings of Gourdine rendering the differences between Nakamura and the asserted claims obvious to one of ordinary skill in the art.

Gourdine was filed on September 28, 1992 and issued on March 22, 1994. There is therefore no dispute that it is prior art to the '158 patent. Gourdine is directed to an apparatus and methods for cooling electronic heat-generating elements within a cabinet, in which specific components are isolated from other components in the cabinet and the "isolated" components are independently cooled by a secondary air flow. A1286 ('005 patent or Gourdine) at 1:8-22. Unlike Nakamura, Gourdine expressly teaches the use of an independent secondary airflow apparatus to cool specific heat-generating components by isolating them so that the cooling air that cools the isolated and the non-isolated components *does not mix* within the cabinet, maximizing cooling of all the components. A1286, 2:31-46. Gourdine's Figure 3 shows a conduit 18 that extends from the cooling air

inlet port in the cabinet 30 to the inlet 16 of the component enclosure 11 holding the heat-generating component C to be cooled by the secondary air flow. A1284. Figure 3 also shows a conduit 19 that extends from that air outlet 17 of the component enclosure 11 to the air exhaust slot of exhaust fan housing which directly exhausts the air from the secondary airflow from the outer case. *Id.*; *see also* A1287-88, col. 4:44-5:11.

Gourdine also expressly teaches that the "secondary air flow" apparatus can be used to modify an existing design without having to change the existing thermal management equipment, where more cooling of specific components is required, such as when replacing a low-powered chip with a high-powered chip. A1233 (Biber Decl.) at ¶ 31. Gourdine expressly teaches that conduits can be installed in different ways, and the size and shape of the cooling enclosure and conduits may vary, depending on the size of the cabinet and the shape of the component to be cooled. *See* A1288 col. 5:7-11 and 56-65.

SEC is correct that Gourdine is directed to cooling heat-generating components in cabinets, describes the invention in the context of cooling a microprocessor in a computer as an example, and does not specifically teach cooling power supplies or components in projectors. Both Coretronic's expert, Dr. Biber, and SEC's expert, Mr. Keller, however, agreed that

computers and projectors present the same cooling issue, *i.e.* the need to cool heat-producing electronic components in a compact outer case.

Coretronic's expert, Dr. Biber, stated in her declaration filed October 18, 2010 in support of Coretronic's renewed motion:

> Gourdine is generally directed to solving heat problems in personal computers. I am of the opinion that one skilled in the art would have looked to this area of the technology to solve heat problems with projectors. This is because computers and projectors present the same problem to be solved -- the need to cool heat-producing electronic components in a compact outer case. My opinion is consistent with the file history of the '158 patent. As an example, in an April 18, 2000 office action, the Examiner cited U.S. patent 5,287,244 (Exhibit F), a patent directed to cooling a computer (not a projector) as one of the prior art references combined to render the '158 patent ... obvious.

A1231-32 (Biber Decl.) at ¶ 27. SEC's expert stated in his October 20, 2008 declaration filed in support of SEC's opposition to Coretronic's previous motion for summary judgment:

> There are similarities in the cooling issues in computers and projectors, and the ways of addressing those issues. Computers and projectors both have electronic components that generate heat in compact, crowded spaces, and that heat must be dissipated by various methods, tailored to the particular product, as efficiently as possible.

A0898 at ¶ 9. In response to Coretronic's renewed motion for summary judgment and Dr. Biber's declaration quoted above, SEC submitted a new

declaration of Mr. Keller that was very similar to his October 2008 declaration except for the conspicuous absence of the sentences about the similarities in the cooling issues in computers and projectors. A1425. In his deposition on October 29, 2010, Mr. Keller readily agreed that his 2008 statement was accurate and stated "I still believe it is correct" and could not explain why these two sentences, which contradict SEC's current result-oriented argument, were absent from a similar declaration submitted in opposition to Coretronic's renewed motion for summary judgment. A1674-1680.

On this record, the district court determined that claims 1, 2 and 5 of the '158 patent are obvious over the combination of Nakamura in view of Gourdine. A0013.

