

**United States Court of Appeals
for the Federal Circuit**

FUNAI ELECTRIC COMPANY, LTD.,
Plaintiff-Cross Appellant,

v.

**DAEWOO ELECTRONICS CORPORATION
AND DAEWOO ELECTRONICS AMERICA, INC.,**
Defendants-Appellants,

and

**DAEWOO ELECTRONICS COMPANY, LTD.,
DAEWOO ELECTRONICS CORPORATION OF
AMERICA, INC.
AND DAEWOO ELECTRIC MOTOR INDUSTRIES,
LTD.,**
Defendants.

2009-1225, -1244

Appeal from the United States District Court for the
Northern District of California in Case No. 04-CV-01830,
Magistrate Judge Joseph C. Spero.

Decided: September 1, 2010

MICHAEL J. LYONS, Morgan, Lewis & Bockius LLP, of Palo Alto, California, argued for plaintiff-cross appellant. With him on the brief were LORRAINE M. CASTO and HARRY F. DORSCHER.

PERRY R. CLARK, Law Offices of Perry R. Clark, of Palo Alto, California, argued for defendants-appellants. With him on the brief were JENNY N. LEE and SARAH L. FORNEY, Kirkland & Ellis LLP, of Palo Alto, California. Of counsel were ZHUANJIA GU and AVINASH D. LELE.

Before NEWMAN, LOURIE, AND LINN, *Circuit Judges*.

Opinion for court filed by *Circuit Judge* NEWMAN. Concurring Opinion filed by *Circuit Judge* LINN.

NEWMAN, *Circuit Judge*.

This appeal is taken from the final judgment of the United States District Court for the Northern District of California, on issues of patent infringement, validity, damages, and successor liability.¹ The district court's judgment

¹. *Funai Electric Co. v. Daewoo Electronics Corp.*, No. C-04-01830 JCS (N.D. Cal. Feb. 13, 2009) (unpublished) (final judgment and injunction); *Funai Electric Co. v. Daewoo Electronics Corp.*, 593 F. Supp. 2d 1088 (N.D. Cal. 2009) (order on post-trial motions); *Funai Electric Co. v. Daewoo Electronics Corp.*, No. C 04-01830 JCS (N.D. Cal. July 22, 2008) (unpublished) (successor liability order); *Funai Electric Co. v. Daewoo Electronics Corp.*, No. C 04-01830 JCS (N.D. Cal. Nov. 26, 2007) (unpublished) (partial summary judgment order); *Funai Electric Co. v. Daewoo Electronics Corp.*, No. C 04-01830 CRB, 2006 WL 3780715 (N.D. Cal. Dec. 20, 2006) (partial summary judgment order); *Funai Electric Co. v. Daewoo Electronics Corp.*, No. C 04-01830

as to the patent issues is affirmed. We reverse as to successor liability, and remand for further proceedings on this issue.

BACKGROUND

In May 2004 Funai Electric Company, Ltd. (“Funai”) filed suit against four Daewoo entities: Daewoo Electronics Corporation (“DEC”), a corporation of South Korea, and its predecessor Korean company Daewoo Electronics Company Ltd. (“DECL”); and their United States subsidiaries Daewoo Electronics America, Inc. (“DEAM”), a Florida Corporation, and its predecessor Daewoo Electronics Company of America (“DECA”), a California corporation. The charge was infringement of six United States patents owned by Funai pertaining to various electrical and mechanical components of video cassette players and recorders (“VCRs”). VCRs convert information stored on video cassette tapes into images displayed on a screen. The patented inventions are described as improvements that lower the cost of producing VCRs while maintaining product quality.

In early 2005 DECL and DECA ceased participating in the litigation, presenting no defense and refusing discovery. The district court entered default judgment against them and, based on the evidence before the court, awarded Funai \$6,956,187 in damages for infringement by DECL and DECA before October 25, 2002, plus attorney fees and costs incurred as to these entities. The total award, including prejudgment interest, was \$8,066,112. No appeal was taken from this award. However, DECL and DECA did not pay the judgment. Funai then asserted, by amended complaint,

CRB, 2006 WL 6130993 (N.D. Cal. Mar. 1, 2006) (claim construction).

that the successor companies DEC (South Korea) and DEAM (Florida) are liable for payment. The district court reserved that issue until after trial on the merits.

The litigation proceeded as to DEC and DEAM (hereinafter together “Daewoo”). In various pre-trial proceedings the district court narrowed the issues for trial. Thus the court held, on summary judgment, that three of the six patents were not infringed. The remaining three patents were U.S. Patent No. 6,021,018 (“the ’018 patent”); No. 6,421,210 (“the ’210 patent”); and No. 6,064,538 (“the ’538 patent”). After a *Markman* hearing, the court granted summary judgment that the ’018 and ’210 patents are not literally infringed, but denied summary judgment as to infringement under the doctrine of equivalents. The court denied summary judgment on the question of infringement of the ’538 patent, either literally or under the doctrine of equivalents. The court also held, as a matter of law, that the claims of the ’538 patent are not invalid on the ground of indefiniteness. The remaining issues were set for trial to a jury.

After a 14-day trial, the jury found that Daewoo willfully infringed the ’018 and ’210 patents under the doctrine of equivalents, and willfully infringed the ’538 patent either literally or under the doctrine of equivalents for infringing acts occurring on and after October 25, 2002. The jury awarded Funai \$7,216,698 in damages as against DEC, of which \$2,298,590 was jointly assessed against DEC and DEAM. In view of the verdict of willful infringement, the court awarded Funai its attorney fees and expenses, but declined to enhance the damages awarded by the jury. The court entered a permanent injunction, and denied Daewoo’s duly made post-trial motions.

The district court then considered Funai's request that the damages that had been awarded against the defaulting predecessor companies, DECL and DECA, be assessed against their successor companies DEC and DEAM. The court applied the law of South Korea as to successor liability, and ruled that neither DEC nor DEAM is liable for the judgment entered against their predecessors.

Daewoo appeals the aspects that were decided adversely to it, *viz.*, the issues of infringement, claim indefiniteness, and damages. Funai cross-appeals the district court's refusal to enhance damages based on the jury's willfulness findings and the sanctioned attorney misconduct, and also appeals the ruling as to successor liability.

I

THE '018 PATENT

The '018 patent, issued February 21, 2000, is entitled "Loading Mechanism for a Video Cassette." The claims are directed to an improvement in the movement of the cassette holder between an initial position and a play position, so that the door of the cassette is opened before the cassette holder is moved. This sequential motion allows the cassette to be closer to the door without colliding, thus beneficially reducing the overall size of the VCR. Claim 1 of the '018 patent is as follows:

1. A loading mechanism for loading a video cassette into a play position in a video cassette deck comprising:

- a door having an opening for receiving said video cassette;

a cassette holder, for holding said video cassette at an initial position, and for moving said video cassette between said initial position and a play position while holding said video cassette;

a slide arm capable of sliding in parallel to an insertion direction of said video cassette;

a holder drive gear for driving said cassette holder via a gear mechanism so said cassette holder is positioned in the initial position when said slide arm is positioned at a first position, and is positioned in said play position when said slide arm is positioned at a second position; and

a door arm for driving said door in accordance with movement of said slide arm, so that when said slide arm slides from said second position toward said first position, said door arm opens said door while said slide arm slides from the first position towards a third position which is arranged between said first and second positions, and *said holder drive gear starts to drive said cassette holder from said play position towards said initial position after said slide arm passes said third position so that said door is opened before said cassette holder is moved when said cassette holder is moved to said initial position.*

(Emphasis added to the aspects at issue for infringement.)

The accused Daewoo products are VCR decks and combination TV/VCR and DVD/VCR decks, that include what is called a “T-Mecha” loading mechanism. Witnesses explained the structure and operation of the patented mecha-

nism and the Daewoo products. The district court granted summary judgment that the “holder drive gear” limitation is not literally met by the Daewoo products, and the jury found that this limitation is met under the doctrine of equivalents. The other disputed limitation was based on the “opened” term, which was not presented to the jury because the district court granted summary judgment that this limitation is literally met. The jury found that claims 1-4 of the ’018 patent were infringed. Each side appeals those rulings and findings adverse to it.

