

United States Court of Appeals for the Federal Circuit

99-1523, -1535

ELECTRO SCIENTIFIC INDUSTRIES, INC.,
Plaintiff-Cross Appellant,

v.

GENERAL SCANNING INC.,
Defendant-Appellant.

00-1141, - 1142

ELECTRO SCIENTIFIC INDUSTRIES, INC.,
Plaintiff-Cross Appellant,

v.

GENERAL SCANNING INC.,
Defendant-Appellant.

Marla J. Miller, Morrison & Foerster LLP, of San Francisco, California, argued for plaintiffs-cross appellants in 99-1523 and 00-1141. With her on the brief were Harold J. McElhinny, and Jill D. Neiman.

Ernie L. Brooks, Brooks & Kushman P.C., of Southfield, Michigan, argued for defendants-appellants in 99-1523 and 00-1141. With him on the brief were Jeffrey M. Szuma, and Frank A. Angileri.

Appealed from: United States District Court for the Northern District of California.

Judge Sandra Brown Armstrong

United States Court of Appeals for the Federal Circuit

99-1523, -1535

ELECTRO SCIENTIFIC INDUSTRIES, INC.,

Plaintiff-Cross Appellant,

v.

GENERAL SCANNING INC.,

Defendant-Appellant.

00-1141, -1142

ELECTRO SCIENTIFIC INDUSTRIES, INC.,

Plaintiff-Cross Appellant,

v.

GENERAL SCANNING INC.,

Defendant-Appellant.

DECIDED: April 18, 2001

Before MICHEL, RADER, and SCHALL, Circuit Judges.

RADER, Circuit Judge.

On summary judgment, the United States District Court for the Northern District of California held that General Scanning Inc. ("General Scanning") literally infringed Electro Scientific Industries, Inc.'s ("ESI's") U.S. Patent Nos. 5,265,114 ("114 patent") and 5,473,624 ("624 patent"). At trial, the jury awarded ESI \$13,133,370 in damages for

infringement of the '114 patent, but held the '624 patent invalid. Because the record supports this judgment, this court affirms.

On post-trial motions, the district court denied ESI's motion for enhanced damages and attorney fees and awarded ESI a reduced prejudgment interest rate. Further, the district court denied General Scanning its costs and awarded ESI costs at a reduced amount from the calculations of the district court clerk. Because the district court did not abuse its discretion, this court again affirms.

I.

Integrated circuits (e.g., memory devices such as EPROMs, DRAMs, SRAMs) are made of memory cells and transistors that are located on a single semiconductor chip. The wafer base is usually silicon onto which various polycides and metals are deposited in layers. The layers are then etched and doped in specific places to create connections (i.e., "links") between various components of the memory device, thereby permitting inter-cell communication.

Generally, due to the capacity of the manufacturing process, semiconductor wafers have several defective memory cells. After manufacture, wafers are tested to determine which memory cells are defective. To salvage the overall memory device, links to defective cells are severed, or "blown." Typically, circuit manufacturers vaporize these inter-cell links with a laser.

Originally, links were made of polysilicon, a relatively poor electrical conductor. A laser wavelength of either 1.047 microns or 1.064 microns easily severed polysilicon links without damaging the underlying silicon substrate. As technology progressed, circuit manufacturers developed more complex, higher density memory devices with additional

layers and smaller link structures. At smaller dimensions, the polysilicon links' electrical resistance increases. The smaller link structures, therefore, restricted the operating speed of memory devices.

To increase operating speed, circuit manufacturers began making links out of highly conductive metals such as aluminum, titanium, nickel, tungsten, gold, and some metal nitrides. These metallic links, however, do not easily vaporize at conventional laser wavelengths. Rather, they reflect most of the laser output at wavelengths of 1.047 microns or 1.064 microns. To solve this problem, circuit manufacturers increased the intensity of the lasers at the same wavelength and extended the time of laser exposure. These solutions improved metal link blowing, but also damaged the underlying silicon wafer and surrounding circuit structures.

