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Declined to Extend by [Verinata Health, Inc. v. Ariosa Diagnostics, Inc.](#), N.D.Cal., January 13, 2014

694 F.3d 1312

United States Court of Appeals,
Federal Circuit.

ACTIVEVIDEO NETWORKS, INC., Plaintiff–Cross Appellant,

v.

VERIZON COMMUNICATIONS, INC., Verizon Services Corp.,
Verizon Virginia Inc., and Verizon South Inc., Defendants–Appellants.

Nos. 2011–1538, 2011–1567, 2012–1129, 2012–1201.

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Aug. 24, 2012.

Synopsis

Background: Patentee brought action against video service provider, alleging infringement of patents relating to interactive television systems. Video service provider counterclaimed, seeking declaratory judgments of noninfringement and invalidity of asserted patents, and alleging patentee's infringement of video service provider's patents. Patentee counterclaimed alleging invalidity and non-infringement of video service provider's patents. [Following a three week jury trial, the United States District Court for the Eastern District of Virginia, Raymond A. Jackson, J., 807 F.Supp.2d 544](#), granted both patentee's and video service provider's motions for judgment as a matter of law (JMOL) on validity. Subsequently, the jury found that the parties infringed each others' patents, and the District Court, Jackson, J., granted patentee's motion for prejudgment interest, post-judgment interest, and damages, [2011 WL 4899922](#), denied video service provider's motion to alter or amend the judgment, [2011 WL 5358022](#), entered a permanent injunction against video service provider, and established a sunset royalty for video service provider's continued infringement until the injunction was to take effect, [827 F.Supp.2d 641](#), and denied video service provider's motions for judgment as a matter of law (JMOL) or new trial on infringement, damages, and invalidity, and denied patentee's motions for partial new trial on infringement and invalidity. Both parties appealed.

Holdings: The Court of Appeals, [Moore](#), Circuit Judge, held that:

- [1] substantial evidence supported finding that video service provider's accused system infringed “information service” limitation;
- [2] substantial evidence supported finding that video service provider's accused system infringed “television communication” limitation;
- [3] substantial evidence did not support finding that accused system infringed “individually assignable processors” limitation;
- [4] record evidence was insufficient to support a determination of obviousness of patentee's patents;
- [5] evidence was insufficient to support a determination of anticipation of patentee's patents;
- [6] evidence was insufficient to support determination of anticipation of video service provider's patents;
- [7] fact issue existed as to whether prior art patent anticipated certain claims of video service provider's patent; and

[8] district court abused its discretion in granting a permanent injunction enjoining video service provider from future infringement.

Affirmed in part, reversed in part, vacated in part, and remanded.

West Headnotes (43)

[1] **Courts** 🔑 Particular questions or subject matter

Federal Circuit Court of Appeals reviews the denial or grant of judgment as a matter of law (JMOL) under regional circuit law. [Fed.Rules Civ.Proc.Rule 50, 28 U.S.C.A.](#)

[2 Cases that cite this headnote](#)

[2] **Federal Courts** 🔑 Taking case or question from jury; judgment as a matter of law

The Fourth Circuit reviews post-verdict judgment as a matter of law (JMOL) rulings de novo, determining whether substantial evidence supports the jury verdict. [Fed.Rules Civ.Proc.Rule 50\(b\), 28 U.S.C.A.](#)

[3 Cases that cite this headnote](#)

[3] **Patents** 🔑 In general; comparison with patent claims

Determining literal patent infringement is a two-step process: the proper construction of the asserted claim and a determination whether the claim as properly construed reads on the accused product or method.

[30 Cases that cite this headnote](#)

[4] **Patents** 🔑 De novo review in general

Patents 🔑 Infringement or noninfringement

The first step of the literal patent infringement analysis, proper construction of the asserted claim, is a question of law, which is reviewed de novo; the second step, determining whether the claim as properly construed reads on the accused product or method, is a question of fact, which is reviewed for substantial evidence.

[29 Cases that cite this headnote](#)

[5] **Patents** 🔑 Particular fields of invention

Substantial evidence existed in patent infringement action from which jury could have reasonably concluded that content and information provided by video service provider's accused system's headend satisfied "interface" requirement for "information service" limitation of patents relating to interactive television systems; construction of "information service" required that the service furnished by the headend network have an interface permitting, but not necessarily requiring, interaction with a facility of the cable provider, and patentee's expert testified at trial that the content for the viewer interfaces provided by the accused system was provided by the headend to a set-top-box (STB) either automatically or as requested by a viewer.

[1 Cases that cite this headnote](#)

[6] Patents  **Particular fields of invention**

Substantial evidence supported jury's determination, in patent infringement action, that accused system's CCP and RAID2 signals containing MPEG video constituted television communication between the storage servers and headend processors, satisfying "television communication" limitation in patent relating to interactive television systems; patentee's expert testified that a television information signal was an MPEG stream, and it made no difference how the MPEG stream was stored or communicated.

[1 Cases that cite this headnote](#)

[7] Patents  **Particular fields of invention**

Substantial evidence did not support jury's determination, in patent infringement action, that accused system's processors were assigned on a one-to-one basis, as required to satisfy "individually assignable processors" limitation in patent relating to interactive television systems; patentee's expert's testimony, that the accused system's processors were routinely used by more than one set-top-box (STB), showed that they were not set aside for data and television communication with a home interface controller on a one-to-one basis.

[8] Patents  **Television and motion pictures**

Term "video still image," in patent relating to interactive television systems, meant an image which is not in motion.

[9] Patents  **Degree of proof**

Invalidity of a patent must be established by clear and convincing evidence, which is such evidence that produces an abiding conviction that the truth of the factual contentions are highly probable.

[8 Cases that cite this headnote](#)

[10] Patents  **Questions of law or fact**

Anticipation under patent law is a question of fact. [35 U.S.C.A. § 102](#).

[4 Cases that cite this headnote](#)

[11] Patents  **Enablement****Patents**  **Single reference disclosing every element or limitation of claim**

To anticipate a patent claim, a prior art reference must describe each and every claim limitation and enable one of skill in the art to practice an embodiment of the claimed invention without undue experimentation. [35 U.S.C.A. § 102](#).

[8 Cases that cite this headnote](#)

[12] Patents  **Questions of law or fact**

Obviousness under patent law is a question of law based on factual underpinnings. [35 U.S.C.A. § 103](#).