A. “Holder Drive Gear”

Funai appeals the summary judgment that claims 1-4 of the ’018 patent are not literally infringed based on the court’s “holder drive gear” interpretation, and Daewoo appeals the summary judgment that the “opened” limitation is literally met. The other limitations of these claims were conceded by Daewoo to be embodied in its accused cassette decks.

In the Daewoo products, when loading a cassette into a T-Mecha deck, the cassette is placed in the cassette holder in an “initial position” and thereafter is driven to a position, called an “intermediate” position, from which a pin on the cassette holder pushes the cassette downward about two millimeters, to the play position. The Daewoo ejection sequence is similar, but the actions occur in the reverse order. During ejection of a cassette the pin is released, allowing embedded springs to push the cassette upward from the play position about two millimeters, whereupon it arrives at the intermediate position as the door is opened. While in the intermediate position, and before further movement of the cassette holder to the initial position, the door becomes fully opened.

The district court ruled that the Daewoo cassette decks could not be found to literally meet the claim limitation that “said holder drive gear starts to drive said cassette holder from said play position towards said initial position,” for in the Daewoo decks “it is the slide arm cam’s release of the pin that moves the holder from the play position.” *Funai*, 2006 WL 3780715, at *8. The court explained that in the Daewoo products the release of the pin holding down the video cassette, and the subsequent force of the springs applied to the cassette upon the release of the pin, move the cassette holder from the play position toward the initial position. Since this action is not performed by the holder drive gear, the court ruled by summary judgment that the claims could not be found to be literally infringed.

On appeal Funai argues that the “holder drive gear” limitation is literally met whenever the accused products are not loaded with a cassette tape, at which time the pin and springs are not implicated. However, the claims are predicated on the presence of a cassette tape, for all of the claims recite “loading,” “receiving,” “holding,” and “moving” a video cassette. We affirm the district court’s ruling that the “holder drive gear” limitation could not be found to be literally met, negating literal infringement of claims 1-4 of the ’018 patent.

B. “Opened”

The jury found infringement of claims 1-4 of the ’018 patent in terms of the doctrine of equivalents. The only claim limitation presented for jury consideration of equivalency was the holder drive gear. Daewoo does not challenge the jury’s finding of equivalency of the holder drive gear. However, Daewoo argues that the district court erred in its determination on summary judgment that the “opened” limitation was literally infringed, and that infringement

under the doctrine of equivalents cannot be found because of prosecution history estoppel as to the “opened” limitation.

Daewoo argues that the court erred as to the “opened” limitation by focusing only on the status of the door upon movement of the cassette holder to the initial position, without also accounting for the claim’s requirement that the VCR door is opened before the cassette holder moves from the play position. Daewoo states that in its VCRs the door is opened only after the cassette holder has moved two millimeters. The district court held that: “It does not matter that the door does not move before the holder shifts from the play position to the intermediate position. The critical point, not disputed by the parties, is that when the holder is moved towards the initial position from the intermediate position, the door has already begun its opening motion.” *Funai*, 2006 WL 3780715, at *8. Funai states that the district court correctly construed the “opened” limitation to mean “moved from a closed position such that the door has cleared the cassette so that ejecting the cassette will not interfere with the door.” *Funai*, 2006 WL 6130993, at *7. We agree that this claim construction is correct, for it is as described in the specification. This construction, and the summary judgment based thereon, have not been shown to be in error. The court’s ruling that the “opened” limitation is literally met by the accused products is sustained. On the entirety of the claim, the jury verdict of infringement is supported by substantial evidence, and is affirmed.

II

THE '210 PATENT

The '210 patent, issued July 16, 2002, is entitled “Mechanism for Preventing Propagation of Driving Motor Noise and Vibration on a Tape Deck, and Tape Deck Having

the Same.” Claims 1, 2, 4-7, 9, and 10 were asserted by Funai. Claims 1 and 5 are representative:

1. A mechanism for preventing propagation of driving motor noise and vibration on a tape deck, comprising:

a deck chassis, a pinch roller and a capstan axis for conveying a tape, a motor which is mounted on said deck chassis for driving said capstan axis, a cylinder drum which is mounted on said deck chassis and provided with a head for magnetic-recording and playing on the tape;

said motor being a direct driving motor in which a motor shaft is directly coupled to the capstan axis, and which is controlled by current switching;

said motor being *electrically insulated* from said deck chassis;

said direct driving motor controlled by a pulse width modulation (PWM) control; and

said direct driving motor including a rotational axis as a capstan axis, a rotor which is mounted on said rotational axis, a stator core which is wound by a coil being supplied PWM control current and faces to said rotor, and a bearing holder which holds said stator core and supports said rotational axis, and said direct driving motor is mounted through said bearing holder on the deck chassis;

wherein said bearing holder is made of an insulating material.

5. A mechanism for preventing propagation of driving motor noise and vibration on a tape deck comprising a deck chassis, a pinch roller and a capstan axis for conveying a tape, a motor which is mounted on said deck chassis for driving said capstan axis, and a cylinder drum which is mounted on said deck chassis and provided with a head for magnetic-recording and playing on the tape:

wherein said motor is a direct driving motor in which a motor shaft is directly coupled to the capstan axis, and which is controlled by current switching;

wherein said motor comprises a rotational axis as a capstan axis, a rotor which is mounted in said rotational axis, a stator core which is wound by a coil being supplied switching control current and faces to said rotor, a bearing holder which is made of *an insulating material* for holding said stator core and supporting said rotational axis, and a motor PCB (printed circuit board) which is supported by said bearing holder and on which circuit elements for controlling the motor are mounted, and wherein said motor is secured on the deck chassis through the bearing holder; and,

wherein said motor PCB is held in close to where the bearing holder is mounted on the deck chassis, and supported by a supporting member in an *electrically insulating* state at a distance from where the motor PCB is held.

(Emphasis added to the term at issue on this appeal.) The only disputed aspect for the '210 patent relates to the insulating material. The district court ruled on summary judgment that there was not literal infringement as to this limitation, and the issue of equivalency was given to the jury. Funai contends that the district court erred in ruling on summary judgment that this element was not literally infringed, and Daewoo challenges the court's definition of "insulating material" and argues that prosecution history estoppel bars infringement under the doctrine of equivalents.

A. "Insulating Material"

The district court construed "insulating material" as follows:

a material with poor electrical conduction that acts to suppress switching noise generated by a pulse width modulation control of the direct driving motor, thereby suppressing the video screen and audio noise caused by electrical noise produced by the capstan motor.

Daewoo argues that the court's definition of insulating material as a material having "poor electrical conduction" renders the claim construction fatally flawed because it improperly uses comparative language. Daewoo states that the district court in its claim construction merely replaced one vague term ("insulating") with an even vaguer term ("poor electrical conduction"). Daewoo argues that the word "poor" is a comparative term, raising but not answering the question of "poor relative to what?" Daewoo states that an adequate definition of "insulating material" requires a numerical resistivity limit, such as 10^7 ohm-cm or greater,

which corresponds to the resistivity of materials illustrated in the '210 specification, in order to provide certainty and clarity to the claims. Funai responds that “poor electrical conduction” adequately describes the insulating material used in this context, and that a person of ordinary skill in the field of insulating motors and reading the specification would have no trouble understanding what is covered by the claim.

Daewoo also argues that the district court’s further description of “insulating material” as a material that “acts to suppress switching noise generated by a pulse width modulation control of the direct driving motor” is “functional” and therefore “circular,” and thus improper. In response Funai points to the specification’s statement that the insulating material suppresses such noise, as supporting the court’s construction.

The use of comparative and functional language to construe and explain a claim term is not improper. A description of what a component does may add clarity and understanding to the meaning and scope of the claim. The criterion is whether the explanation aids the court and the jury in understanding the term as it is used in the claimed invention. There was evidence in the district court that persons experienced in this field would understand this description of the insulating material, in the context in which it is used, as a poor electrical conductor serving the function set forth in the claim. No error can be attributed to this use of comparative and functional explanation in construing these claims.