In the early 1990s, Dr. Yunlong Sun of ESI adjusted the laser wavelength to optimize the contrast in laser energy absorption between the target metal link and the underlying silicon substrate. This adjustment successfully vaporized links without substantial damage to the silicon substrate. Dr. Sun specifically found that metals such as aluminum readily absorb laser wavelengths between 1.2 and 3.0 microns. At those wavelengths, however, silicon does not absorb much energy. Dr. Sun claimed this new system and method in a patent application that issued on November 23, 1993, as the '114 patent.

Dr. Sun later found that the '114 invention also facilitated better severing of nonmetal link structures. Specifically, Dr. Sun found that polysilicon also readily absorbs laser wavelengths between 1.2 and 3.0 microns. Dr. Sun claimed this information in a patent application that issued on December 5, 1995, as the '624 patent. The '624 patent was a continuation-in-part of an international application that was a continuation-in-part of the

application that issued as the '114 patent. ESI commercially exploited these inventions in its Model 9300 memory repair system.

General Scanning competes with ESI in selling laser systems to the semiconductor industry. In the late 1980s and early 1990s, General Scanning's customers requested laser systems that could effectively sever metal links without damaging the silicon substrate. In response, General Scanning made and sold six complete 1.3 micron wavelength link cutting systems. General Scanning also made and sold seventeen laser upgrade kits to convert 1.0 micron wavelength systems to the 1.3 micron wavelength.

General Scanning's conversion kits consist of a 1.3 micron output laser and associated optics. General Scanning manufactured two types of conversion kits: the first converts a General Scanning M320 or M325 conventional wavelength system into a 1.3 micron system; the second converts a General Scanning M325 conventional wavelength system into a 1.3 micron system and further improves laser beam accuracy. General Scanning's engineers have installed several conversion kits worldwide.

In 1998, ESI filed an infringement suit against General Scanning. ESI asserted both system and method claims of its '114 patent. Claim 13 recites:

13. [11,10] A laser system for selectively processing a target structure, comprising metal, of a multilayer, multimaterial device including a substrate, comprising silicon, the target structure and substrate having wavelength sensitive properties, comprising:

a pumping source; and

a lasant positioned in a resonator cavity adapted to be pumped by the pumping source to provide a laser output having critical dimensions, power, and wavelength of about 1.2 μm to 3.0 μm selected to exploit differences in the wavelength sensitive properties of the target structure and the substrate such that the target structure within the critical dimensions is effectively processed and the substrate within the critical dimensions is relatively undamaged by the laser output.

Claim 4 recites:

4. [2,1] A method for selectively processing a multilayer, multimaterial device that includes a substrate, comprising silicon, and a high conductivity target structure, comprising metal, having respective first and second wavelength sensitive light absorption characteristics, the first and second absorption characteristics having different light absorption properties that

provide different light absorption contrasts for different wavelengths of light, comprising:

generating at a predetermined wavelength of about 1.2 μm to 3.0 μm a laser output having predetermined spatial dimensions; and

directing the laser output to illuminate the target structure, the predetermined wavelength having a value that represents a sufficiently large absorption contrast between the target structure and the substrate to change a physical property of the target structure but leave substantially unchanged the physical property of the substrate within the spatial dimension of the laser output.

ESI also asserted system and method claims of the '624 patent. Claim 11 recites:

11. [9] A laser system for selectively processing a nonmetal target structure of a multilayer, multimaterial device including a substrate, the nonmetal target structure and substrate having wavelength-sensitive properties, comprising:

a pumping source; and

a lasant positioned in a resonator cavity adapted to be pumped by the pumping source to provide a laser output having a spatial spot size, power, and wavelength of about 1.2 μm to 3.0 μm selected to exploit differences in the wavelength-sensitive properties of the nonmetal target structure and the substrate such that the nonmetal target structure within the spatial spot size is effectively processed and the substrate within the spatial spot size is relatively undamaged by the laser output.

Claim 4 recites:

4. [1] A method for selectively processing a multilayer, multimaterial device that includes a substrate and a nonmetal target structure, having respective first and second wavelength-sensitive light absorption characteristics, the first and second absorption characteristics having different light absorption properties that provide different light absorption contrasts for different wavelengths of light, comprising:

generating at a predetermined wavelength a laser output having a predetermined spatial spot size; and

directing the laser output to illuminate the nonmetal target structure, the predetermined wavelength of about 1.2 μm to 3.0 μm providing a sufficiently large absorption contrast between the nonmetal target structure and the substrate to change a physical property of the nonmetal target structure but

leave substantially unchanged the physical property of the substrate within the spatial spot size of the laser output.