V. SUMMARY OF THE ARGUMENT

The district court properly applied the obviousness analysis prescribed by this Court and the Supreme Court, crediting the hypothetical person of ordinary skill in the art with the ability to combine teachings from separate references and make whatever adaptations were necessary to make the combination work for the purposes intended. The district court did not "discount the practical factors" as SEC complains. Rather, the district court properly assumed that the skilled artisan would take such factors into

account and make whatever adjustments were needed. It is SEC that misunderstands the obviousness standard to require explicit instructions to create a new device from spare parts. SEC continues to apply the pre-*KSR* standards for obviousness, arguing that a combination cannot be obvious if the modification to a prior art reference would have rendered *the prior art reference* unsuitable for its purpose. That is not the law.

The correct standard is whether one of ordinary skill in the art, facing a wide range of needs created by developments in the field, would have seen the benefit of modifying one reference in accordance with teachings from another reference and would have had a reasonable expectation of success for the combination. *Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009) Coretronic presented evidence applying the proper standard and the district court correctly found the relevant motivation to combine under that standard.

Nor was the district court's determination that Nakamura discloses or teaches some claim elements and Gourdine teaches directly conducting cooling air into the power unit clearly erroneous. The district court did not engage in improper fact finding. Rather, drawing all reasonable inferences in favor of SEC, it concluded that there was no material issue as to what

these references disclosed. The prior art references support the district court's conclusion and this Court should not disturb it.

VI. ARGUMENT

A. Standard of Review

Summary judgment is appropriate when, based on the record, no genuine issue exists as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986). This Court reviews *de novo* a district court's grant of summary judgment, drawing all reasonable inferences in favor of the non-movant. *Id.* at 255; *King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1273 (Fed. Cir. 2010). Summary judgment is as available in patent cases as in other areas of litigation.

Obviousness is a question of law based on underlying findings of fact. The factual determinations for obviousness include: (1) the scope and content of the prior art, (2) the characteristics and understanding of an individual of ordinary skill in the relevant field of art at the time of invention, (3) the differences between the claimed invention and the prior art, and (4) the evidence of secondary factors, also known as objective indicia of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). A district court can properly grant a motion for summary judgment

on patent invalidity when the factual inquiries into obviousness present no genuine issue of material fact. *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 716 (Fed. Cir. 1991); *Union Carbide Corp. v. Am. Can Co.*, 724 F.2d 1567, 1571 (Fed. Cir. 1984). Whether an invention would have been obvious at the time it was made is an issue of law, which this Court reviews *de novo*, based on underlying facts, which this Court reviews for clear error. *Media Techs. Licensing, LLC v. Upper Deck Co.*, 596 F.3d 1334, 1337 (Fed. Cir. 2010); *Tokai Corp. v. Easton Enters., Inc.*, No. 2010-1057, 2011 WL 308370 (Fed. Cir. Jan 31, 2011).

B. The District Court Correctly and Without Hindsight Concluded That Claims 1, 2 and 5 of the '158 Patent Are Invalid for Obviousness.

1. SEC's Argument that Combining Teachings from Nakamura and Gourdine Would Lead To Unpredictable Results Applies the Wrong Legal Standard.

The Supreme Court in *KSR* recognized that "the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." 550 U.S. at 416. The "predictable results" discussed in *KSR* refers to the reasonable expectation that elements from the prior art are capable of being combined and that the combination would have worked for its intended purpose. *Id.* at 416-17. "Predictable results" is merely another way of saying that in the

combination, each element performs the same function it performed in the prior art to serve the invention's purpose. *See KSR*, 550 U.S. at 417 (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)). This Court's cases analyzing obviousness, especially after *KSR*, use the "reasonable expectation of success" standard to analyze whether a combination of known elements merely yields predictable results. *See In re O'Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988) ("for obviousness under § 103, all that is required is a reasonable expectation of success"); *Depuy Spine,* 567 F.3d at 1326 ("predictable result" refers "not only to the expectation that prior art elements are capable of being combined, but also that the combination would have worked *for its intended purpose*.") (emphasis added); *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1242 (Fed. Cir. 2010) ("[l]ikewise, it is clear that a skilled artisan would have perceived a reasonable expectation of success as a result of combining these two elements of the prior art references.").

Nothing in the Supreme Court's or this Court's obviousness cases requires that the skilled artisan predict in advance every single modification, nut, bolt or design choice needed to combine the teachings of two references in a new commercial product, for the result to be "predictable" and the combination obvious. All that is required is a reasonable expectation of success of the combination. *Wyers*, 616 F.3d at 1243.