B. Literal Infringement

The district court granted summary judgment that Daewoo’s VCR products did not use an “insulating mate-

rial,” and thus that the asserted claims of the ’210 patent could not be found to be literally infringed. Funai challenges this determination, stating that there was a disputed factual question of whether the Daewoo material was “insulating” in terms of the insulating requirements of the patented invention.

The ’210 patent illustrates using a resin as an insulating material. The Funai products use a polycarbonate resin having the brand name Lexan®. The accused Daewoo products also use a Lexan® polycarbonate resin, but Daewoo’s expert testified that the Daewoo material is a “filled” resin containing 8% carbon fibers. *Funai*, No. C 04-01830 JCS, at 32 (N.D. Cal. Nov. 26, 2007) (unpublished) (quoting declaration of Daewoo’s expert). The Daewoo expert stated that the carbon fibers increase the thermal and electrical conductivity of the material, making it conductive, not insulating. The Daewoo expert testified that Daewoo chose the filled polycarbonate for its ability to dissipate static, stating that this property is consistent with being a conductor and inconsistent with being an insulator. *Id.* at 33. Funai argues that the Daewoo Lexan® polycarbonate is still 92% an insulating resin, and that this property is not lost despite the 8% carbon filler.

On cross-examination, Daewoo’s expert acknowledged that the Daewoo polycarbonate resin is between 1 million and 100 million times more resistive (that is, less conductive) than metal. Daewoo argues that this does not prove that its product is an insulating material; it merely indicates that the product is substantially less conductive than metal. Funai responds that this admission would have permitted a reasonable jury to find that the Daewoo filled polycarbonate serves as an insulating material as taught in the ’210 patent, and therefore that summary judgment of no literal infringement was inappropriate. Funai points to

other evidence that Funai states could support a jury verdict of literal infringement, citing a National Science Foundation Project article that was introduced by Daewoo's expert, which describes materials with resistivities in the range of 10^2 to 10^1 ohm-cm—which range includes Daewoo's polycarbonate material—as “used for slightly electrical conducting applications.” Funai states that this shows that the Daewoo material is sufficiently insulating to serve the functions set forth in the '210 patent, and that a reasonable jury could have so found.

On the issue of literal infringement, the district court stated on summary judgment that Funai “failed to produce any evidence that one of ordinary skill in the art would consider Daewoo's bearing holders to be made of material with ‘poor electrical conduction.’” *Id.* at 34. This appears to be inaccurate, for the evidence adduced on cross-examination, and the National Science Foundation Report designating the specific Daewoo Lexan® as “slightly conducting,” support the characterization of “poor electrical conduction” when viewed favorably to the party opposing summary judgment. *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248-49 (1986) (summary judgment should be granted only when there is no genuine issue of material fact). However, even if summary judgment were improvidently granted as to this question, the issue of infringement is decided by the doctrine of equivalents, as we next discuss. For that reason, a trial of literal infringement is unwarranted.²

². Daewoo has moved to strike sixteen pages of Funai's cross-appeal reply brief, discussing literal infringement of the '018 patent and the '210 patent. Funai objects, stating that the issues of literal infringement are properly part of the cross-appeal because they were decided adversely to Funai. We acknowledge that there can arise procedural uncertainty as to whether a particular issue is properly

C. Infringement by Equivalents

Infringement of the '210 patent under the doctrine of equivalents was tried to the jury, with evidence and argument on the equivalency of the insulating material used by Daewoo. Daewoo does not contest the jury's finding of equivalency. Instead, Daewoo argued in the district court, and repeats on this appeal, that it was legal error to have permitted the question of equivalency to be tried, because infringement by equivalents is precluded by prosecution history estoppel. Daewoo contends that in accordance with *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002), and this court's implementing precedent in *Honeywell International Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131 (Fed. Cir. 2004), there arose a presumption of estoppel that has not been rebutted. The district court denied summary judgment on this ground, stating that prosecution history estoppel does not apply because the insulating material limitation was not a ground of prosecution rejection.

Issues of prosecution history estoppel are resolved as a matter of law, and receive plenary review on appeal. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1367-68 (Fed. Cir. 2003) (*en banc*, on remand). In determining whether an estoppel arose, and the scope of the estoppel, the analysis focuses on the claims as originally filed, the amendments made, and the reasons therefor. The original claims here relevant are:

1. A mechanism for preventing propagation of driving motor noise and vibration on a tape deck com-

presented as an alternative reason for supporting the judgment, or by cross-appeal when, as here, the cross-appellant states that the issue has independent consequences. The motion to strike is denied.

prising a deck chassis, a pinch roller and a capstan axis for conveying a tape, a motor which is mounted on said deck chassis for driving said capstan axis, and a cylinder drum which is mounted on said deck chassis and provided with a head for magnetic-recording and playing on the tape:

wherein said motor is a direct driving motor in which a motor shaft is directly coupled to the capstan axis, and which is controlled by current switching; and,

wherein said motor is electrically insulated from said deck chassis.

2. The mechanism for preventing propagation of driving motor noise and vibration on a tape deck according to claim 1, wherein said direct driving motor is controlled by a pulse width modulation (PWM) control.

4. The mechanism for preventing propagation of driving motor noise and vibration on a tape deck according to claim 2, wherein said direct driving motor comprises a rotational axis as a capstan axis, a rotor which is mounted on said rotational axis, a stator core which is wound[] by a coil being supplied PWM control current and faces to said rotor, and a bearing holder which holds said stator core and supports said rotational axis, and said direct driving motor is mounted through said bearing holder on the deck chassis:

wherein said bearing holder is made of an insulating material.

5. The mechanism for preventing propagation of driving motor noise and vibration on a tape deck according to claim 2, wherein said cylinder drum is mounted on said deck chassis through an insulator.

Application Ser. No. 09/560,726, filed on Apr. 28, 2000.

Funai states that the district court correctly held no estoppel existed with respect to equivalency of the “insulating material” element of the claims, for this aspect was unrelated to or “merely tangential” to the prosecution. In *Festo*, 535 U.S. at 741, the Court stated:

There are some cases, however, where the amendment cannot reasonably be viewed as surrendering a particular equivalent. . . . “[T]he rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; In those cases the patentee can overcome the presumption that prosecution history estoppel bars a finding of equivalence.

Funai states that any presumptive estoppel was overcome. Funai also points out that issued claim 5 was not amended at all during prosecution, and states that any presumptive estoppel does not apply to claim 5.

The district court reviewed the prosecution history, wherein the examiner rejected, on the ground of obviousness, original claims 1-3 and 6 based on U.S. Patent 6,147,833 to Watanabe in view of U.S. Patent 3,881,188 to Zenzefilis. In rejecting claims 1 and 2, the examiner stated:

Watanabe does not show the motor electrically insulated from the deck chassis. This feature is taught by Zenzefilis ([rubber mounting blocks] 126; Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to electrically insulate the motor of Watanabe on the deck chassis as taught by Zenzefilis. The rationale is as follows: One of ordinary skill in the art at the time of the invention would have been motivated to electrically insulate the driving motor of Watanabe as taught by Zenzefilis in order to reduce the switching noise that contains frequency elements of a video band and a sound band so that video screen noise and audio noise is decreased.

'210 application, Office Action of Jan. 3, 2002. The examiner stated that original claim 4, and other claims that had not been rejected, would be allowed. The applicant presented no argument, simply cancelled the rejected claims, and rewrote claim 4 in independent form. Claim 4 then issued as claim 1 of the '210 patent.

Daewoo argues that the cancellation of claims 1 and 2 raised the presumption of surrender of the entire scope between claim 4 and claims 1 and 2, whether or not that scope had been involved in any specific rejection or argument. Daewoo cites *Honeywell*, 370 F.3d at 1141, for its holding that: "A presumption of surrender . . . arises if rewriting the dependent claims into independent form, along with canceling the original independent claims, constitutes a narrowing amendment." Funai argues that the cancellation of claims 1 and 2 cannot be deemed a narrowing amendment as to the nature of the insulating material, and its conductivity, for there was no rejection and no issue concerning the nature of the insulating material or its

conductivity. Funai states that the examiner's Watanabe/Zenzefilis rejection focused on whether there was any electrical insulation at all, and that the same description of the insulation appears in original claim 4. Funai argues that patentability of claim 4 clearly was based on the other limitations of claim 4.