After two hearings, the district court construed the patent claims in September 1998.

In the same order, the court granted ESI's summary judgment motion that General Scanning's 1.3 micron laser systems literally infringed both the '114 and '624 patents. In March of 1999, the district court granted ESI's summary judgment motion that General Scanning's 1.3 micron laser conversion kits also infringed ESI's '114 and '624 patents. Because it found literal infringement under 35 U.S.C. § 271(a), the district court did not consider the parties' infringement arguments under §§ 271(b), (c), or (f).

The district court tried the issues of validity, damages, and willfulness to a jury. At trial, General Scanning asserted that prior art U.S. Patent No. 4,399,345 ("Lapham patent")—issued on August 16, 1983—rendered the '114 and '624 patents invalid. The Lapham patent discloses a method of trimming thin film resistors with a laser. Like memory cells, thin film resistors are usually deposited as layers on a silicon substrate. They are usually made of materials having low conductivity, such as polysilicon. These resistors control the speed of electron flow between memory cells to prevent memory cell burn out.

To make the resistivity on each memory chip uniform, manufacturers trim each resistor with a laser to a similar resistance. This trimming process vaporizes a portion of the surface of the resistor with a laser to increase resistance to electron flow through the resistor. The Lapham invention trims thin film resistors using a laser with a wavelength output greater than 1.1 microns to prevent harm to the underlying silicon substrate.

The jury found all asserted claims of the '114 patent neither anticipated nor obvious.

The jury found the '624 patent also not anticipated, but determined that the prior art rendered the asserted claims of the '624 patent obvious. ESI sought \$19.5 million in damages for General Scanning's sale of the seventeen upgrade kits and six memory repair systems. The jury awarded ESI \$13,133,370 in lost profits and price erosion. The jury also found General Scanning's infringement willful.

After trial, both ESI and General Scanning filed several motions for judgment as a matter of law (JMOL). The court denied ESI's request to disturb the jury's determination of invalidity for the '624 patent. The court also denied ESI's motion for enhanced damages and attorney fees. The court granted prejudgment interest, but at a rate lower than ESI requested.

In addition, the court denied General Scanning's motion to disturb the jury's determination on the validity of the '114 patent. The court also denied General Scanning's motion for JMOL that only the 1.3 micron systems and upgrade kits actually used to cut memory links infringe the '114 and '624 patents. The court also denied General Scanning's JMOL motions to reverse the jury verdict of willfulness and to remit the jury's damages award. Finally, on July 8, 1999, the district court entered a permanent injunction enjoining General Scanning from "making, using, selling or offering for sale in the United States memory repair systems equipped with 1.3 micron lasers."

The district court entered judgment in this case on July 12, 1999. Northern District of California Civil Local Rule (L.R.) 54-1(a) requires filing of all bills of taxable costs "[n]o later than 14 days after entry of judgment or order under which costs may be claimed." Thus, the final date for both ESI and General Scanning to submit their bills of costs was July 26, 1999. On July 27, General Scanning moved to extend its filing deadline. In its

motion, General Scanning claimed it could not determine when the 14- day deadline began to run—the day the judgment was signed (July 8), the day judgment was entered on the docket (July 12), or the day the court set the amount of prejudgment interest (July 15). The court denied General Scanning's extension request finding that its "alleged confusion borders on the frivolous."

ESI filed its bill of costs on July 23, 1999. Under the L.R.s, General Scanning had until August 6, 1999, to file its objections. The court's deputy clerk, however, mistakenly taxed ESI's bill on August 5, 1999, a day before General Scanning filed its objections. On review, the trial court found that the deputy clerk erred in taxing ESI's costs before the objection deadline. The court considered this error harmless, but reduced ESI's costs by \$36,720.27 after its own item-by-item cost analysis. General Scanning appeals. ESI cross-appeals. This court has jurisdiction to hear this case under 28 U.S.C. § 1295(a)(1) (1994).

II.