The Supreme Court recognized the risk of hindsight bias but explained that "[r]igid preventative rules that deny recourse to common sense" are not necessary to guard against hindsight. 550 U.S. at 403. The Court must find some motivation for one of ordinary skill in the art to combine teachings from two or more prior art references. The court may look to "interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 418. Courts may find a motivation to combine prior art references in the nature of the problem to be solved, and this kind of motivation is particularly relevant with simpler mechanical technologies. *Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276 (Fed. Cir. 2004); *see also Tokai Corp.*, 2011 WL 308370 at *10 (affirming summary judgment of obviousness of safety lighters, noting "the nature of the mechanical arts is such that identified predicable solutions may be within the technical grasp of the skilled artisan").

Here, the problem and need for effectively cooling the power unit in a projector is well known. *See* A0110, col. 2:8-11 and 26-30. The elements

taught by Nakamura (optical unit, power unit, outer case, air intake ports, etc.) each perform the same function in the device described by the asserted claims as they do in Nakamura. The limitations taught by Gourdine, directly conducting fresh air from outside the case through a duct to the heat-generating elements performs the same function in the '158 patent as they do in Gourdine: preventing the fresh air from outside from mixing with warmer air inside the cabinet in order to efficiently cool the components to be cooled. Gourdine was thus a known solution to the known problem that faced the inventor of the '158 patent, namely that cooling the power unit with air already heated by other elements in the cabinet is less efficient in cooling the power unit. Coretronic's expert, Dr. Biber, explained that one of ordinary skill in the art would be reasonably certain that retrofitting the projector of Nakamura with the isolated secondary air flow taught by Gourdine would improve power supply cooling. A1233, ¶ 32. As such, the district court correctly concluded that the asserted claims are obvious. *See KSR*, 550 U.S. at 417; *Sakraida*, 425 U.S. at 282.

SEC, because of its misreading of *KSR* and *Depuy Spine*, has not pointed to any teaching in Nakamura or Gourdine that combining elements and teachings from each would not work for the intended purpose of efficiently cooling the power unit in a projector. Rather, SEC argues that the

district court should not have found "predictability" because Dr. Biber was not able to state at her deposition, for example, precisely how much airflow would have to be diverted from the main cooling path to cool the power unit in a projector that combined the teachings of Nakamura and Gourdine. Opening Br. at 29-30. SEC applies the wrong standard for predictability when it complains that Dr. Biber should have been able to predict the volume of airflow in the proposed combination. Not only is SEC's argument a strained reading of *KSR*, but also misleading because no "volume of airflow" is required by any of the invalidated claims.

SEC argues that Dr. Biber admitted that combining the teaching of Gourdine to use a duct with the teachings of Nakamura would not yield predictable results because she testified that she might not use a duct with the small diameter shown in Gourdine but might use a different duct. Opening Br. at 29. SEC also points to Dr. Biber's refusal to agree with SEC's counsel's hypothesis that diverting air from the air flow cooling the lamp in Nakamura would necessarily reduce the amount that the lamp was cooled. Dr. Biber explained that airflow could be "mysterious" and she would want to use airflow modeling to be certain. *Id.* at 29-30. Neither of Dr. Biber's statements constitutes an admission that results of a combination of Nakamura and Gourdine would not yield predictable results (the duct

would function to bring cool outside air to the power unit to cool it more efficiently than it could be cooled with ambient air, while the other cooling path of Nakamura would continue to cool the light source lamp). Rather, using a "different" duct to cool the power supply than the exact duct shown in the Gourdine patent is exactly the kind of "inferences or creative steps" that one of ordinary skill in the art is expected to employ. *See KSR*, 550 U.S. at 418, *Ball Aerosol v. Limited Brands*, 555 F.3d 984, 993 (Fed. Cir. 2009). Courts "do not ignore the modifications that one skilled in the art would make to a device borrowed from the prior art." *In re Icon Health and Fitness*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) (citing *Optivus Tech., Inc. v. Ion Beam Applications, S.A.*, 469 F.3d 978, 989-90 (Fed. Cir. 2006)). Notably, neither the disclosure nor the claims of the '158 patent require a duct of any particular diameter or that any specified amount of cooling or airflow be achieved for the power unit or the lamp. Indeed, the absence of specific dimensions and airflow volumes in Nakamura, Gourdine and the '158 patent is evidence that their inventors understood that one of ordinary skill in the art would be able to apply their teachings, selecting airflows, duct positions, and duct sizes and making predictable modifications as appropriate to achieve an apparatus that worked for its intended purpose.