It is apparent that the nature of the insulating material was not a factor in the allowance of claim 4, for this aspect was not at issue during prosecution. This limitation is in the category that the Court called "merely tangential" to the prosecution, as discussed in *Festo*. Thus the district court correctly held that the cancellation of claims 1 and 2 did not surrender access to equivalency with respect to the insulating material. The district court appropriately tried the question of equivalency to the jury. Absent estoppel, Dae-woo does not challenge that substantial evidence supports the jury's finding of infringement by equivalents. That judgment is affirmed.

III

THE '538 PATENT

The '538 patent, issued May 16, 2000 for a "Biasing/Erasing Oscillation Circuit for Magnetic Tape Recording Apparatus," relates to the oscillation circuit for magnetic erasing heads in a VCR. Magnetic heads have electrical coils that read the magnetic information on a video cassette tape and transmit an electrical signal that erases the information stored on the tape. In the prior art, these erasing signals were generated by a separate transformer. The '538 patent describes a circuit that eliminates the need for a separate transformer, by using the electrical coils themselves to generate the signal that erases information on the

tape. By eliminating the transformer, VCR manufacturing costs are reduced and reliability is improved.

The district court construed the claims, and the jury found that claims 1 and 3-5 were willfully infringed by Daewoo, either literally or under the doctrine of equivalents.

The finding of infringement is not appealed insofar as it is based on the district court's claim construction. However, Daewoo challenges the correctness of the claim construction.

Daewoo also does not appeal the jury's verdict that the claims are not invalid on the ground of obviousness, but challenges the district court's ruling that the claims comply with the definiteness requirement of 35 U.S.C. §112 ¶2.

The claims at issue for the '538 patent are as follows:

1. A biasing/erasing oscillator in a magnetic tape recording apparatus having an entire width erasing head for erasing signals recorded in an azimuth track, or the azimuth track and a linear track, of a magnetic tape, and a linear record erasing head for erasing signals recorded in the linear track of the magnetic tape, comprising:

a series circuit connecting in series through a series junction point at least between said linear record erasing head and one of said entire-width erasing head and an inductance element;

an oscillating capacitor connected in parallel with said series circuit;

a transistor having a collector and a base and having an emitter connected to said series junction point;

a direct current blocking capacitor connected between one end of said series circuit and said base; and

a bias resistor for providing a bias voltage to said base.

3. An oscillator according to claim 1, wherein said inductance element is an inductor.

4. An oscillator according to claim 3, wherein said series circuit includes two erasing heads of said entire-width erasing head and said linear record erasing head and said inductor, said series junction point is a junction point between said two erasing heads and said inductor.

5. A biasing/erasing oscillator in a magnetic tape recording apparatus having an entire width erasing head for erasing signals recorded in an azimuth track, or the azimuth track and a linear track, of a magnetic tape, and a linear record erasing head for erasing signals recorded in the linear track of the magnetic tape, comprising:

a series circuit connecting in series through a series junction point said entire-width erasing head and said linear record erasing head;

an oscillating capacitor connected in parallel with said series circuit;

a transistor having a collector and a base and having an emitter connected to said series junction point;

a direct current blocking capacitor connected between one end of said series circuit and said base; and

biasing means providing a bias voltage to said base.

A. Infringement

Daewoo states that the jury's finding of infringement was due to the district court's erroneous claim construction. Referring to the requirement in claim 5 of "a series circuit connecting in series through a series junction point said entire-width erasing head and said linear record erasing head," Daewoo argues that the district court incorrectly construed the "series circuit" limitation by "vitiating" the phrase "through a series junction point." The question is whether the claim requires that the series junction point must lie between the erasing heads, or whether the claim is met when the series circuit includes a series junction point that is not between the heads. The district court construed the claims, stating that "[t]he claim language does not require that the series junction point must be *between* the two heads, but only that all three must be in series." (Emphasis in original). The court referred to the specification, and observed that Figure 2 of the patent shows the series junction point located between the two erasing heads, and Figure 5 shows a series junction point that is not located between the two erasing heads.

Daewoo argues that the claim requires that the series junction point lies between the two erasing heads. The district court stated that Daewoo's argument is an "attempt[] to limit the claim to a preferred embodiment, even though this limitation is not found in the language of claim 5." We affirm the district court's claim construction, for it is in accordance with the specification including the drawings, whereas Daewoo's construction would exclude the embodiment in Figure 5. *See, e.g., Hoechst Celanese Corp. v. BP Chems. Ltd.*, 78 F.3d 1575, 1581 (Fed. Cir. 1996) (a claim construction that excludes a preferred embodiment is rarely, if ever, correct).

On the district court's construction of the claims, the jury verdict of infringement is not challenged on appeal.

B. Validity

Daewoo argues that claims 1, 3, and 4 are invalid for failure to meet the claim definiteness requirements of 35 U.S.C. §112 ¶2. The jury did not address this question, for the district court had reserved it to be resolved as a matter of law if infringement were found by the jury. The issue of claim definiteness receives plenary review, as a question of law. *See AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1240 (Fed. Cir. 2007).

Daewoo's position is that the claim clause "a series junction point at least between said linear record erasing head and one of said entire-width erasing head and an inductance element" is fatally indefinite. Daewoo focuses on the "grammatically incongruous wording" of the terms "at least," "between," and "one of," which Daewoo says are used inconsistently with their ordinary usage in the English language. Daewoo particularly points to the words "at least" and the uncertainty as to what these words modify.

The district court observed that “the wording is, at the very least, awkward,” but deemed the claim amenable to construction. The court reasoned that “one of ordinary skill in the art would interpret the use of ‘at least’ in claim 1 as modifying ‘one of.’ Otherwise, ‘at least’ would have no meaning at all.” *Funai*, 2006 WL 6130993, at *11. The court construed the “series junction point” limitation as:

a point on said series circuit between (1) the linear record erasing head and the entire-width erasing head, (2) the linear record erasing head and an inductance element or (3) the linear record erasing head and both the entire-width erasing head and an inductance element.

Id. at *12. The court explained that the specification supports these placements of the junction point, a ruling consistent with the requirement of *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1557 (Fed. Cir. 1995), that “We must give meaning to all the words in [the] claims.”

We conclude that this construction is correct, for it comports with the specification and the prosecution record. An ungainly claim is not thereby indefinite, when its meaning can be understood by a person experienced in the field of the invention, on review of the patent documents. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1350 (Fed. Cir. 2010) (“To comport with §112’s definiteness requirement, the boundaries of the claim, as construed by the court, must be discernible to a skilled artisan based on the language of the claim, the specification, and the prosecution history, as well as her knowledge of the relevant field of art.”). The protocols of claim writing can lead to awkward phrasing, for the claim is restricted to a single sentence, no matter how complex the invention; and claim content is

burdened by tradition. Judge Learned Hand is credited with the observation that the drafting of patent documents is the most challenging of tasks. In part the challenge arises because patents are written for persons knowledgeable in the field of the invention, for every patent must describe its advance in a specific technological or intellectual art—yet the draftsman knows that ultimately the patent must survive the legal scrutiny of lay judges and juries. Judge Hand understood this burden, writing in *Dorsey v. Pilot Electric Co.*, 32 F.2d 211, 212 (2d Cir. 1929), that: “As in any other written instrument, words [of a patent claim] are capable of many meanings; we must translate them into the underlying purpose of their user.” For the terms whose definiteness is challenged by Daewoo, the district court properly implemented this guidance, which has often been reinforced. The court construed the terms to implement their meaning as manifested in the specification and the prosecution history, and correctly rejected Daewoo’s charge of indefiniteness. This ruling is affirmed.

IV

DAMAGES

The jury awarded a total of \$7,316,698 in damages. Daewoo raises several issues with respect to the damages award, and argues that Funai’s letter notice of infringement was inadequate and that Funai’s marking of its products was incomplete, such that damages could not accrue for infringement before the filing of suit on May 7, 2004.