This court reviews the district court's grant of ESI's motion for summary judgment of literal infringement without deference. Conroy v. Reebok Int'l, Ltd., 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed. Cir. 1994). A summary judgment may stand when the record shows no genuine issues of material fact and entitlement to judgment as a matter of law. See Fed. R. Civ. P. 56(c). In granting summary judgment, the district court must draw all reasonable inferences in favor of the nonmovant. SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1116, 227 USPQ 577, 581 (Fed. Cir. 1985) (en banc).

This court reviews the district court's JMOL rulings after a jury verdict by reapplying the district court's own standard. Applied Med. Res. Corp. v. United States Surgical Corp.,

147 F.3d 1374, 1376, 47 USPQ2d 1289, 1290 (Fed. Cir. 1998). A district court may overturn a jury's verdict only if, upon the record before the jury, reasonable jurors could not have reached that verdict. Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984). Thus, to prevail on appeal, ESI and General Scanning must show that substantial evidence does not support the jury's factual findings or that the district court erred in a legal determination on their JMOL motions. See id.

This court reviews a district court's denial of a motion for a new trial for abuse of discretion. Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 1067, 46 USPQ2d 1097, 1103 (Fed. Cir. 1998). On review, this court examines the record for errors so grievous as to have rendered the trial unfair. DMI, Inc. v. Deere & Co., 802 F.2d 421, 427, 231 USPQ 276, 280 (Fed. Cir. 1986). This court reviews the district court's conclusions on obviousness, a question of law, without deference, and the jury's underlying findings of fact for substantial evidence. Tec Air, Inc. v. Denso Mfg. Mich., Inc., 192 F.3d 1353, 1359, 52 USPQ2d 1294, 1297-98 (Fed. Cir. 1999).

This court reviews a district court's denial of enhanced damages after a finding of willful infringement for an abuse of discretion. SRI Int'l, 127 F.3d at 1468-69. The district court's determination of whether a case is exceptional is a factual determination reviewed for clear error. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1460, 46 USPQ2d 1169, 1178 (Fed. Cir. 1998) (en banc). Upon a finding of an exceptional case, this court reviews a district court's decision to award attorney fees for an abuse of discretion. Id. The prejudgment interest determined by the district court is reviewed for abuse of discretion. Bio-Rad Labs., Inc. v. Nicolet Inst. Corp., 807 F.2d 964, 968-69, 1 USPQ2d 1191, 1194 (Fed. Cir. 1986).

This court applies the law of the regional circuit in reviewing purely procedural questions not involving patent law. Nat'l Presto Indus., Inc. v. West Bend Co., 76 F.3d 1185, 1188 n.2, 37 USPQ2d 1685, 1686 n.2 (Fed. Cir. 1996). Therefore, because the United States Court of Appeals for the Ninth Circuit reviews compliance with court rules for an abuse of discretion, Hinton v. NMI Pac. Enters., 5 F.3d 391, 395 (9th Cir. 1993), this court applies the same standard in assessing the Northern District of California's compliance with its own local rules for taxing costs. This court likewise reviews awards of costs under 35 U.S.C. § 284 for abuse of discretion. Delta-X Corp. v. Baker Hughes Prod. Tools, Inc., 984 F.2d 410, 414, 27 USPQ2d 1447, 1450 (Fed. Cir. 1993).

A.

On appeal, General Scanning argues that the district court erred in granting summary judgment of infringement because ESI did not show use of the accused devices to cut links. ESI asserts that General Scanning waived this "actual use" argument by failing to raise it in opposition to ESI's summary judgment motions.

As a court of review, this court only rarely considers a party's new theories presented for the first time on appeal. Sage Prods., Inc., v. Devon Indus., Inc., 126 F.3d 1420, 1426, 44 USPQ2d 1103, 1108 (Fed. Cir. 1997). In response to ESI's summary judgment motion for literal infringement, General Scanning argued that its laser link cutting systems did not infringe because "[General Scanning] selects a 1.3 micron laser beam wavelength for the purpose taught in the prior art—minimizing the amount of laser energy absorbed by the substrate." General Scanning did not argue that ESI did not show actual use of the accused laser systems to cut metal links. Thus, General Scanning has waived this argument on appeal.