[2 Cases that cite this headnote](#)

[13] Patents  **Combination of prior art references; "teaching, suggestion, or motivation" test**

Patents 🔑 Expectation or probability of success; predictability

Patents 🔑 Degree of proof

To invalidate a patent claim based on obviousness, a challenger must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so. 35 U.S.C.A. § 103.

[18 Cases that cite this headnote](#)

[14] Patents 🔑 Particular products or processes

Obviousness testimony by alleged infringer's expert about six prior art references, the modular nature of the components in the asserted claims, and how combining any of the prior art references would yield a predictable result was conclusory and factually unsupported, and therefore insufficient to support a determination of obviousness with regard to patents relating to interactive television systems. 35 U.S.C.A. § 103.

[16 Cases that cite this headnote](#)

[15] Patents 🔑 Particular products or processes

Alleged infringer's expert failed to explain how a prior art reference's "tape recorders," which played video cassettes, were "processors" as required by claimed "plurality of interactive controllers" and "individually assignable processors," or how the "tape recorders" were in "data communication" with a home interface controller or how they were in assignable data communication with a home interface controller, so as to support alleged infringer's claim that the prior art anticipated patents relating to interactive television systems. 35 U.S.C.A. § 102.

[2 Cases that cite this headnote](#)

[16] Patents 🔑 Particular products or processes

Alleged infringer's expert failed to explain how prior art disclosed the required first anchor channel indication and a second multiplex channel indication when at least one multiplex channel existed that was associated with the anchor channel, so as to support alleged infringer's claim that patent relating to two-dimensional channel navigation was anticipated. 35 U.S.C.A. § 102.

[1 Cases that cite this headnote](#)

[17] Patents 🔑 Particular products or processes

Alleged infringer's expert provided no description of how the systems disclosed in prior art advertisement or prior art patent actually worked, so as to support claim that patent relating to interactive television advertising was anticipated. 35 U.S.C.A. § 102.

[18] Federal Courts 🔑 Summary judgment

The Fourth Circuit reviews the grant of summary judgment de novo.

[2 Cases that cite this headnote](#)

[19] Patents 🔑 Novelty; anticipation

Genuine issue of material fact existed as to whether prior art patent anticipated certain claims of patent relating to television Internet access, precluding summary judgment that the patent was invalid as anticipated. 35 U.S.C.A. § 102.

[2 Cases that cite this headnote](#)

[20] Patents 🔑 Profits and damages

Federal Circuit Court of Appeals reviews a district court's decision regarding damages methodology in a patent infringement case for abuse of discretion.

[6 Cases that cite this headnote](#)

[21] Patents 🔑 Profits and damages

A jury's damages award in a patent infringement case is reviewed for substantial evidence.

[9 Cases that cite this headnote](#)

[22] Courts 🔑 Particular questions or subject matter

Federal Circuit Court of Appeals reviews evidentiary rulings in a patent case under the law of the regional circuit.

[23] Federal Courts 🔑 Reception of Evidence

The Fourth Circuit reviews a district court's evidentiary rulings for an abuse of discretion.

[2 Cases that cite this headnote](#)

[24] Patents 🔑 Profits and damages

District court did not abuse its discretion, in patent infringement action, by preventing competitor's damages expert from relying on an agreement between patentee and competitor which post-dated the hypothetical negotiation by four years.

[5 Cases that cite this headnote](#)

[25] Patents 🔑 Scope of inquiry and power of court in general

District court did not abuse its discretion, in determining damages in patent infringement action, by disallowing cross-examination of patentee's expert on patentee's offer to license its patents to a third-party on a royalty-free basis, where the offer was unsigned and not admitted into evidence.

[2 Cases that cite this headnote](#)

[26] Evidence 🔑 Machinery and mechanical devices and appliances

Patents 🔑 Profits and damages

District court did not abuse its discretion, in patent infringement action, by allowing patentee's damages expert to testify that he discounted \$100 million from alleged infringer's equipment costs because alleged infringer would get that money back from its suppliers through indemnity agreements; testimony was allowed only to rebut the criticism by alleged infringer's damages expert, and the district court contemporaneously instructed the jury that patentee's expert could not testify to a legal conclusion.

[2 Cases that cite this headnote](#)

[27] **Evidence** 🔑 Machinery and mechanical devices and appliances

Patents 🔑 Profits and damages

Degree of comparability of two license agreements, for purposes of determining damages in patent infringement action, as well as any failure on the part of patentee's damages expert to control for certain variables, were factual issues best addressed by cross examination and not by exclusion of patentee's expert's testimony.

[35 Cases that cite this headnote](#)

[28] **Patents** 🔑 Notice or marking as prerequisite

The notice provisions of patent law's marking provision do not apply where the patent is directed to a process or method; patents with only method claims do not require marking, whereas patents with apparatus claims do. [35 U.S.C.A. § 287\(a\)](#).

[11 Cases that cite this headnote](#)

[29] **Contracts** 🔑 Presumptions and burden of proof

Contracts 🔑 Agreement for Benefit of Third Person

Under New York law, an intended beneficiary may enforce a contract, but it bears the burden of proving its status as an intended third-party beneficiary.

[1 Cases that cite this headnote](#)

[30] **Contracts** 🔑 Agreement for Benefit of Third Person

Under New York law, to prove it is an intended beneficiary, and thus entitled to enforce a contract, a third party must show (1) the existence of a valid contract, (2) that the contract was intended for its benefit, and (3) that the benefit is sufficiently immediate, rather than incidental, to indicate the assumption by the contracting parties of a duty to compensate the intended beneficiary.

[31] **Contracts** 🔑 Agreement for Benefit of Third Person

Under New York law, there was no evidence that agreement between patentee and television programming publisher was intended for alleged infringer's benefit and that the benefit to alleged infringer was sufficiently imminent, so as to support alleged infringer's claim that it was entitled to enforce the agreement as an intended third-party beneficiary.

[32] **Patents** 🔑 Relief

The Federal Circuit Court of Appeals reviews the grant of a permanent injunction in a patent infringement case for abuse of discretion; the Court of Appeals may find an abuse of discretion on a showing that the district court made a clear error of judgment in weighing relevant factors or exercised its discretion based upon an error of law or clearly erroneous factual findings.