The purpose of the claimed invention is to cool the power unit "efficiently." A0110, col. 2:67-3:6. Therefore, the claims are obvious if one of ordinary skill would have had a reasonable expectation that the combination of elements from Nakamura and Gourdine would create a working apparatus and cool the power unit "efficiently." *See Geo. M. Martin Co. v. Alliance Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1303 (Fed. Cir. 2010) (rejecting patentee's argument that to render a claim obvious, prior art machines must teach "reliable breaking" at "production speed," where the asserted claim recited "an improvement" but did not require a specific threshold throughput or commercial speed).

SEC cites a footnote in *Wyers v. Master Lock Co.* for SEC's position that when an art is so complex that even experts cannot be certain of the effects of a combination of references, these effects are certainly beyond the comprehension of a layperson. Opening Br. at 30 (citing 616 F.3d at 1240). Nothing in *Wyers* supports SEC's position that the projector designs at issue in this matter are so difficult to understand that Dr. Biber's reluctance to estimate airflow in a literal combination of Gourdine's duct with Nakamura's projector somehow precludes summary judgment of obviousness. In *Wyers*, this Court reversed a district court's denial of JMOL because it held that the patent claims, directed to locking devices for trailer

hitches, were obvious as a matter of law over a combination of two prior art references. *Id.* at 1245-46. The patentee argued that one of the combined references could not be considered "because Master Lock introduced no expert testimony" directed to it and argued that one of ordinary skill would not have had a reasonable expectation of success in combining the two references to solve the problem at issue. *Id.* at 1242-43. This Court, in rejecting that argument, observed that the Supreme Court in *KSR* "made clear that expert testimony concerning motivation to combine may be unnecessary and, even if present, will not necessarily create a genuine issue of material fact." *Wyers*, 616 F.3d at 1239 (citing *KSR*, 550 U.S. 427). As a result, since *KSR*, this Court has endorsed the district court's resource to logic, judgment and common sense and concluded that expert testimony is not necessary to support a court's obviousness determination where the technology is easily understandable. *Wyers*, 616 F.3d at 1240; *see also Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1329 (Fed. Cir. 2010) (affirming district court holding obvious a patent on methods of managing bulk email to groups of consumers because technology was easily understandable and expert testimony unnecessary). The footnote on which SEC relies merely notes that there may be *some* cases where the technology is so complex that expert testimony may be necessary to establish invalidity,

citing, for example, *Proveris Sci. Corp. v. Innovasystems, Inc.*, 536 F.3d 1256, 1267 (Fed. Cir. 2008). This is simply not such a case.

2. SEC's Argument That Combining Nakamura's Teachings With Gourdine's Would Be Inconsistent With The Prior Art's Purposes Also Applies the Wrong Law.

SEC argues at length that one of ordinary skill in the art at the time of filing would not be motivated to combine the teachings of Nakamura and Gourdine to arrive at the claimed invention because combining them would have been inconsistent with Nakamura's and Gourdine's purposes. Opening Br. at 22-28. SEC's argument is essentially that there must be a teaching, motivation or suggestion within the references to combine them as in the claim. Under *KSR* and this Court's post-*KSR* cases, however, the different purposes of Nakamura's and Gourdine's inventors are all but irrelevant. *See KSR*, 550 U.S. at 420-21 (that a designer would ignore a reference because it was designed to solve a different problem "makes little sense.") On the contrary "[c]ommon sense teaches, however, that familiar items may have obvious uses besides their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. Therefore, the person of ordinary skill in the art has no obligation to serve the prior art inventor's purposes or choose the same design trade-offs he or she chose. On the contrary, the

hypothetical person of ordinary skill is *presumed* to be engaged in designing a *new* product "facing the wide range of needs created by developments in the field." *KSR*, 550 U.S. at 424.

As support for its contention that "modifications that would have rendered a prior art reference unsatisfactory for its intended purpose," SEC cites *In re Fritch*, 972 F. 1260, 1265-66 & n.12 (Fed. Cir. 1992). The reasoning and holding of that 1992 case turned on the old requirement that a teaching, suggestion or motivation be found in one of the prior art references to combine them in the manner urged by the party arguing obviousness. *See id.* SEC's contention that this "longstanding principle" is still a requirement after *KSR* is simply not supported. *Depuy Spine*, and indeed the same language SEC quotes, explains that the test is not whether the combination of two prior art references would make the *prior art device* unsatisfactory for its purpose, but whether one of ordinary skill would have had the reasonable expectation that the combination would work for the purpose intended for *the new device being designed – i.e.* to address the problem alleged to be solved by the patent in suit. *Depuy Spine,* 567 F.3d at 1326 (Fed. Cir. 2009).