In response to ESI's second summary judgment motion, General Scanning argued that its "'upgrade kit' alone is incapable of performing any method or operation, and therefore does not and cannot infringe any of the asserted claims" (emphasis added). The district court found it was irrelevant, under the claims at issue, whether GSI's upgrade kits were capable of processing links on their own in order to find infringement under 35 U.S.C. § 271(a). General Scanning does not contest this finding on appeal.

General Scanning failed to argue below that ESI did not show actual use of the upgrade kits to cut links in response to ESI's allegations of infringement under § 271(a). In response to ESI's allegations of infringement under 35 U.S.C. §§ 271(b) and (f)(1), General Scanning did argue that ESI "failed to cite any evidence indicating how any General Scanning customers use the laser systems having installed 'upgrade kits.'" The district court's judgment of infringement, however, is based solely on literal infringement under §

271(a). The district court did not reach the issue of infringement under 35 U.S.C. §§ 271(b) and (f) and thereby did not reach General Scanning's actual use arguments. Because General Scanning failed to argue actual use in its response to summary judgment of literal infringement below, this court will not address General Scanning's actual use arguments on appeal.

B.

General Scanning argues that cutting links is an "inherent capability" of the Lapham invention. General Scanning argues that the Lapham patent therefore anticipates the '114 patent. Although a validity determination cannot discount functional limitations of a claim, General Scanning has not met its burden of presenting evidence to show that the Lapham patent anticipates claim 13 of the '114 patent.

As the district court found in denying General Scanning's JMOL motion for invalidity of the '114 patent, "rather than setting out the particular elements of the '114 patent and identifying the specific manner in which they are disclosed by the Lapham Patent, [General Scanning] just baldly asserts that the elements are disclosed either expressly or inherently. This is an insufficient showing."

While General Scanning did not make a prima facie showing of anticipation, ESI presented substantial evidence that the Lapham reference does not anticipate the claims of the '114 patent. Specifically, ESI presented substantial evidence that: the Lapham patent does not disclose a system capable of cutting links; the Lapham patent does not disclose targeting metal or highly conductive structures; the Lapham patent does not disclose absorption contrast between the substrate and target structure; and the Lapham patent does not teach choosing a wavelength to optimize absorption contrast as recited in the asserted claims. General Scanning did not rebut this evidence during trial.

Furthermore, the district court instructed the jury on anticipation, including doctrines of inherency, and obviousness. Under those instructions, the jury sustained the validity of

the '114 patent. Because substantial record evidence supports that verdict, the district court correctly denied General Scanning's JMOL motion on anticipation.

General Scanning also argues that if claim 11 of the '624 patent is invalid, then system claim 13 of the '114 patent is invalid as well. General Scanning contends that the prior art that invalidated the '624 patent also invalidates the '114 patent. Thus, the jury's verdict of obviousness against the '624 patent, according to General Scanning, should also invalidate the '114 patent.

Invalid claim 11 of the '624 patent is similar to claim 13 of the '114 patent. The claims differ in one very important feature, however. Claim 13 discloses a system for blowing metal links while claim 11 discloses a system for blowing nonmetal links. Moreover, claim 13 is not merely a new use (to cut metal links) for the "old" device of claim 11. The '114 patent addresses the specific problem of cutting conductive links. Claim 13 specifically recites a laser system for cutting metal links. During trial, ESI offered evidence, through expert testimony, scientific papers and patents, of the failure of others to sever metal links and skepticism of those skilled in this art about the capability of lasers to cut metal links without damaging silicon. See, e.g., J.S. Chlipala and L.M. Scarfone, Reliability Aspects of Laser Programmable Redundancy: Infrared vs. Green, Polysilicon vs. Silicide, 27th Annual Proceedings, Reliability Physics (1989) (describing problems with blowing various metal silicide links using conventional lasers); Jon Orloff, Focused Ion Beams, Scientific American, pp. 96-101 (1991) (suggesting use of ion beams instead of lasers to cut metal links). ESI offered further secondary evidence of nonobviousness, including the commercial success of ESI's Model 9300 laser system and General Scanning's copying of the claimed system.