[2 Cases that cite this headnote](#)

[33] Injunction 🔑 Grounds in general; multiple factors

For a permanent injunction to issue, the party requesting an injunction must demonstrate that: (1) it has suffered an irreparable injury; (2) legal remedies, such as money damages are inadequate compensation; (3) the balance of hardships warrants an injunction; and (4) the public interest would not be disserved by an injunction.

[19 Cases that cite this headnote](#)

[34] Injunction 🔑 Irreparable injury

Litigation costs are undoubtedly undesirable and may take funds away from other endeavors, but they are not an irreparable harm in the injunction calculus.

[4 Cases that cite this headnote](#)

[35] Patents 🔑 Balance of hardships; irreparable injury

District court clearly erred in its reliance on the loss of market share that patentee's customer suffered due to video service provider's infringement as a predicate for its irreparable harm finding, in granting permanent injunction enjoining provider from future infringement of patents relating to interactive television systems; patentee and video service provider did not compete, and patentee did not lose market share when its licensee lost a subscriber to the video service provider, but rather it lost the licensee's licensing fee, and the number of subscribers to whom video service provider offered the infringing service was quantifiable and compensable by an ongoing royalty.

[11 Cases that cite this headnote](#)

[36] Patents 🔑 Availability and adequacy of other remedies

Patentee could have been adequately compensated for video service provider's infringement of patents relating to interactive television systems through an on-going royalty payment, and therefore adequacy of remedies at law did not favor injunction enjoining provider from future infringement of patents relating to interactive television systems.

[3 Cases that cite this headnote](#)

[37] Patents 🔑 Balance of hardships; irreparable injury

There was no evidence that balance of hardships in absence of permanent injunction enjoining video service provider from infringing patents relating to interactive television systems favored patentee; patentee did not dispute that under sunset royalty rate established by the district court, it would receive from video service provider, in one month, 70% of the total revenue it had generated during its entire 23 year history.

[3 Cases that cite this headnote](#)

[38] Patents 🔑 Relief

District court did not clearly err in crediting patentee's expert's testimony to determine an appropriate sunset royalty rate for video service provider's continued infringement of patents relating to interactive television systems, despite video service provider's argument that the royalty amount adopted was erroneous because the jury rejected patentee's profit calculation when it failed to adopt patentee's bottom-line damages number, and that the district court erred in failing to explain why the royalty number proposed by patentee was correct; there were a number of reasons why the jury may have rejected patentee's "bottom-line" damages number, and there was no way to know whether the jury

rejected patentee's profit figure or whether it discounted the damages model based on other factors, and patentee's expert reconciled his profit figure with the jury verdict.

[4 Cases that cite this headnote](#)

[39] **Patents** 🔑 In general; utility

[US Patent 4,616,263](#), [US Patent 5,319,455](#), [US Patent 6,034,689](#). Cited as Prior Art.

[4 Cases that cite this headnote](#)

[40] **Patents** 🔑 In general; utility

[US Patent 5,550,578](#), [US Patent 6,034,678](#), [US Patent 6,100,883](#). Valid and Infringed.

[41] **Patents** 🔑 In general; utility

[US Patent 6,169,542](#), [US Patent 7,561,214](#). Construed and Ruled Valid.

[42] **Patents** 🔑 In general; utility

[US Patent 6,205,582](#). Valid and Not Infringed.

[43] **Patents** 🔑 In general; utility

[US Patent 6,381,748](#). Cited.

Attorneys and Law Firms

***1317** [Thomas M. Peterson](#), Morgan, Lewis & Bockius, LLP, of San Francisco, CA, argued for plaintiff-cross appellant. With him on the brief were [Daniel Johnson, Jr.](#) and [Brett M. Schuman](#); and [Michael J. Lyons](#), [Dion M. Bregman](#), [Ahren C. Hsu-Hoffman](#) and [Michael F. Carr](#) and [Jason E. Gettleman](#), of Palo Alto, CA; [Nathan W. McCutcheon](#) and David M. Morris, of Washington, DC.

[Michael K. Kellogg](#), Kellogg, Huber, Hansen, Todd, Evans & Figel, P.L.L.C. of Washington, DC, argued for defendants-appellants. With him on the brief were [Evan T. Leo](#) and [W. Joss Nichols](#). Of counsel on the brief were [John Thorne](#) and [John P. Frantz](#), Verizon Communications Inc., of Arlington, VA, and [Gregory N. Stillman](#), Hunton & Williams LLP, of Norfolk, VA; and [Henry B. Gutman](#) and [Noah M. Leibowitz](#), Simpson Thacher & Bartlett, LLP, of New York, NY. Of counsel were [Leonard C. Suchyta](#) and [Caren Khoo](#), Verizon Corporate Resources Group, of Basking Ridge, NJ; and Richard G. Taranto, Farr & Taranto, of Washington, DC.

Before [BRYSON](#), [DYK](#), and [MOORE](#), Circuit Judges.

Opinion

[MOORE](#), Circuit Judge.

These appeals stem from a patent infringement action brought by ActiveVideo Networks, Inc. (ActiveVideo) against Verizon Communications, Inc. et al. (Verizon). Verizon counterclaimed that ActiveVideo infringed certain of its patents. After trial, a jury found that Verizon infringed four ActiveVideo patents and that ActiveVideo infringed two Verizon patents and awarded damages to both parties. Following trial, the district court entered a permanent injunction against Verizon but delayed enforcement of the injunction for six months during which Verizon was ordered to pay a sunset royalty. On appeal, Verizon challenges the infringement finding and damages award as well as the permanent injunction and sunset royalty. Verizon also appeals the district court's grant of summary judgment of invalidity as to a third Verizon patent and its grant of judgment as a matter of law (JMOL) preventing Verizon's invalidity defenses from reaching the jury. Active Video cross-appeals the district court's denial of JMOL of non-infringement and its grant of JMOL preventing ActiveVideo's invalidity defenses from reaching the jury. For the reasons set forth below, we *affirm-in-part, reverse-in-part, vacate-in-part, and remand*.