Here, the problem to be solved by the '158 patent's invention is how to cool the power unit cleanly and efficiently. A0110 at col. 2:49-54 (an

object of the invention is "to provide a projection display apparatus that includes a cooling system that efficiently cools the power unit and polarized light conversion device while preventing airborne debris from contaminating the apparatus."). Regardless of Nakamura's primary purpose, the design in Nakamura provides an obvious example of a projector with air flowing through the power unit to cool it, and Gourdine teaches how to efficiently cool heat-producing elements by using two independent air flow paths, one of which directly conducts cooling air from outside the case to a specific heat-generating component. The idea that a projector designer seeking to efficiently enhance cooling of the power unit would ignore Gourdine and Nakamura merely because Gourdine's preferred embodiment used the secondary cooling path to cool a microprocessor rather than a power unit makes little sense. Microprocessors and power units both generate heat and, when enclosed in a cabinet with other heat-generating components, require cooling. Nakamura and Gourdine are both directed to cooling such components more efficiently. Indeed, Nakamura's embodiments disclose cooling *both* the power unit *and* the lamp.

The district court recognized that combining the disclosures of Nakamura with the teachings of Gourdine might be more complicated than simply copying the size and shape of the duct shown in Gourdine and

placing it, unchanged in the projector chassis shown in Nakamura. "Some alterations might be necessitated by applying Gourdine's teachings to the projector disclosed by Nakamura..." A0012. The district court also recognized, however, that one of ordinary skill would combine "teachings" (which is different from combining physical pre-made parts) like pieces of a puzzle—that is, applying his ordinary skill to make such alterations as were plainly necessary to incorporate them into a working projector. This is not hindsight in analysis.

3. The District Court Correctly Held That Claims 2 and 5 Are Obvious.

SEC's brief presents no arguments specifically directed to the district court's finding that claim 2 is invalid. Claim 2 is a dependent claim which merely adds a ventilating fan. A0117, col. 15:47-49. Therefore, if the district court's holding with respect to claim 1 is affirmed, its holding invalidating claim 2 should be as well.

With respect to claim 5, SEC's arguments that one of ordinary skill in the art would not modify Nakamura in light of Gourdine are similar to its arguments for claim 1. Opening Br. at 32, 36.

With respect to claim 5, the district court has twice found that the only element of claim 5 arguably missing from Nakamura (drawing all reasonable inferences in favor of the nonmoving party, SEC) is the specific limitation in

claim 5 of "an exhaust vent provided on the outer case that directly conducts air exhausted from the air outlet to the outside of the outer case." A0013, 11-12. The district court has twice determined, however, that assuming Nakamura lacked this limitation, this difference between claim 5 and Nakamura would have been obvious to one of ordinary skill in the art. A0030 (2009) and 0013 (2010). The district court correctly reasoned in its May 15, 2009 opinion that Nakamura, like claim 5, draws ambient air into a projector, circulates it and expels it in order to cool hot projector components. Nakamura's cooling systems uses the same elements as the claim 5 projector: "two air intake ports, one or more exhaust vents, an outer case, an air outlet and the like." A0030, 6-8. Nakamura teaches conducting air from one part of the apparatus to another and the use of multiple ventilating paths each with accompanying ducts and vents to cool a single projector. A0017. The district court reasoned that there are only so many components in a projector that need cooling and a finite number of ways to arrange air passageways within a casing. The power unit being a collection of components that need cooling, "[d]edicating an airway to the power unit would have been obvious, and [SEC had] not offered evidence that the prior art teaches away from such an arrangement." *Id.* In the November 23, 2010 decision which is the subject of this appeal, the district court referred to the

reasoning in its previous opinion and noted that its finding that claim 5 is obvious is strengthened by the combination of Nakamura and Gourdine. A0013. In other words, Gourdine simply confirms what the district court already found: that one of ordinary skill in the art was aware, from the prior art, that a duct could be used to directly exhaust cooling air from the outlet of the power unit to the exterior of the outer case.