As the district court noted, General Scanning did not show that each element of claim 11 of the '624 patent reads on each element of claim 13 of the '114 patent. As noted, the claims differ. Furthermore, ESI provided the jury sufficient evidence, specifically the evidence of secondary considerations, to find the metal link blowing system in claim 13 of the '114 patent valid over the same prior art which rendered the nonmetal link blowing system of the '624 patent invalid. The district court, therefore, correctly denied General Scanning's JMOL motion for invalidity of the '114 patent.

C.

ESI argues that the district court erred in sustaining the verdict of invalidity for the '624 patent over its JMOL motion. In particular, ESI argues that no reasonable jury could find the '624 patent obvious in light of the Lapham patent. ESI asserts that the Lapham patent does not disclose links, link cutting, or absorption contrast. Further, ESI contends that General Scanning introduced no evidence of motivation to modify the teachings of the Lapham patent and thereby render the claims of the '624 patent obvious.

The '624 patent addresses severing nonmetal links. Although the Lapham patent does not disclose links or link cutting, the record shows that laser trimming is an analogous art to blowing nonmetal links. See Wang Labs. v. Toshiba Corp., 993 F.2d 858, 864, 26 USPQ2d 1767, 1773 (Fed. Cir. 1993). Specifically the record includes the testimony of Dr. Clark, a co-inventor of the Lapham patent, that Lapham encompassed laser cutting of any element of a circuit. See Lapham patent, col. 1, ll. 6-31. The record also contains the testimony of Dr. Scarfone, an expert in the art of semiconductor memory repair. Dr. Scarfone testified that the key to both laser trimming and link blowing is protecting the substrate while removing the link or cutting the resistor film. This record would thus enable a reasonable jury to find that the art of laser trimming in the Lapham patent is analogous to the art of blowing nonmetal links.

Next, the record contains evidence that absorption contrast is inherent to the Lapham invention. ESI's expert, Dr. Viswanathan, states:

[W]hen using a laser with a wavelength of approximately 1.3 microns, the absorption contrast as between the link structure and the substrate is significantly larger than that for the conventional wavelengths of 1.047 and 1.06 microns. . . . [A]t this wavelength, there is a large difference or 'contrast' between the laser energy absorption properties of the metal target structure and . . . silicon.

The Lapham patent teaches a preferred wavelength of about 1.34 microns. Additionally, the Lapham patent itself teaches a wavelength above 1.1 microns so that "the photon energy in the beam [the laser] emits will be less than the band-gap energy level of the doped semiconductive substrate material." Lapham patent, col. 2, ll. 23-25. In other words, the Lapham patent specifically teaches using a wavelength above 1.1 microns to trim the thin film resistor while leaving the underlying substrate undamaged. With this evidence, a reasonable jury could find that absorption contrast is inherent in the Lapham reference.

Finally, ESI did not introduce any objective secondary evidence of nonobviousness for the '624 patent. Particularly, because conventional lasers were effective for blowing

nonmetal links, ESI could not bring evidence of long felt need or failure of others to blow nonmetal links as recited in the '624 patent. Thus, substantial record evidence supports the jury's finding that it would have been obvious for a person of ordinary skill in the art, when faced with the problem of cutting a nonmetal link, to apply the teachings of Lapham and arrive at the claimed invention.

D.

ESI argues that the district court abused its discretion by denying a new trial. During trial, the district court denied ESI's request to include a jury instruction that the absence of objective secondary evidence for the '624 patent does not preclude a holding of nonobviousness. ESI hypothesizes that the lack of this instruction led the jury to believe that absence of secondary evidence was the sole, and key, difference between the '624 and '114 patents, leading the jury to find the '624 patent invalid.

The jury instructions commented on all of the Graham factors: "The existence of these factors does not control the obviousness determination. You must consider all of the evidence concerning obviousness before reaching your decision." See Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). The trial court, therefore, adequately instructed the jury on use of the Graham factors. The instructions counseled the jury to weigh all the factors and avoid undue emphasis on any single indicator. The district court's refusal to include ESI's requested instruction did not render the trial unfair. Furthermore, as discussed above, the record supplied the jury reasons beyond secondary considerations for its obviousness verdict. In sum, after considering this, and ESI's other arguments with respect to its motion for a new trial, this court sustains the district court's denial of a new trial.