BACKGROUND

ActiveVideo asserted U.S. Patent Nos. 5,550,578 ('578 patent), 6,205,582 ('582 patent), 6,034,678 ('678 patent), and 6,100,883 ('883 patent) against Verizon at trial. ActiveVideo alleged that Verizon's *1318 video on demand (VoD) feature of the Verizon FiOS-TV system infringed claim 9 of the '578 patent, claims 1 and 2 of the '678 patent, claims 1 and 26 of the '883 patent, and claims 5, 7, and 8 of the '582 patent. The '578, '678, and '883 patents share a common specification and generally disclose and claim interactive television systems and methods for delivering interactive television to subscribers. For purposes of the issues on appeal, the '578 and '883 patents generally disclose a system with three major components: (1) a headend processing center with information storage and processing capabilities to provide information services such as VoD to subscribers; (2) home interface controllers connected to subscriber televisions that receive and display information services from the headend and allow subscribers to request information services from the headend; and (3) a communication network between the headend and home interface controllers. The '678 patent generally discloses a method of delivering information services to cable subscribers by establishing interactive sessions over a cable distribution network between a headend node and a home interface controller connected to a subscriber television. The '582 patent generally discloses an interactive television system where the headend processing center includes a frame server component and a plurality of individually assignable processors, which communicate with assigned home interface controllers.

Verizon asserted counterclaims that ActiveVideo in-fringed claim 1 of U.S. Patent No. 6,169,542 ('542 patent) and claim 9 of U.S. Patent No. 7,561,214 ('214 patent). Verizon also asserted U.S. Patent No. 6,381,748 ('748 patent), but this patent was held invalid by the district court prior to trial. The three Verizon patents generally disclose systems and methods related to interactive television features, including internet access ('748 patent), two-dimensional channel navigation ('214 patent), and advertising ('542 patent).

During a three week jury trial, the district court excluded testimony from Verizon's damages expert about an agreement between ActiveVideo and Cablevision because the agreement post-dated the date of hypothetical negotiation. The district court overruled Verizon's objection and allowed testimony from ActiveVideo's damages expert about indemnity agreements Verizon had with its FiOS-TV equipment suppliers. The district court also denied Verizon's motion for JMOL on damages, concluding that Verizon failed to establish that it was an intended third-party beneficiary to an agreement between ActiveVideo and TV Guide, which potentially barred any assessment of damages against Verizon prior to the agreement's expiration. The district court granted-in-part and denied-in-part Verizon's motion for JMOL on pre-suit damages for ActiveVideo's failure to mark its products under 35 U.S.C. § 287. And the district court granted both ActiveVideo's and Verizon's motions for JMOL on validity, preventing the invalidity defenses of both ActiveVideo and Verizon to reach the jury.

The jury found that the parties infringed each others' patents and awarded ActiveVideo \$115,000,000 and Verizon \$16,000 in damages. After trial, the district court entered a permanent injunction against Verizon, established a sunset royalty for Verizon's continued infringement until the injunction was to take effect, and denied Verizon's motions for JMOL or new trial on infringement, damages, and invalidity. The district court also denied ActiveVideo's motions for partial new trial on infringement

and invalidity. Verizon appeals and ActiveVideo cross appeals. On June 25, 2012, after oral argument in this case, we stayed the permanent injunction *1319 pending appeal. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

DISCUSSION

I. Infringement

[1] [2] We review the denial or grant of JMOL under regional circuit law. *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1343 (Fed.Cir.2012). The Fourth Circuit reviews post-verdict JMOL rulings *de novo*, determining whether substantial evidence supports the jury verdict. *Carolina Trucks & Equip., Inc. v. Volvo Trucks of N. Am.*, 492 F.3d 484, 488 (4th Cir.2007). The Fourth Circuit reviews the grant of pre-verdict JMOL rulings *de novo*, considering the evidence in the light most favorable to the non-moving party and determining whether a reasonable jury could find for the non-moving party on the issue in question. *Brown v. CSX Transp.*, 18 F.3d 245, 248 (4th Cir.1994) (citing Fed.R.Civ.P. 50(a)).

[3] [4] Determining literal infringement is a two step process: the “proper construction of the asserted claim and a determination whether the claim as properly construed reads on the accused product or method.” *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1330 (Fed.Cir.1999). The first step is a question of law, which we review *de novo*. *Id.* The second step is a question of fact, which we review for substantial evidence. *i4i Ltd. P'Ship v. Microsoft Corp.*, 598 F.3d 831, 849 (Fed.Cir.2010), *aff'd*, — U.S. —, 131 S.Ct. 2238, 180 L.Ed.2d 131 (2011).

Verizon contends the district court committed three errors in denying Verizon's JMOL of non-infringement. First, Verizon argues that the district court erred because its FiOS–TV system does not meet the “information service” limitation, which is required by every asserted claim. Second, with respect to the '578 patent only, Verizon argues that the district court erred because its FiOS–TV system does not satisfy the “television communication” limitation. Third, with respect to the '582 patent only, Verizon argues that the district court erred because the Verizon FiOS–TV system does not satisfy the “individually assignable processors” limitation.

In cross-appeal, ActiveVideo argues that the district court committed two errors in denying its JMOL of non-infringement. First, ActiveVideo argues that the district court erred in failing to construe the “superimposing” limitation in the '214 patent and that under the correct construction, ActiveVideo's system does not infringe. Second, ActiveVideo contends that the district court's construction of “video still image” was erroneous and that under the correct construction, ActiveVideo's system does not infringe.

A. “information service”

[5] The term “information service” appears in each claim asserted by ActiveVideo.¹ The district court adopted an agreed construction for “information service,” which is set forth in each of the patent specifications:

a service capable of being furnished to a television viewer *having an interface permitting (but not necessarily requiring) interaction with a facility of the cable provider*; including but not limited to an interactive information service, video on demand, local origination service, *1320 community event service, regular broadcast service, etc.

J.A. 215 (emphasis added); '578 patent col.5 ll.28–34; '678 patent col.5 ll.25–31; '883 patent col.5 U.25–31; '582 patent col.3 ll.36–43. For purposes of this appeal, claim 8 of the '578 patent, from which asserted claim 9 depends, is representative. It reads:

An interactive television information system ... comprising:

a plurality of home interface controllers, one such home interface controller associated with each subscriber television, for providing an output in communication with the subscriber television and having (i) a signal output for television information signal and (ii) a data transceiver operative over a data communications link to the headend;

a plurality of subscriber selection devices, one device associated with each home interface controller and in communication with the data transceiver, for permitting subscriber interaction; and

a plurality of interactive controllers, disposed at the headend, each interactive controller (i) in television communication with the information source means and (ii) in assignable television communication over the network with an assigned home interface controller and (iii) in assignable data communication over the data communications link with the assigned home interface controller, *so that the interactive controller furnishes the **information service** interactively over the network* to the assigned home interface controller and its associated television.