A. Actual Notice

Funai stated that it gave Daewoo actual notice of infringement, by letter dated April 3, 2003 from the General

Manager of Funai's Intellectual Property Department in Japan to the CEO of Daewoo Electronics Corporation in South Korea. The letter included citation of six United States patents, as follows:

We believe that your products infringe one or more claims of the aforementioned our patents.

We confirmed Your VCRs (Japan Model DR-MC3 and U.S.A. Model DV-T8DN) that was infringed at least our patents as follows:

USP 5,815,218

USP 5,987,209

USP 6,021,018 with certificate of correction

USP 6,064,538

USP 6,421,210

USP Re. 37,332

.....

Enclosed please find each copy of these patents.

This letter was followed in June 2003 with claim charts. *See Funai*, 593 F. Supp. 2d at 1114. Daewoo did not dispute that the letter provided actual notice of infringement as to the two product models mentioned in the letter, but argued that the letter was legally insufficient to provide actual notice as to any other Daewoo VCR models, thus limiting the period of damages at least as to those models.

Funai argued that this letter was adequate actual notice of infringement as to all products having the same or substantially similar deck and circuitry as the Model DV-T8DN. Funai pointed out that Daewoo's interrogatory responses and stipulations during discovery showed that several Daewoo models contained the same infringing components—namely, the T-Mecha deck, polycarbonate insulating material, and eraser biasing circuitry—as in the DV-T8DN model. *See* J.A. 32713-36 (interrogatory responses with table identifying accused products and their components); J.A. 45273-82 at ¶¶ 13, 33, 46 (stipulations regarding accused products).

To serve as actual notice, a letter must be sufficiently specific to support an objective understanding that the recipient may be an infringer. *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1346 (Fed. Cir. 2001). The letter must communicate a charge of infringement of specific patents by a specific product or group of products. *Amsted Industries Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994). However, when the threshold specificity is met, the ensuing discovery of other models and related products may bring those products within the scope of the notice. The jury was instructed as to the notice requirements, and to consider this aspect in its calculation of damages. A reasonable jury could have followed this procedure, for it has not been shown that the jury's calculation of damages does not implement this instruction.

B. Constructive Notice

Funai argued that it is entitled to damages from the date of commencement of Daewoo's infringement, based on constructive notice by marking as to the '018 patent. Funai states that the '210 patent was not subject to the marking requirement, for Funai stopped practicing that invention

prior to issuance of the patent. *See Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1220 (Fed. Cir. 2002) (“The recovery of damages is not limited where there is no failure to mark, *i.e.*, . . . where there are no products to mark.”).

Satisfaction of the constructive notice requirements of §287(a) is a question of fact, *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 2006), and when tried to a jury, is reviewed accordingly. The jury was instructed as follows, with respect to the date from which damages should be calculated:

You should begin to calculate damages for the '018 and '210 patents as of October 25, 2002, or the date that Funai first gave notice to each defendant of its claim of patent infringement, whichever is later. . . .

Funai can give notice of infringement of the '018 and '210 patents in two ways. The first way is to give notice to the public in general. Funai can do this by placing the word “patent” or the abbreviation “PAT” with the number of the patent on substantially all the products it sold, either itself or by licensees, that included the patented invention. This type of notice is effective from the date Funai began to mark substantially all of their products that use the patented invention with the patent number. If Funai did not mark substantially all of their products that use the patented invention with the patent number, then Funai did not provide notice in this way.

A second way Funai can provide notice of its patents is to communicate to Daewoo a specific charge that the accused product infringed the '018 and '210 patents. This actual notice is effective from the time it is given.

In any event, the date Funai first gave notice of infringement of the '018 and '210 patents can be no later than May 7, 2004, the filing date of the lawsuit.

J.A. 148-49 (Jury Instruction Nos. 39-40). For the '538 patent, for which no marking was asserted by Funai, the jury was instructed that, "You should begin to calculate damages for the '538 patent as of April 3, 2003." J.A. 148 (Jury Instruction No. 39).

Daewoo did not object to these instructions. Daewoo now argues that the instructions are incorrect, and that the marking statute permits no lapse in the completeness of the marking. We review challenges to jury instructions under the law of the regional circuit in which the district court sits, here the Ninth Circuit. *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1359 (Fed. Cir. 2004). Under Ninth Circuit law, a party's "[f]ailure to object to an instruction waives review." *Image Tech. Servs. v. Eastman Kodak Co.*, 125 F.3d 1195, 1206 (9th Cir. 1997). Daewoo did not object to the jury instructions, thus waiving appellate review of the error it now raises.

Daewoo argued that Funai did not completely mark all products with the '018 patent, and marked no products with the '538 patent, and that these lapses eliminated any benefit of constructive notice. Funai responded that 88-91% of its products sold at retail were properly marked, and that

the remaining unmarked products were sales through Funai's Original Equipment Manufacturer ("OEM") customers for resale. Funai argued that marking need not be perfect, provided that it is sufficiently complete that the interested public is reasonably apprised of the patented status of the product.

The evidence at trial was that until the end of 2003, approximately 88% of Funai's sales were sold as Funai products and all were marked with the '018 patent. The remaining 12%, sold through OEM customers, did not bear Funai's patent number. In 2004, approximately 91% of Funai's sales were of Funai brand products, and all were marked with the '018 patent.

The marking statute, 35 U.S.C. §287(a), applies to "Patentees, and persons making, offering for sale, or selling within the United States any patented article for or under them or importing any patented article into the United States." Daewoo stated that the statute requires marking of all Funai products, whether sold by Funai directly, or through OEM customers. Funai stated that the sales by the OEM customers were not sold "for or under [the patentee]," and thus non-marking is reasonably excused by the statute. Funai states that in all events the 9-12% unmarked items were a minor part of the total sales of the patented products. Funai stresses that Daewoo was fully aware of the Funai products and was not "innocently" prejudiced, citing the purpose of the marking statute.

Daewoo cites *American Medical Systems, Inc. v. Medical Engineering Corp.*, 6 F.3d 1523, 1537 (Fed. Cir. 1993), for its statement that marking "must be substantially consistent and continuous in order for the party to avail itself of the constructive notice provisions of the statute." However, precedent also states that when others than the patentee

are involved in sales to the public, a “rule of reason” is applied, “consistent with the purpose of the constructive notice provision—to encourage patentees to mark their products in order to provide notice to the public of the existence of the patent and to prevent innocent infringement.” *Maxwell*, 86 F.3d at 1111-12. Funai states that substantial evidence at trial supported the jury findings of notice, actual or constructive, reflected in damages calculations. The district court found that substantial evidence supported the jury’s application of a rule of reason to the question of constructive notice, and the calculations applying constructive notice to the ’018 patent, as discussed in the court’s order on post-trial motions. *Funai*, 593 F. Supp. 2d at 1108 (“The Court concludes that th[e] evidence constitutes substantial evidence from which the jury could find that Funai’s marking of products that incorporated the ’018 invention was ‘substantially consistent and continuous.’ The Court further concludes that the jury’s finding was not contrary to the weight of the evidence.”). We affirm this ruling.

C. The Damages Award

The jury awarded \$7,316,698 in damages against DEC, of which \$2,298,590 was jointly assessed against DEAM. These damages apply only to the period after October 25, 2002, the date at which the original defendants DECL and DECA transferred their business to their successor companies DEC and DEAM. *See* Part V, *post*. The award was based on lost profits as to certain products, and a reasonable royalty for those products for which lost profits were not established. The district court, upon thorough review of the challenges raised by Daewoo, found that substantial evidence supported the jury verdict. *Funai*, 593 F. Supp. 2d at 1102-08.

The evidence of lost profits was premised primarily on Funai's loss to Daewoo of the business of a long-time large customer, for which direct losses were established, with the presentation of expert testimony and evidence that this was essentially a two-supplier market. Although Daewoo raises various arguments, it did not present contradictory evidence. With respect to other VCR sales, Funai's expert testified that during the time period in question Funai's market share was about 30% and, applying this percentage, that Funai had lost \$1,698,262 in profits. Daewoo argues that Funai failed to establish that, but for the infringement, Funai would have made 30% of these VCR sales, but introduced no contrary market share evidence or rebuttal testimony.