SEC does not dispute that Gourdine discloses a conduit or duct network that defines a dedicated, isolated secondary airway expressly for cooling predetermined heat-producing components, while all other components are cooled by a primary air flow path. *See* Opening Br. at 11-12 (statement of facts) and Gourdine, A1234. Both paths are exhausted from the cabinet via the same exhaust vent. The figures show that the isolated components are in a box with a distinct air inlet and air outlet and show a conduit or duct (19) that directs the air flow from the air outlet of the enclosure of the isolated heat-generating component directly to an exhaust fan that exhausts it to the outside of the outer case. A1234 and 1284-85. No other components are cooled by the secondary air flow before the air is exhausted. *Id.*

SEC's argues, as for claim 1, that one of ordinary skill in the art would not be motivated to modify Nakamura in light of Gourdine's teaching

because Nakamura teaches to use power unit air for further cooling and because adding a duct would "likely have led to problems in cooling the lamp, as well as made the projector larger, heavier and noisier." Opening Br. at 32-33. As discussed above, SEC's argument erroneously assumes that the hypothetical person of ordinary skill has the same purpose and design concerns as the inventor of Nakamura. This Court's cases hold the opposite: that the purposes of the prior art reference are of no importance; the person of ordinary skill considers the prior art for its *teachings*, and applies those teachings to the problem *he* or *she* is addressing. *See Wyers*, 616 F.3d at 1242 (relevant inquiry is what a hypothetical ordinarily skilled artisan would have gleaned from the prior art references); *Martin*, 618 F.3d 1302-03 (even a nonworking reference can be considered for what it teaches).

As SEC argues, all air-cooled projectors take in fresh air from outside the projector casing. As described in the patent, such a projector needs at least one exhaust vent or port: "The cooling system introduces fresh air into the outer case through an intake port by a suction fan. The introduced air is circulated through the outer case and exhausted through an air outlet provided on the outer case by an exhaust fan." A0110: col. 2:3-7.

Thus, there can be no dispute that one of ordinary skill in the art designing a projector would know to provide at least one exhaust outlet so

the heated cooling air can exit the projector and fresh cooling air will continue to flow in. The designer has two general options for where to send air from the ventilating path for the power supply: exhaust it directly to the outside through a hole in the outer case, or send it elsewhere first. Both are obvious. The district court correctly concluded that one of ordinary skill would know the pros and cons of using a duct as opposed to simply an exhaust vent.

SEC's only argument that claim 5 is not obvious is that Nakamura teaches not exhausting the air that has cooled the power unit directly out of the case but, instead, using that air to cool the lamp, the hottest unit in the projector. Gourdine, SEC argues, teaches seeking to increase cooling of the hottest element, not diverting the airflow that has just cooled the power supply away from the hottest element. Opening Br. at 36. This is incorrect.

Gourdine never states that the microprocessor being cooled in the disclosed embodiment is the hottest component in the cabinet. It merely states that "the microprocessor in a computer generates a relatively large amount of heat." The specification repeatedly states that the invention is directed to cooling heat-generating components and never discusses a "hottest component." For example, in the Field of the Invention section, the specification states "[t]his invention relates generally to apparatus and

methods for cooling electronic heat generating components within a cabinet..." A 1286, col. 1:7-10. The Summary of the Invention similarly explains "[i]t is therefore an object of the present invention to provide an apparatus and method for effectively cooling heat generating electronic components in a cabinet." *Id.* at col. 2:21-23. Nowhere in the Summary of the Invention does it mention cooling "the hottest component." Furthermore, the Description of the Preferred Embodiment discusses cooling the microprocessor because integrated circuit chips such as microprocessor chips are susceptible to error or damage from overheating, not because they are "the hottest component." A1287, col. 3:68-4:5.

As with SEC's other arguments, the argument that using fresh air to cool the power supply would reduce the cooling of the lamp unreasonably assumes a literal combination of spare parts from Gourdine with Nakamura. First, claim 5 does not require the first air intake port to provide a specific amount of cooling air to the optical unit containing the light source lamp. *See* A0117. Second, there is no reason to assume that cooling of the power supply with fresh outside air would come at the expense of cooling the light source lamp. On the contrary, Dr. Biber testified at her deposition that less airflow might still be sufficient to cool the lamp. A1414. Moreover, this Court's obviousness precedent allows courts to assume that one of ordinary

skill can make the necessary adjustments. *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1367 (Fed. Cir. 2008) (remaining work to incorporate replaceable cover sections of one reference into the mechanized design of the other reference is "the work of the skillful mechanic, not that of the inventor") quoting *Sakraida*, 425 U.S. at 282 (quoting *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 267 (1851)). Here, as one of ordinary skill knows from the prior art, such as Nakamura, that both the power supply and the lamp require adequate cooling, he or she would use ordinary skill to ensure that the primary air flow was sufficient to cool the lamp and any other components needing to be cooled.