'578 patent claim 8 (emphasis added).

Verizon argues that FiOS-TV does not infringe because its “interface” is generated not by the “headend” network as required by the asserted claims but instead by the accused home interface controllers (set-top-boxes or STBs) that are located in subscriber homes. Verizon contends that the asserted claims require the network “headend” to generate and furnish the *entire* viewer interface and that information content including “[d]ata and metadata are not an interface.” Because the FiOS-TV STBs generate the “generic user interface that is available to the user,” Verizon contends that the FiOS-TV headend network does not furnish an “information service.”

ActiveVideo responds that the asserted claims do not require the interface to be “network-generated” because under the doctrine of the last antecedent, “having an interface” in the construction of “information service” refers to the television viewer, not the service. Thus, according to ActiveVideo, it is the television viewer that must have an “interface” permitting interaction with a facility of the cable provider. ActiveVideo argues that because the Verizon STBs generate a viewer interface from content received from the FiOS-TV network, the “information service” limitation is met. Even if the interface must be network-generated, ActiveVideo contends the jury's verdict is supported by substantial evidence that the FiOS-TV interactive media guide, widget, and VoD catalog interfaces are generated by the network.

We agree that substantial evidence supports the jury's verdict and district court's denial of JMOL. The construction of “information service,” which is not disputed on appeal, requires that the service furnished by the headend network have “an interface permitting (but not necessarily requiring) interaction with a facility of the cable provider.” We disagree with Verizon that the construction requires the *entire* viewer interface to be furnished by the headend network or that the interface furnished must take any specific form. We likewise reject Verizon's assertion that under *1321 this construction, “[d]ata and metadata are not an interface.” Appellants' Br. 15. The district court's construction is not so narrow; it states “interface permitting ... interaction” and does not otherwise specify the nature of the interface. The construction also does not preclude the interface furnished by the headend from being processed by an STB before being presented to a viewer. Verizon contests factual issues of infringement that were appropriately decided by the jury. *See PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed.Cir.1998) (“[A]fter the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact.”).

ActiveVideo's expert testified at trial that the content for the interactive media guide, widgets, and VoD catalog, which are viewer interfaces provided by FiOS-TV, is provided by the headend to an STB either automatically or as requested by a viewer. J.A. 3811–17, 5239–40, 5248–51. ActiveVideo's expert also testified that:

[M]ost of the functions that would provide any content to a user, you know, provide a list of things to look at or let you watch a program or something, *those all come down from the server*. That is the key

information that's passed back from the server and then displayed to the user, for instance, in the form of menus.

J.A. 5213–14 (emphasis added). This is substantial evidence from which the jury could reasonably conclude that the content and information provided by the FiOS–TV headend satisfies the information service's “interface” requirement. *See Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229, 59 S.Ct. 206, 83 L.Ed. 126 (1938) (defining substantial evidence as “such evidence as a reasonable mind might accept as adequate to support a conclusion”); *Fonar Corp. v. General Elec. Co.*, 107 F.3d 1543, 1551–52 (Fed.Cir.1997) (concluding expert testimony was substantial evidence to support jury's infringement finding); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1572–73 (Fed.Cir.1986) (“Because a jury must by definition be permitted to accept some probative evidence and reject other probative evidence, we may not decide whether we would as jurors have found [certain] evidence ... believable in light of the evidence as a whole.” (internal quotation marks omitted)). Accordingly, the district court did not err in denying Verizon's JMOL on the “information service” limitation.

B. “television communication”—’578 patent

[6] Although the “television communication” limitation appears in asserted claims of multiple patents, Verizon's appeal on this term is limited to the ’578 patent. *See* Appellants' Br. 18; Oral Argument at 14:10–14:35, *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, Nos. 2011–1538, –1567, 2012–1129, –1201, available at <http://oralarguments.cafc.uscourts.gov/default.aspx?fl=2011–1538.mp3>. Independent claim 8, from which asserted claim 9 depends, recites in relevant part: “a plurality of interactive controllers, disposed at the headend, each interactive controller (i) in television communication with the information source means....” ’578 patent claim 8. The district court construed “television communication” as “providing an information service via a television information signal.” J.A. 216; *see* ’578 patent col.5 ll.35–36. The district court construed “television information signal” as “any signal that may be utilized by a television for video display, regardless of the form, including a standard NTSC-modulated rf carrier, an MPEG-compressed digital data *1322 stream, or any other format.” J.A. 254; *see* ’578 patent col.5 ll.36–40. These are the express definitions provided in the patent specifications and neither party challenges them.

Verizon argues that the district court erred in denying Verizon's JMOL of non-infringement because the accused FiOS–TV “interactive controllers” (headend processors) do not communicate with an “information source” (storage servers) in a signal format compatible with a television. Instead, Verizon argues that although FiOS–TV VoD content is stored on servers in MPEG format, the VoD content is transmitted from the storage servers to the headend processors using a proprietary signal format—CCP or RAID2—that is not compatible with a television.

ActiveVideo responds that substantial evidence supports the jury's determination that MPEG video is transmitted between the FiOS–TV storage servers and headend processors. Because MPEG is one type of “television information signal” as expressly stated in the construction, ActiveVideo contends that transmission of MPEG video between the FiOS–TV storage servers and headend processors is “television communication.” ActiveVideo also points out that MPEG itself is a signal that must be decoded by an STB before being displayed on a television, and that MPEG is expressly defined as a television information signal. Thus, ActiveVideo argues, regardless of whether the MPEG video in FiOS–TV is transmitted using RAID2 or CCP, it is still MPEG and constitutes television communication.