Daewoo also argues, as it did in the district court, that Funai's patented technology was not the basis for demand for the Daewoo products, and therefore that damages should not have been based on the entire lost sales value. The district court held that the evidence supported this measure. *See Imonex Servs., Inc. v. W.H. Munzprufer Dietmar Trenner GmbH*, 408 F.3d 1374, 1379 (Fed. Cir. 2005) (under the "entire market value" rule, where an apparatus contains several features, a patent holder may recover damages based on the entire apparatus where it can show that the basis for customer demand is the patented feature). The evidence at trial portrayed general industry demand for smaller, cheaper, faster, and more reliable VCRs, and Funai presented evidence that the patented technology furthers these goals. The jury heard evidence that the invention in the '018 patent shrank the size of VCRs, the '538 invention reduced costs and increased reliability of VCRs, and the '210 invention enabled use of a high-performance motor that reduced rewind speeds for VCR cassette tapes. There was evidence that these benefits were the basis for customer demand. Funai also presented evidence that there were no

available noninfringing alternative products. *See Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1577 (Fed. Cir. 1992) (a patent holder may demonstrate lost profits by proving (1) demand for the patented product, (2) absence of acceptable noninfringing substitutes, (3) its capability to exploit the demand, and (4) the amount of profit it would have made).

The specific details of the damages calculation are not presented for review, other than as based on the principles we have discussed. All of the arguments presented by Daewoo have been considered, as they were by the district court, but they do not undermine the sufficiency of the evidence supporting the verdict. The award is supported by substantial evidence, and is affirmed.

D. Willful Infringement

The jury found that Daewoo's infringement was willful. However, the district court denied Funai's request for enhancement of damages. We review the district court's decision on the standard of abuse of discretion. *Odetics, Inc. v. Storage Tech. Corp.*, 185 F.3d 1259, 1274 (Fed. Cir. 1999).

In *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992), this court identified nine factors that may be relevant to determination of whether enhanced damages should be awarded. The district court analyzed each of the nine *Read* factors, and called its decision a "close call." *Funai*, 593 F. Supp. 2d at 1117. The court found that three of the factors favor an enhancement of damages, one factor "only weakly supports" an enhancement, and the remaining five factors do not favor enhancement. Funai argues that the court erred in its analysis of three of the five factors that the court found did not favor enhancement, and that the court abused its discretion in declining to enhance the damages award.

The first of the three disputed *Read* factors concerns the duration of the defendant's knowing infringement. Funai argues that Daewoo continued to infringe after it received direct written notice of infringement. Funai states that the district court erred in its statement that "the focus of this factor is whether or not the infringer has continued to infringe *after* there has been a judicial finding that a particular device infringes the asserted patent." *Funai*, 593 F. Supp. 2d at 1116 (emphasis in original). Funai contends that the district court should have considered all of the circumstances of Daewoo's deliberate continuation of infringement, starting with when Daewoo received notice of infringement in April 2003, and that it continued to infringe while the litigation was ongoing, including after the district court's *Markman* ruling which was adverse to Daewoo. Daewoo responds that the district court did not err, or if it did, the error was harmless because the district court considered the other *Read* factors. Although we agree with Funai that the district court presented too rigid a view of this factor, this aspect alone is not dispositive. The decision as to enhancement of damages is "informed by the totality of the circumstances," *Odetics*, 185 F.3d at 1274, and it is apparent that all of the circumstances were before the district court.

The second disputed *Read* factor concerns the closeness of the case. The district court recognized that, as to two of the three infringed patents, Daewoo's infringement was found under the doctrine of equivalents, rather than literal infringement. This aspect may be weighed as part of the analysis. See *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1354-55 (Fed. Cir. 1999). The court also observed that Daewoo prevailed, during the pre-trial motions for summary judgment, on non-infringement as to three of the six patents initially noticed. Although Funai points out that Daewoo's infringement as to the three patents that

were fully litigated was found to be willful, and that this verdict is unrelated to whether Daewoo may not have infringed other patents, this aspect does not of itself show abuse of discretion.

The third disputed *Read* factor concerns the infringer's behavior as a party to the litigation. The district court remarked, in its post-trial decision, that Daewoo had committed misconduct during the litigation and that the court had imposed sanctions. However, the court found that "the conduct on which those sanctions were based is not so severe as to justify an award of enhanced damages." *Funai*, 593 F. Supp. 2d at 1115. Funai argues that the district court confused the punitive purpose of enhancement of damages with the compensatory purpose of sanctions, and that litigation misconduct is indeed a basis for enhancement of remedy. Again, although we agree with Funai that litigation misconduct can render a case "exceptional" under 35 U.S.C. §285, it is not of itself dispositive, but is a factor to be considered as part of the entirety of the circumstances.

Overall, we will not disturb the district court's conclusion. "The trial judge is in the best position to weigh considerations such as the closeness of the case, the tactics of counsel, the conduct of the parties, and any other factors that may contribute to a fair allocation of the burdens of litigation as between winner and loser." *Modine Mfg. Co. v. Allen Group, Inc.*, 917 F.2d 538, 543 (Fed. Cir. 1990) (quoting *S.C. Johnson & Son, Inc. v. Carter-Wallace, Inc.*, 781 F.2d 198, 201 (Fed. Cir. 1986)). We are not persuaded that the district court's denial of the request to enhance the damages was an abuse of discretion. This decision is affirmed.

V

SUCCESSOR LIABILITY

When this lawsuit was filed, four Daewoo entities were named as defendants. As mentioned *ante*, DEC and its predecessor DECL are South Korean companies, and DEAM and its predecessor DECA are United States companies. On October 25, 2002 DECL of South Korea transferred its VCR business to DEC by an “Agreement for Sale and Purchase of Assets,” as translated by Daewoo. As part of the same asset transfer DECA, a corporation of California, transferred its entire business to DEAM, a corporation of Florida.

Approximately one year into this infringement litigation, DECL and DECA ceased all defense, refusing discovery and, according to the parties, presenting no defense or argument as to liability for infringement or Funai’s asserted basis for the measure of damages. On October 7, 2005 the district court entered default judgment against DECL and DECA, jointly and severally, for infringing sales between January 1, 2001 and October 25, 2002, in the amount of \$8,066,112 including interest, attorney fees, and costs. DECL and DECA did not pay the judgment. In response to Funai’s motion requesting that the judgment be applied to the successor companies DEC and DEAM, the district court held that neither successor company is liable for the judgment against its predecessor, on the ground that the law of South Korea does not permit successor liability unless the liability is expressly assumed by contract. *Funai*, No. C 04-01830 JCS (N.D. Cal. July 22, 2008) (unpublished) (successor liability order). Funai does not challenge the application of Korean law to the Korean companies DECL and DEC, but argues that Korean law does not apply to the successor liability of the United States companies DECA and DEAM. Funai states that its claim is not a contract claim under the

Korean contract, and attributes the district court's error to this misperception. Funai stresses that the issue is the liability of a successor to a United States company for the judgment of a United States court for infringement of United States patents by activities in the United States by a United States corporation doing business in the United States. Funai's position is that any such successor liability is governed by the laws of the United States and the applicable state law.

The district court applied the Korean law, and held that under Korean law there is no successor liability as between DECA, the defaulting California corporation, and its successor DEAM, the Florida corporation. Funai appeals this decision.

A. Application of South Korean Law

The determination of foreign law is reviewed as a question of law. *See* Fed. R. Civ. P. 44.1 (determination of foreign law is treated as a ruling on a question of law). Similarly, the threshold question of whether the applicable law is that of a foreign country is determined as a question of law.