C. The District Court's Conclusions As to What Nakamura and Gourdine Disclosed or Taught to One of Ordinary Skill in the Art Are Not Clearly Erroneous

SEC complains that the district court "appeared" to give weight to Coretronic's argument in its Reply brief that the law of the case doctrine precludes the Court from re-litigating issues it has already resolved. This argument is a red herring. The district court's opinion gives no indication that the district court would have accepted SEC's arguments and denied the motion but for the "law of the case" doctrine. On the contrary, the district court expressly noted SEC's repeated and expanded arguments and

expressly found "no compelling reason for the court to reconsider its earlier decision rejecting this argument." A0009, 4-5. It is hardly surprising that the district court would come to the same conclusion as before, regardless of the law of the case doctrine, when SEC presented the district court with the same arguments.[1] The district court cited its 2009 opinion, thereby providing this Court with the written record of the district court's reasoning underlying its findings with regard to these elements so this Court can review those determinations on appeal. The district court's additionally citing a Ninth Circuit case for the law of the case doctrine is not a reason for this Court to vacate the opinion. Rather, this Court reviews the district court's findings underlying the obviousness determination, including those that are incorporated by reference to the district court's 2009 opinion, only for clear error.

SEC's argument that Nakamura does not disclose the claimed duct is because the claimed duct must conduct only fresh air from outside the case is likewise a straw man. The district court's opinion expressly did not rely on Nakamura to teach using a duct to conduct the fresh air to the ventilating path: it relied on Gourdine's teaching of a dedicated cooling path, including

[1] Indeed, SEC makes the same arguments about what Nakamura does and does not disclose as it made in the previous appeal.

a duct and an enclosure for electronic components that need improved cooling, in combination with elements disclosed by Nakamura. The district court adopted SEC's construction of this element to mean "a structure that limits the direction of airflow between the intake port on the outer case and an opening leading to a ventilating path of the power unit so as to form an airflow passage." A0136, 22-29. The district court also concluded, and SEC agreed, that a duct does not have to be fully enclosed. A0137. The district court concluded that in Nakamura, the airflow is limited by the outer case's structure and duct 41 and is directed toward the power unit. A0026.

Unhappy now with the broad construction it obtained, SEC argues that Nakamura does not disclose the *claimed* duct because under this Court's decision in the first appeal, the duct must introduce only fresh air from the cooling air intake port to the ventilating path. Opening Br. at 37.

SEC additionally argues that Nakamura does not disclose structure to form an airflow passage. *Id.* But these arguments ignore that the district court's 2011 decision granted summary judgment of obviousness, not anticipation, and that the district court expressly found that Gourdine discloses the use of a duct to introduce fresh cooling air to the ventilating path in the power unit and avoid mixing with air heated by other components. Therefore, if SEC is correct that Nakamura does not disclose

structure that satisfies the duct limitation, the district court's determination of obviousness is still supported because the district court found that Gourdine expressly teaches to use a duct for the secondary airflow. "The secondary airflow passes from the exterior of the cabinet, *through a flexible conduit*, and into a hollow housing for a heat-generating electrical component." A0009, 17-19 (emphasis added). The district court agreed with Coretronic that even though Nakamura does not anticipate the claim, it can still invalidate it in combination with a reference that teaches using a duct and introducing only fresh cooling air from outside the case. The district court properly found that "[u]nlike Nakamura, Gourdine describes that 'the heat generated by the isolated components and non-isolated components is not mixed within the cabinet to maximize cooling of all components within the cabinet.'" A0009, 22-24, quoting Gourdine. This was the precise basis for Coretronic's renewed motion for summary judgment: to identify for the court references in the prior art that teach elements and limitations held missing from Nakamura, namely the Gourdine and Rizzuto patents. A1129-1146.