We agree with ActiveVideo that substantial evidence supports the jury's determination and district court's denial of JMOL. The construction of television information signal expressly includes as one example “an MPEG-compressed digital data stream.” J.A. 254. Before an MPEG-compressed digital data stream can be used by a television, however, it must be decoded and decompressed. A “television information signal” is thus broad enough to include signals that require decoding and decompression before they can actually be used by a television. Similar to the exemplary MPEG-compressed digital data stream, the CCP or RAID2 signal in the FiOS–TV system must be decoded and decompressed before it can be used by a television. It

was therefore the jury's role to determine whether decoding and decompressing the CCP or RAID2 signal satisfied the television information signal and television communication limitations. ActiveVideo's expert testified to the following:

A television information signal is an MPEG stream, and it makes no difference how the MPEG stream is stored or communicated. Sometimes it's communicated over IP, for example, over the internet protocol from the interactive controller all the way to the set-top box.... As long as it's an MPEG signal, it's a television information signal, according to the Court's construction, regardless of whether it's embedded or encapsulated in IP or RAID2s or CCPs or anything else. As long as you have access to their MPEG file, it is a television information signal and therefore it is television communication.... [W]hether [the MPEG signal] is wrapped in CCP or any other form, that doesn't change the fact that it is in television communication and can ultimately be utilized for display to a television user.

J.A. 5263–64. *See also* J.A. 4973–74 (Verizon's expert testifying that the FiOS–TV video content is “MPEG-encoded” when stored and transmitted but “formatted in a way that televisions can't utilize because it's in a proprietary format”); J.A. 4554 (Verizon's expert testifying that the FiOS–TV system stores MPEG video and sends *1323 that video over IP to cache servers and delivers the data to set-top boxes over an IP network). We hold that substantial evidence supports the jury's determination that the FiOS–TV CCP and RAID2 signals containing MPEG video constitute television communication between the storage servers and headend processors. The district court did not err in denying Verizon's JMOL of non-infringement.

C. “individually assignable processors”—’582 patent

[7] The “individually assignable processors” limitation is recited in the asserted claims of the ’582 patent. Independent claim 5 of that patent reads:

An interactive cable system comprising:

- (i) an information service distribution network, for delivering information services from a headend to subscriber television;
- (ii) a plurality of home interface controllers, each home interface controller associated with a subscriber television and having a data transceiver operative over a data communications link to the headend;
- (iii) a plurality of subscriber selection devices, each such device associated with a home interface controller and in communication with the data transceiver thereof;
- (iv) a plurality of *individually assignable processors*, disposed at the headend, in *assignable data communication with an assigned home interface controller and in television communication over the network* with the subscriber television associated with the assigned home interface controller, and
- (v) a frame server in communication with a plurality of home interface controllers each assigned to one of a plurality of processes running in said frame server for interactive service, said processes receiving data communications from the subscribers associated with their respective assigned home interface controllers, said frame server generating interactive pages responsive to the data communications and supplying the interactive pages to the subscriber televisions associated with the assigned home interface controllers in digitally encoded television signals over the information service distribution network.

’582 patent claim 5 (emphasis added). The district court, after analyzing the prosecution history and finding disclaimer, construed “individually assignable processors” to mean “processors that are capable of being assigned on a *one-to-one basis*

to a home interface controller.” J.A. 233–35 (emphasis added). Neither Verizon nor ActiveVideo challenges the district court's construction.

Verizon argues that the district court erred in denying Verizon's JMOL of non-infringement because the FiOS–TV headend processors are not assigned on a one-to-one basis to a home interface controller (e.g., STB). That is, Verizon argues that FiOS–TV does not infringe because each FiOS–TV headend processor is always able to communicate with multiple STBs; there is no capability to individually assign a single processor to a single STB. Verizon notes that ActiveVideo distinguished a single-processor prior art system for lacking a processor that can be individually assigned to a subscriber. If the prior art system lacks individual assignment, argues Verizon, then so does FiOS–TV because its processors are shared in the same manner as the single processor in the prior art.

ActiveVideo argues that substantial evidence shows FiOS–TV has headend processors that are capable of being assigned one-to-one. ActiveVideo argues that assignment is different than “using”; using can be done by multiple people even *1324 though the assignment of a processor to STB is one-to-one based on each individual request. Even if the claims require a processor to be “used” one-to-one by a home interface controller, ActiveVideo contends that FiOS–TV still infringes because when the FiOS–TV system first starts, the first subscriber is “assigned” a processor and that processor is used one-to-one by that first subscriber.

We disagree. ActiveVideo's attempt to distinguish between “assigning one-to-one” and “using one-to-one” lacks merit. The district court's unchallenged construction requires that a single headend processor and single STB be assigned on a *one-to-one basis*—a single processor to a single STB. Separating the assignment of the processor to the STB from the usage of the processor by the STB ignores the “one-to-one” requirement of the district court's construction as well as the additional claim language that requires these individually assignable processors be in “assignable data communication with an assigned home interface controller and in television communication over the network.” The claim language specifies that processors are “assignable” with respect to data and television communication and thus clearly includes “usage” of the processor by an STB.

ActiveVideo's “system startup” argument also lacks merit. The district court concluded that the plain and ordinary meaning of “assign” is “to set aside for a particular purpose.” J.A. 223. ActiveVideo does not challenge this construction. In this case, the “particular purpose” for assignment is set forth expressly in the claim: “data communication with an assigned home interface controller” and “television communication ... with the subscriber television associated with the assigned home interface controller.” The record evidence fails to establish—at system startup or otherwise—that the accused FiOS–TV processors are “set aside” for communication on a one-to-one basis with a home interface controller. Indeed, ActiveVideo's expert testified that except for “assignment,” FiOS–TV processors are used by more than one STB. *See, e.g.*, J.A. 3811 (“The assignment itself is done on a one-to-one basis.”); J.A. 3865 (“Using can be done by multiple people.... [A]nd the assignment is done on a one-to-one basis. Once each assignment takes place, [the processor] then can be used by more than one and is routinely used by more than one....”).

The testimony of ActiveVideo's expert, that the FiOS–TV processors are routinely “used by more than one [STB],” shows that they are not set aside for data and television communication with a home interface controller on a one-to-one basis. This testimony is consistent with ActiveVideo's understanding expressed during prosecution that a prior art processor was not “individually assignable” where numerous subscribers may be in communication with that processor. *See* J.A. 94796. Although a first subscriber may use only one FiOS–TV processor for a brief period of time at system startup, that processor has not been set aside for communication with the subscriber on a one-to-one basis because a second subscriber may begin sharing that FiOS–TV processor at any instant. We conclude that the record does not contain substantial evidence that the accused FiOS–TV processors are assigned on a one-to-one basis, and therefore we reverse the district court's denial of Verizon's JMOL of non-infringement of the ['582 patent](#).