In the district court, Funai and Daewoo were in agreement that the law of South Korea does not recognize successor liability in the absence of an express agreement on assumption of liability. The district court held that Korean law applied to the transfer from the Daewoo United States subsidiary DECA to its successor DEAM, reasoning as follows:

In this case, Korea has a strong interest in having its law applied because the Transfer Agreement was a contract entered in Korea between two Korean

corporations, where most of the assets transferred were also in Korea. DECL . . . and DEC would reasonably have expected that the Transfer Agreement would be governed by Korean law under these circumstances. Further, to the extent that the transfer between DECA and DEAM was an outgrowth of the Transfer Agreement (as Funai itself asserted) the same expectation would apply to the issue of successor liability in that context.

Funai, No. C 04-01830 JCS (N.D. Cal. July 22, 2008), at 14.

Funai points out that the question is not of interpretation and enforcement of the Korean contract between the Korean companies, but enforcement of a United States judgment against United States companies, in the circumstances of this case where the successor company simply continues the infringing business of its predecessor, without change of address, personnel, or any other aspect that has been considered relevant in United States laws of successor liability.

Funai argues that the question of whether DEAM is liable for the judgment against DECA is determined in accordance with the applicable state law, not the law of South Korea.

The district court held that because the transfer between the Korean corporations was by a “contract entered in Korea” that is governed by Korean law, the “outgrowth” transfer between the United States corporations was also governed by Korean law. The district court apparently placed some weight on the fact that the Funai entity that owns the infringed patents is itself a foreign company, for the court stated:

While New Jersey law on successor liability protects third parties seeking to assert claims against successor corporations, New Jersey’s interest in ad-

vancing that policy is not involved under the facts here. First, as [Daewoo] point[s] out, the plaintiff in this action is not Funai-USA, but rather Funai Electric Company, Ltd., a Japanese company. Thus, New Jersey has no interest in applying its law to protect Funai. Nor does New Jersey have an interest in having its law applied to Daewoo, as New Jersey law is less advantageous to Daewoo than Korean law.

Id. at 14-15. However, it is fundamental to the rule of law that the courts are open to native and alien alike, when affected by a violation of United States law. *See Disconto Gesellschaft v. Umbreit*, 208 U.S. 570, 578 (1908) (“Alien citizens, by the policy and practice of the courts of this country, are ordinarily permitted to resort to the courts for redress of wrongs and the protection of their rights.”). We take incidental note that Funai states that its United States subsidiary that handles Funai’s business in the United States, Funai Corporation, Inc., is a New Jersey corporation with its principal place of business in Rutherford, New Jersey.

We need not consider whether the judgment against DECL (Korea) can be collected from its successor Korean company; the only question is the liability of the United States successor DEAM for this default judgment against its predecessor DECA, for infringing activities of the predecessor before the transfer to DEAM. The question is whether a domestic corporation incurring a judgment of a United States court is insulated from that judgment if the judgment would not be enforceable under the laws of its foreign parent.

Applying the guidance of the rules of choice of law among competing states, the United States has an overriding interest in the integrity of judgments of its courts with respect to violations of United States law by entities doing business in the United States. We take note of the district court's explanation that New Jersey does not have an interest in applying its laws to Daewoo, "as New Jersey law is less advantageous to Daewoo than Korean law." That concern reflects Daewoo's interest, not the interest of New Jersey in assuring that businesses in New Jersey are subject to the laws of New Jersey. *See, e.g., Hilton v. Guyot*, 159 U.S. 113, 163 (1895) ("No law has any effect, of its own force, beyond the limits of the sovereignty from which its authority is derived. The extent to which the law of one nation, as put in force within its territory, whether by executive order, by legislative act, or by judicial decree, shall be allowed to operate within the dominion of another nation, depends upon what our greatest jurists have been content to call 'the comity of nations.'").

We conclude that the district court erred in ruling that Korean law applies to the successor liability relationship between these United States corporations. This is not a question of conflict with foreign law, or choice between domestic and foreign law, for no foreign law is involved in this question of successor liability for a default judgment for violation of United States law. We reverse the district court's ruling that the law of Korea applies to absolve DEAM of successor liability for the judgment against DECA arising in this same litigation and relating to the same infringing products.

B. The Applicable State Law

There remains the question of which United States state law applies to the question of successor liability between

DEAM and DECA. DEAM is a Florida corporation with its principal place of business in New Jersey, and DECA is a California corporation with its principal place of business in New Jersey. In conformity with the choice of law rules of the forum state, here California, *see Paracor Finance, Inc. v. General Electric Capital Corp.*, 96 F.3d 1151, 1164 (9th Cir. 1996) (“In a federal question action where the federal court is exercising supplemental jurisdiction over state claims, the court applies the choice-of-law rules of the forum state.”), we analyze the situation in accordance with the “governmental interest” choice-of-law test. *See Washington Mut. Bank, FA v. Superior Court*, 15 P.3d 1071, 1080 (Cal. 2001) (“[W]hen there is no advance agreement on applicable law, but the action involves the claims of residents from outside California, the trial court may analyze the governmental interests of the various jurisdictions involved to select the most appropriate law.”).

California applies a three-step analysis, whereby the court first determines whether there is a material difference between the laws of the states in question, for “if the laws of each state are identical, there is no problem.” *Id.* If the laws are materially different, then the court “must proceed to the second step and determine what interest, if any, each state has in having its own law applied to the case.” *Id.* “Only if the trial court determines that the laws are materially different *and* that each state has an interest in having its own law applied, thus reflecting an actual conflict, must the court take the final step and select the law of the state whose interests would be ‘more impaired’ if its law were not applied.” *Id.* at 1081 (citing *Bernhard v. Harrah’s Club*, 546 P.2d 719, 723 (Cal. 1976)) (emphasis in original).

Neither party argues any material difference in the laws of successor liability, among California, Florida, and New Jersey. Funai states that the appropriate law is that of

New Jersey, and indeed the district court conducted its conflict-of-laws analysis as between the laws of South Korea and New Jersey. The selection of New Jersey also comports with the principle of the Supreme Court's ruling in *Hertz Corp. v. Friend*, 130 S. Ct. 1181, 1192 (2010), wherein the Court held that for diversity jurisdiction the "principal place of business" is "the place where a corporation's officers direct, control, and coordinate the corporation's activities," from which it follows that the laws of the principal place of business should normally apply to transactions flowing from the corporation's "nerve center." *Id.* at 1193, 1195. The Court explained that "in practice it should normally be the place where the corporation maintains its headquarters—provided that the headquarters is the actual center of direction, control, and coordination," and "not simply an office where the corporation holds its board meetings." *Id.* at 1192. It is not disputed that New Jersey meets these criteria, for both DECA and its successor DEAM. Thus we reach the question of successor liability under New Jersey law.

Under New Jersey law, the transferee of corporate assets ordinarily is not liable for the debts of the transferor company, subject to several exceptions. The exceptions include instances where (1) there is an express or implied assumption of the liabilities; (2) the transaction amounts to an actual or *de facto* consolidation or merger of the two corporations, (3) the purchasing corporation is a mere continuation of the seller, or (4) the transaction is for the fraudulent purpose of escaping the seller's liabilities. *Lefever v. K.P. Hovnanian Enters., Inc.*, 734 A.2d 290, 292 (N.J. 1999). The consideration paid by the successor may also be considered. *See Mettinger v. Globe Slicing Mach. Co.*, 709 A.2d 779, 783 (N.J. 1998) ("A fifth exception, sometimes incorporated in one of the preceding exceptions, arises from

the absence of adequate consideration for the sale or transfer.”).

Funai argues that the second and third of these exceptions well fit the succession from DECA to DEAM. Funai states that the DECA-DEAM transaction amounted to a *de facto* merger, that the successor was a mere continuation of the predecessor, and that any consideration paid by DEAM to DECA was unrelated to these two exceptions. Applying New Jersey law in *Berg Chilling Systems, Inc. v. Hull Corp.*, 435 F.3d 455, 468 (3d Cir. 2006), the Third Circuit explained that: “The *de facto* merger exception is similar to the continuation exception, save that the latter focuses on situations in which the purchaser is merely a restructured or reorganized form of the seller. . . . [W]e follow the trend of the courts here and treat the exceptions identically.” *See also Portfolio Fin. Servicing Co. v. Sharemax.com, Inc.*, 334 F. Supp. 2d 620, 625 (D.N.J. 2004) (“Courts have analyzed and applied successor liability by treating the ‘*de facto* consolidation’ and ‘mere continuation’ exceptions together.”).