E.

General Scanning argues that the district court erred in denying its JMOL motion for remittitur of the \$13,133,370 in damages. Because the '624 patent is invalid, General

Scanning cannot be liable for damages on any units that its customers used solely to sever nonmetal links. Therefore, General Scanning asserts that the district court should have reduced the damages because ESI did not show which of General Scanning's customers purchased the infringing units for blowing metal links. The district court placed the burden of showing the extent of noninfringing use on General Scanning. Because General Scanning did not meet this burden, the district court denied remittitur.

To recover lost profits, a patentee must show a reasonable probability that, "but for" the infringement, it would have made the infringer's sales. See Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1545, 35 USPQ2d 1065, 1069 (Fed. Cir. 1995) (en banc). ESI and General Scanning competed in a two-supplier market for 1.3 micron lasers. The record shows that products embodying the '114 patent made up about 75% of General Scanning's memory repair sales. The record also shows that market share for a third memory repair vendor slipped from 25% to 7% because that vendor did not offer 1.3 micron lasers. Finally, the record did not show any acceptable noninfringing substitutes. In fact, General Scanning admitted that it sold 1.3 micron systems and upgrade kits only to customers who specifically requested the technology.

On this evidence, the record supports the jury's conclusion that "but for" General Scanning's sales of the infringing devices, ESI would have sold more of its patented Model 9300 laser systems. General Scanning indeed might have successfully countered this conclusion with evidence that its customers only put the lasers to noninfringing uses, that the market contained other noninfringing substitutes, or that other market forces affected the damages amounts. General Scanning did not, however, supply any such evidence. The district court, therefore, correctly denied General Scanning's motion for JMOL to remit the jury's damage award.

F.

The jury found General Scanning's infringement willful. Nonetheless the district court denied ESI enhanced damages and attorney fees, finding the case on willfulness a close one. A finding of willfulness does not mandate enhanced damages. Cybor Corp., 138 F.3d at 1461. Rather, "[t]he paramount determination [for enhanced damages] . . . is the egregiousness of the defendant's conduct based on all the facts and circumstances." Read Corp. v. Portec, Inc., 970 F.2d 816, 826, 23 USPQ2d 1426, 1435 (Fed. Cir. 1992). Thus, the district court retains discretion to enhance damages. Similarly, 35 U.S.C. § 285 grants a district court discretion whether to award reasonable attorney fees upon a finding of an exceptional case. Moreover, "a finding of willful infringement does not require a finding that a case is exceptional." Cybor at 1461. Even after a finding that a case is exceptional, the district court may decline to award attorney fees. Id. at 1460.

Here, General Scanning had obtained an oral opinion, and later a written opinion, of counsel that the '114 patent was invalid. The district court found these opinions to support a showing that General Scanning had a good-faith belief in the invalidity of the patents. ESI put forth evidence that General Scanning did not rely on the opinion of counsel. Much of that evidence came from the statements of General Scanning's CEO and General Scanning's patent counsel. The district court found these statements open to more innocent, less egregious interpretations than those offered by ESI.

Although substantial evidence supports the jury verdict of willfulness, the district court retained authority to reweigh the competency of General Scanning's opinion of counsel and General Scanning's reliance on that opinion. A jury verdict of willfulness simply does not bar a district court from determining the egregiousness of a willful infringer's conduct. Based on the totality of evidence on the present record and the deferential standard of review, this court finds that the district court did not abuse its discretion in denying ESI enhanced damages and attorney fees.

ESI's damages expert calculated ESI's prejudgment interest at \$611,882 based on the tax-free interest rate of its money market account. The expert then adjusted this amount by a multiplier (of 1.54) to offset ESI's obligation to pay taxes on the prejudgment interest award. Thus, ESI's expert sought \$941,357 in prejudgment interest.

The district court accepted ESI's suggested interest rate but declined to use the adjustment factor. Thus, the trial court awarded \$611,882 in prejudgment interest. The court reasoned that the tax multiplier did not account for all tax implications of the award. Moreover, accounting for all tax implications made the calculation too complex for accuracy.