D. “superimposing”—['214 patent](#)

The “superimposing” limitation is recited in claim 9 of the Verizon ’ 214 patent. The ’214 patent generally discloses a two-dimensional method of channel surfing *1325 having anchor channels oriented on a vertical axis and channels related to the anchor channels (multiplex channels) oriented on a horizontal axis. Additionally, superimposed on the display of an anchor channel are two indications: one identifying the anchor channel as an anchor channel and another indicating the existence of associated multiplex channels. For example, ABC could be an anchor channel (vertical axis), with ABC News, ABC Sports, ABC Movies, etc. as multiplex channels (horizontal axis) associated with anchor channel ABC. See ’214 patent figs. 1 and 2. Independent claim 9 of the ’214 patent reads:

A method of providing channel selection, comprising:

providing a set of channels; displaying a first anchor channel from the set of channels when selected;

providing a first indication that the first anchor channel is an anchor channel;

superimposing the first indication over the display of the first anchor channel;

including with the first indication a second indication, wherein the second indication is included when there is at least one multiplex channel associated with the first anchor channel;

receiving a first command to select from the second indication a first multiplex channel of the at least one multiplex channel associated with the first anchor channel;

displaying the first multiplex channel; providing for the selection of a second anchor channel from the set of channels through the use of a second command of a different type than the first command; and

performing at least one of:

switching between multiplex channels associated with an anchor channel from the set of channels using commands of the same type as the first command;

switching between anchor channels from the set of channels using commands of the same type as the second command; and

switching from a multiplex channel associated with one anchor channel from the set of channels to a different anchor channel from the set of channels through a command of the same type as the second command.

’214 patent claim 9 (emphasis added).

ActiveVideo, citing *O2 Micro International Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351 (Fed.Cir.2008), argues that the district court erred in declining to construe “superimposing the first indication over the display of the first anchor channel” and “including with the first indication a second indication” in asserted claim 9. ActiveVideo argues that the first and second indications must be overlaid on the displayed anchor channel *and* that they must be distinct from the content of the anchor channel. ActiveVideo argues that its system does not infringe under its “correct” construction because the indications (channel labels) in its system are broadcast as part of the “underlying content” of the anchor channel and are thus not superimposed.

Verizon argues that the district court resolved the dispute between the parties and satisfied *O2 Micro* by declining to adopt ActiveVideo's construction and giving the terms their plain and ordinary meaning. Verizon contends that ActiveVideo's construction is confusing, unhelpful, adds no clarity to the claim language itself, and is erroneous to the extent it attempts to narrow the claims by adding “overlay” and “distinct” limitations. Verizon also argues that even under ActiveVideo's construction, ActiveVideo's products infringe because its proposed construction places *1326 no limitation on how or where the indication is generated, as opposed to how it is displayed to the viewer.

The district court did not err in concluding that these terms have plain meanings that do not require additional construction. ActiveVideo's proposed construction erroneously reads limitations into the claims and the district court properly rejected that construction and resolved the dispute between the parties. *See O2 Micro, 521 F.3d at 1363*. It was up to the jury to determine from the evidence presented at trial whether the ActiveVideo system satisfied the plain and ordinary meaning of the “superimposing” limitations. We affirm the district court's denial of ActiveVideo's JMOL of non-infringement for the '214 patent.

E. “video still image”—'542 patent

The “video still image” limitation is recited in asserted claim 1 of the '542 patent. The '542 patent generally discloses a method of delivering advertising over an interactive video system where an advertisement is presented in a menu and supplementary information about the advertisement is provided upon viewer selection. *See '542 patent* figs. 4, 8, and 9. Claim 1 of the '542 patent reads:

A method of delivering advertising through a head end facility of an interactive video distribution system, said method comprising the steps of:

transmitting an advertisement to an interactive video subscriber unit in connection with an interactive video program;

receiving, at said head end facility over a return path, a request to register said advertisement in a menu;

generating an entry for said advertisement in said menu;

communicating to said subscriber unit, said menu in a *video still image*;

obtaining, at said head end facility over said return path, a selection request for said entry; and

providing to said subscriber unit, in response to said selection request, supplementary advertising information associated with said advertisement.

'542 patent claim 1 (emphasis added).

[8] ActiveVideo argues that the district court misconstrued “video still image” as “an image which is not in motion.” ActiveVideo argues that the district court should have instead construed the term to mean a “static image for display on a television that is not part of a full motion video.” Under this construction, ActiveVideo argues that its system does not infringe because the accused “video still image[s]” in its system are actually full motion MPEG videos that display a series of identical frames so that the full motion video appears still.

We hold that the district court correctly construed the term “video still image.” The district court's construction is consistent with the plain meaning of the term and is also consistent with the specification, which explains that “nothing prevents the principles described herein from being applied to an interactive video distribution system that is Motion Pictures Experts Group (MPEG) compliant.” '542 patent col.14 ll.57–60. Further, ActiveVideo's proposed construction erroneously imports a limitation into the claim and ignores the word “video.” ActiveVideo disputes only the district court's construction and does not contest the sufficiency of the evidence supporting the jury's verdict. We therefore affirm the district court's denial of ActiveVideo's JMOL of non-infringement for the '542 patent.

*1327 II. Invalidity

[9] [10] [11] [12] [13] Invalidity must be established by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd.*, — U.S. —, 131 S.Ct. 2238, 2242, 180 L.Ed.2d 131 (2011). Clear and convincing evidence is such evidence that produces “an

abiding conviction that the truth of [the] factual contentions are ‘highly probable.’ ” *Colorado v. New Mexico*, 467 U.S. 310, 316, 104 S.Ct. 2433, 81 L.Ed.2d 247 (1984). Anticipation under 35 U.S.C. § 102 is a question of fact. *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1343 (Fed.Cir.2012). To anticipate a patent claim, a prior art reference must describe “each and every claim limitation and enable one of skill in the art to practice an embodiment of the claimed invention without undue experimentation.” *Id.* (quoting *Am. Calcar, Inc. v. Am. Honda Motor Corp.*, 651 F.3d 1318, 1341 (Fed.Cir.2011)). Obviousness under 35 U.S.C. § 103 is a question of law based on factual underpinnings. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966). To invalidate a patent claim based on obviousness, a challenger must demonstrate “by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Procter & Gamble v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 994 (Fed.Cir.2009) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed.Cir.2007)).