It is not disputed that DECA’s sales activities in the United States continued as DEAM without interruption, at the same corporate headquarters and sales facilities in New Jersey, with substantially the same managers and other employees. Thus Funai argues that DEAM is a mere continuation of DECA, like a *de facto* merger. New Jersey precedent identifies four factors as pertinent to this inquiry: “(i) continuity of management, personnel, physical location, assets, and general business operations; (ii) a cessation of ordinary business and dissolution of the predecessor as soon as practically and legally possible; (iii) assumption by the successor of the liabilities ordinarily necessary for the uninterrupted continuation of the business of the predecessor; and (iv) continuity of ownership/shareholders.” *Woodrick v. Jack J. Burke Real Estate, Inc.*, 703 A.2d 306, 312

(N.J. Super. 1997). Not all of these factors need be present in order for the successor to assume the liabilities of the predecessor. *Id.* New Jersey applies a straightforward inquiry:

[T]he most relevant factor is the degree to which the predecessor's business entity remains intact. The more a corporation physically resembles its predecessor, . . . the more reasonable it is to hold the successor fully responsible. In this way, the innocent, injured consumer is protected without the possibility of being left without a remedy due to the subsequent corporate history of the manufacturer.

Wilson v. Fare Well Corp., 356 A.2d 458, 466 (N.J. Super. 1976); see *Luxliner P.L. Export, Co. v. RDI/Luxliner, Inc.*, 13 F.3d 69, 73 (3d Cir. 1993) (“In determining whether either of these exceptions [the *de facto* merger or mere continuation exceptions] applies, the factfinder must consider whether stock was part of the purchase price for the assets; whether there was a continuity of business, control or management between the two corporations; and whether the alleged successor corporation assumed the debts of the predecessor corporation.”).

It was stipulated that DEAM continued the business operations of DECA, including sales of the VCR products here accused of infringement. DEAM continued at the same New Jersey address, with the same facilities, equipment, software, accounting systems, and office furniture that DECA had used. DECA's corporate headquarters and management and employees became DEAM's. DECA ceased operations in its name, collecting outstanding accounts, selling its office building to DEAM, and dissolving DECA as a corporation, all by the end of 2004. Recognizing that “[t]he crucial

inquiry is whether there was an ‘intent on the part of the contracting parties to effectuate a merger or consolidation rather than a sale of assets,’” *Luxliner*, 13 F.3d at 73 (quoting *McKee v. Harris-Seybold Co.*, 264 A.2d 98, 104 (N.J. Super. 1970)), we agree with Funai that it is not controlling whether consideration passed between DEAM and DECA in connection with the transfer.

In the words of *Wilson*, 356 A.2d at 467, the transfer between DECA and DEAM was simply a “new hat” for DECA. It is thus appropriate, and in full accord with New Jersey law, that DEAM should be liable for the default judgment entered against DECA in this litigation. We reverse the district court’s contrary ruling.

CONCLUSION

The judgment of infringement of the ’018 patent, the ’210 patent, and the ’538 patent, and the damages for such infringement, is affirmed. We reverse the district court’s determination of no successor liability, and remand for appropriate proceedings as to this issue.

**AFFIRMED-IN-PART, REVERSED-IN-PART, and
REMANDED**

**United States Court of Appeals
for the Federal Circuit**

FUNAI ELECTRIC COMPANY, LTD.,
Plaintiff-Cross Appellant,

v.

**DAEWOO ELECTRONICS CORPORATION
AND DAEWOO ELECTRONICS AMERICA, INC.,**
Defendants-Appellants,

and

**DAEWOO ELECTRONICS COMPANY, LTD.,
DAEWOO ELECTRONICS CORPORATION OF
AMERICA, INC.
AND DAEWOO ELECTRIC MOTOR INDUSTRIES,
LTD.,**
Defendants.

2009-1225, -1244

Appeal from the United States District Court for the Northern District of California in Case No. 04-CV-01830, Magistrate Judge Joseph C. Spero.

LINN, *Circuit Judge*, concurring.

I am pleased to join the opinion of the court with the exception of Section IV.B, the result of which I join, but for a different reason. In that section, the majority affirms the district court's post-trial ruling that supported

the jury's application of the constructive notice provisions of 35 U.S.C. § 287. This ruling related to Funai's Original Equipment Manufacturer ("OEM") sales of articles covered by the '018 patent but not marked with the patent number. Because the record before us is not fully developed and this court heretofore has not directly addressed the applicability of constructive notice to OEM sales, and because substantial evidence fully supports the jury's verdict even assuming that constructive notice does not apply, I would simply affirm on the basis of the substantial evidence and not decide the constructive notice question.

Section 287 lays out the conditions under which constructive notice attaches and specifies that "patentees" and "persons making . . . any patented article for or under them" may give notice to the "public" by marking the patented article. The statute unambiguously relates to the patentee's products and by its terms extends to sales by licensees, who are "making . . . patented article[s] . . . under [the patentee]." As the majority opinion makes clear, for a patentee to avail itself of the constructive notice provisions of § 287, the marking of its products "must be substantially consistent and continuous." *See Am. Med. Sys., Inc. v. Med. Eng'g Corp.*, 6 F.3d 1523, 1537 (Fed. Cir. 1993). Our precedent also recognizes that because a patentee is not directly involved in the manufacturing and packaging activities of its licensees, a "rule of reason" applies to the marking requirement in those circumstances. *See Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111-12 (Fed. Cir. 1996) ("When the failure to mark is caused by someone other than the patentee, the court may consider whether the patentee made reasonable efforts to ensure compliance with the marking requirements."). But how the marking requirement of § 287 applies to sales of products made by a patentee for an

OEM customer as distinguished from sales of products made by a licensee under a patent is not entirely clear. Our court has not yet directly addressed the question.

Here, Funai did not contest at trial that while 88-91% of its products were sold at retail and properly marked, the remaining 9-12% of its products were sold to Funai's OEM customers for resale and were not marked with the number of the '018 patent. Funai justified this by pointing to the testimony of its witness, Mr. Mizoo, that the OEM customers controlled the packaging and wanted to differentiate their slightly higher priced products from those of Funai. Because the statute makes no explicit distinction between direct sales and sales to OEM purchasers, and because this court has not directly extended the rule of reason to OEM sales, the relevance of that testimony is uncertain. Beyond that testimony, neither the nature of Funai's OEM agreements with its customers nor the facts relating to any markings or lack of markings on OEM repackaged products is set forth in this record.

I take no position on whether the district court was right or wrong in supporting the jury's application of constructive notice under these circumstances. In my opinion, the issue is of no moment, because any error that might have been made would have been harmless. The evidence presented to the jury on damages was broken down at least in part by period and by patent. This data could have enabled the jury to assess Funai's damages theories and calculate the award by period and patent. For the '018 patent during the applicable period (prior to actual notice) the amount of reasonable royalty damages sought as part of Funai's mixed lost profits/reasonable royalty theory on damages was relatively small. Funai Trial Ex. #34. Moreover, Funai presented evidence that the entire lost profits portion of the damage request was due to the sale of articles that infringed the '210 patent

and itself was significantly greater than the jury's damages award. Thus, we can assume that the jury awarded damages for the '018 patent only for those time periods in which Funai carried its burden of showing that Daewoo had actual notice. *See i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 849 (Fed. Cir. 2009) ("We will not set aside a general verdict simply because the jury *might* have decided on a ground that was supported by insufficient evidence. We will uphold such a verdict if there was sufficient evidence to support *any* of the plaintiff's alternative factual theories; we assume the jury considered all the evidence and relied upon a factual theory for which the burden of proof was satisfied.") (internal quotation marks and citations omitted).

For these reasons, I would not decide the question of constructive notice and would simply affirm on the substantial evidence that fully supports the jury's verdict apart from the OEM sales, leaving the constructive notice question as it relates to OEM sales for another day on a record that more comprehensively presents the question and requires an answer.