SEC next argues that the district court misread Nakamura to disclose an air inlet and air outlet and a ventilating path inside a power unit and inappropriately resolved a genuine issue of material fact on summary

judgment. Opening Br. at 39. The district court properly concluded that an air inlet was inherent in Nakamura. The district court determined during claim construction, that the claimed "air inlet provided on the power unit" may be at a boundary of the power unit, which would eliminate the need for the power unit to be enclosed. A0134.[2] If the ventilating path goes through the power supply, as shown in Figures 2 and 3 of Nakamura, then there must necessarily be an air inlet on the power supply. *See Finnigan Corp. v. ITC*, 180 F.3d 1354, 1365 (Fed. Cir. 1999) ("If ... the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient."). Again, even if Nakamura lacks these elements and limitations, the district court did not rely entirely on Nakamura but on the combination of Nakamura and the teachings of Gourdine, which include isolating the components to be cooled

[2] At the claim construction phase, the district court accepted most of SEC's proposed claim construction for "ventilating path provided inside the power unit for circulating cooling air" and its argument that the claimed power unit does not have to be enclosed to have a ventilating path "inside" the power unit. A0132-0135.

by the secondary fresh air flow path in an enclosure with an air inlet and air outlet.[3] A0013.

SEC finally contends that the district court erred in relying on Figures 2 and 3 of Nakamura because they are schematic drawings and do not realistically illustrate the actual air flows in the invention. Opening Br. at 39. SEC argues that "vicinity" from "passing through the vicinity of each of the power supply" means "passing nearby" and not going "through" something and that, therefore, when Nakamura says the mixed air from duct 41 and air intake port 42 passes through the vicinity of the power unit, it does not disclose an air inlet to the power unit or a ventilating path inside the power unit. Opening Br. at 40-41. This argument lacks merit.

SEC cannot show that the district court erred in concluding that Nakamura discloses an air path through the power source by resorting to carefully selected dictionary definitions of "vicinity" and "schematic" which may or may not have been available to the person who translated Nakamura from Japanese into English. More importantly, the district court did not rely on the term "vicinity" to conclude that Nakamura unambiguously discloses a

[3] "The secondary airflow passes from the exterior of the cabinet, through a flexible conduit, and *into a hollow housing for a heat-generating electrical component*. The secondary airflow is then exhausted from the housing through another flexible conduit and the exhaust fan." A0009,17-20 (emphasis added).

path circulating through the power unit. Rather, the district court relied on two figures. Figure 2 is the top view of the projector and Figure 3 is the corresponding side view of the same projector. A0025, 11-13. There are three possible air paths shown in Figure 2, flowing *above, through* and below the power unit, respectively. There are four possible paths shown in Figure 3: in front of, *above, through* and behind that power unit. Viewing these two figures together, it can be seen that air only flows above *and through* the power unit and therefore at least some of the air goes through the power unit and not simply around it. *Id.* Nor did the district court "ignore" the corresponding text in the specification, as SEC unfairly claims. It addressed the "vicinity of the power unit" phrase in the English translation of Nakamura and concluded that this phrase disclosed the general concept, but that Figures 2 and 3 disclose a specific embodiment in which a ventilating path goes through the power unit. A0025, 11-17. The district court correctly found that "nothing in the claim language or claim construction suggests that a ventilating path cannot be 'inside' a power unit merely because some air passes over or around the unit as well." *Id.*

The statement in Nakamura that air "pass[es] through vicinity of" the power unit does not mean that the air does not flow through the components. Nakamura uses the same phrase, "through vicinity of" in different contexts,

to describe how the air cools the components. Nakamura describes that "...air that has been drawn from an air intake port 36 into the liquid crystal display chamber 4 by operation of the second cooling fan 35 passes through the vicinity of each of the R liquid crystal display panel 21, G liquid crystal display panel 26, and B liquid crystal display panel 21 [sic; 23], cooling them..." A1278, ¶ 10.

It is common sense that the air will only cool the components when it actually flows through their configuration. The figures illustrate and common sense dictates that the air would flow among and between the liquid crystal display panels 21, 26, 23 so as to cool them; similarly, to obtain the cooling effect (A 1279, ¶ 13), the air must flow through the power unit. SEC does not explain how the power unit in Nakamura would be effectively cooled if the ventilating path does not go through it.

VII. CONCLUSION

For the reasons set forth above, this Court should affirm the district court's grant of summary judgment of invalidity of the asserted claims of the '158 patent.

DATED: March 28, 2011

Respectfully submitted,

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United States Court of Appeals
for the Federal Circuit

SEIKO EPSON v CORETRONIC CORP, No. 2011-1120

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March 28, 2011

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United States Court of Appeals for the Federal Circuit

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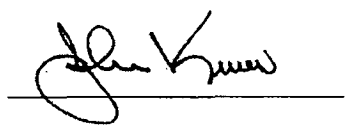

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