"In exercising [its] discretion . . . the district court must be guided by the purpose of prejudgment interest, which is to ensure that the patent owner is placed in as good a position as he would have been had the infringer entered into a reasonable royalty agreement." Bio-Rad Labs., 807 F.2d at 969 (internal quotations omitted). ESI's request figured that the prejudgment interest award would be subject to a 35% tax rate. In other words, to ensure ESI obtains \$611,882 after taxes, the award would need to be \$941,357.

If ESI's jury award had collected interest in its tax-free account, ESI would have obtained this same amount.

However, ESI's calculation does not account for its tax liability on the principal of the jury award. The record shows that the court arrived at the \$611,882 figure by accounting for tax consequences in advance. Specifically, the record shows the prejudgment interest calculation began with the monetary damage caused each month by infringement. The monthly damage figure was reduced by a 35% tax to reflect a taxed principal. The resulting figure was then increased by the annual interest rate of the money market account. This sum was finally multiplied by 1.54 to offset ESI's obligation to pay taxes on the prejudgment

interest award because ESI's money market account is tax-free. This calculation resulted in a final prejudgment interest award of \$611,882. Thus, the calculation took the tax-free interest rate into account and resulted in a more accurate calculation reflecting a taxed principal. The district court, therefore, did not abuse its discretion in granting \$611,882 in prejudgment interest.

III.

Finally this court turns to both parties' complaints regarding the district court's determinations of their costs. General Scanning seeks a three-day extension in its deadline because it received service by mail. Under Fed. R. Civ. P. 6(e), General Scanning seeks to acquire an additional three days for its response, making its August 29, 1999, filing timely.

Fed. R. Civ. P. 6(e) provides:

Whenever a party has the right or is required to do some act or take some proceedings within a prescribed period after the service of a notice or other paper upon the party and the notice or paper is served upon the party by mail, 3 days shall be added to the prescribed period.

Thus, Rule 6(e) grants additional time where the time begins to run "after the service of a notice or other paper." Kyle v. Campbell Soup Co., 28 F.3d 928, 929-930 (9th Cir. 1994) (declining to apply Rule 6(e) to motion for attorney fees which must be filed "not later than thirty (30) days after entry of final judgment" because "Rule 6(e) . . . only enlarge[s] the filing time when the period for acting runs from the service of a notice by mail"); Hatchell v. United States, 776 F.2d 244, 246 (9th Cir. 1985) (stating that Rule 6(e) does not apply when the time for acting is designated from "the date of mailing" as opposed to "the service of notice" by mail). Because L.R. 54-1(a) prescribes the period for filing a bill of costs to a date certain "after entry of judgment," rather than "after service of a notice," Rule 6(e)'s three-day extension does not apply in this case.

Moreover, the district court did not abuse its discretion in denying General

Scanning's motion for an extension. Under Fed. R. Civ. P. 6(b), "the court for cause shown may at any time in its discretion . . . (2) upon motion made after the expiration of the specified period permit the act to be done where the failure to act was the result of excusable neglect" (emphasis added). Because General Scanning did not offer an acceptable cause for the delay, the trial court followed the Rules in its denial. Furthermore, the Ninth Circuit has clearly established that an attorney's mistaken belief about filing due dates or lack of familiarity or understanding of the Rules is not excusable neglect. Kyle, 28 F.3d at 930-32; United States v. Prairie Pharmacy, Inc., 921 F.2d 211, 213 (9th Cir. 1990). The district court did not abuse its discretion in this denial.

With regard to the errors of the clerk in assessing ESI's costs, California and Federal Rules leave such awards to the trial court's discretion. See Fed. R. Civ. P. 54(d); see also N.D. Cal. Civ. R. 54-1(a). According to General Scanning's request, the court taxed all of ESI's costs in light of General Scanning's objections. The court neither erred nor abused its discretion in recalculating ESI's costs itself instead of remanding the calculation to the deputy clerk. Moreover, the district court's reevaluation of every item of ESI's bill warrants only commendation and credit. Because the district court did not abuse its discretion in recalculating ESI's costs, this court affirms those calculations.

CONCLUSION

This court affirms all of the district court's judgments in the present case.

COSTS

Each party shall bear its own costs.

AFFIRMED