A. ActiveVideo Patents

1. Obviousness—‘578, ‘678, ‘883, and ‘582 patents

[14] Verizon argues that the district court erred in granting ActiveVideo's JMOL of no invalidity, which prevented Verizon's obviousness defense from reaching the jury. The district court determined that the obviousness opinions offered by Verizon's expert were conclusory and lacked factual support. Verizon contends that testimony by its expert about six prior art references, the “modular nature of the components in the asserted claims,” and how combining any of the prior art references would yield a predictable result, was sufficient for the question of obviousness to reach the jury. Verizon also argues that efficiency and market demand were sufficient motivations to combine any of the prior art references discussed by its expert.

We agree with the district court that the obviousness testimony by Verizon's expert was conclusory and factually unsupported. Although Verizon's expert testified that “[t]hese are all components that are modular, and when I add one, it doesn't change the way the other one works,” J.A. 4709, he never provided any factual basis for his assertions. The expert failed to explain how specific references could be combined, which combination(s) of elements in specific references would yield a predictable result, or how any specific combination would operate or read on the asserted claims. Rather, the expert's testimony on obviousness was essentially a conclusory statement that a person of ordinary skill in the art would have known, based on the “modular” nature of the claimed components, how to combine any of a number of references to achieve the claimed inventions. This is not sufficient and is fraught with hindsight bias. See *KSR*, 550 U.S. at 418, 127 S.Ct. 1727 (“A patent composed of several elements is not proved obvious by merely demonstrating that each of its elements was, independently, known in the prior art.”); *Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373–74 (Fed.Cir.2008) (“Such vague testimony would not have been helpful to a lay jury in avoiding the pitfalls of hindsight that belie a determination of obviousness.”).

*1328 The opinion by Verizon's expert regarding the motivation to combine references was likewise insufficient. Verizon's expert testified that:

The motivation to combine would be because you wanted to build something better. You wanted a system that was more efficient, cheaper, or you wanted a system that had more features, makes it more attractive to your customers, because by combining these two things you could do something new that hadn't been able to do before.

J.A. 4709–10. This testimony is generic and bears no relation to any specific combination of prior art elements. It also fails to explain why a person of ordinary skill in the art would have combined elements from specific references *in the*

way the claimed invention does. See *KSR*, 550 U.S. at 418, 127 S.Ct. 1727 (“[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does ... because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.”); *Innogenetics*, 512 F.3d at 1373 (Fed.Cir.2008) (“[K]nowledge of a problem and motivation to solve it are entirely different from motivation to combine particular references....”). Because the record evidence was insufficient for a reasonable jury to support a determination of obviousness, the district court’s grant of ActiveVideo’s JMOL on obviousness was not erroneous.

2. Anticipation—’578 and ’582 patents

[15] Verizon argued at trial that the asserted claims of the ’578 and ’582 patents were anticipated by multiple prior art references, including a 1986 article by C.W. Lundgren and P.S. Natarajan entitled *Single Mode Fiber Transport and Coaxial Distribution of Video on Demand* (Bellcore VoD) and U.S. Patent No. 4,616,263 (GTE VoD). Bellcore VoD discloses a system having a single computer (master control console) that controls a robotic arm to retrieve video cassettes from a storage cabinet and insert them into video tape recorders to be played for viewers. J.A. 91731. GTE VoD discloses a video system having video control clusters (microprocessors) that supervise the retrieval of video segments from mass storage video disks. Coupled to the video disks are modulators for frequency translating the video segments for transmission to viewers. J.A. 91738–40.

Before the case was submitted to the jury, the district court granted ActiveVideo’s JMOL of no invalidity, holding that there was insufficient evidence for Verizon’s anticipation defenses to reach the jury. For the ’578 patent, the district court found that Verizon’s expert failed to explain how the Bellcore VoD tape recorders are in “assignable television communication” with a home interface controller. The district court also found that Verizon’s expert failed to offer any opinion or analysis as to how GTE VoD’s video control clusters are in assignable television communication with a home interface controller. For the ’582 patent, the district court found that Verizon’s expert failed to explain how the Bellcore VoD tape recorders are individually assignable processors in assignable communication with a home interface controller. The district court also found that Verizon’s expert failed to identify Bellcore VoD structure corresponding to the claimed “frame server.” And the district court found that Verizon’s expert failed to explain how the GTE VoD video cluster controllers are individually assignable processors in assignable communication with a home interface controller.

*1329 Verizon argues that expert testimony regarding the Bellcore VoD and GTE VoD references was sufficient to allow the jury to decide whether either of them anticipates the ’578 and ’582 patent claims. We disagree. Verizon’s expert failed to explain how the Bellcore VoD “tape recorders,” which play video cassettes (e.g., VCRs), are “processors” as required by the claimed “plurality of interactive controllers” (’578 patent) and “individually assignable processors” (’582 patent). Verizon’s expert similarly failed to explain how these “tape recorders” are in “data communication” with a home interface controller (’578 patent) and how they are in “assignable ... data communication” with a home interface controller (’582 patent).² And Verizon’s expert failed to identify any Bellcore VoD structure having a data transceiver and subscriber selection device as required by the ’578 patent’s home interface controller. Verizon’s expert also failed to explain how any Bellcore VoD structure provides interactive pages to viewers and uses a plurality of processes, as required by the ’582 patent’s frame server component.

Similarly, Verizon’s expert failed to explain how the video cluster controllers in the GTE VoD reference (alleged “interactive controllers” and “individually assignable processors”) are connected to a home interface controller, much less in “assignable ... communication” with one. Even though the ’578 patent claims require the interactive controller to be in television communication with an information source, see ’578 patent claim 8, Verizon’s expert testified that the video cluster controllers in GTE VoD are *not* in television communication with the video disk unit (alleged information source). J.A. 4787. The expert also testified that the video signal is sent to a subscriber not from the video cluster controller but instead from the video disk unit. J.A. 4665, 4786–87. That is not what the ’578 or ’582 patent claims require. And Verizon’s expert testified that the GTE VoD reference does not disclose “a plurality of processes running in said frame server” as required by the ’582 patent claims.

Compare J.A. 4792 (“The [GTE VoD] patent does not say there are separate processes.”), with [‘582 patent](#) claim 5 (“each [home interface controller] assigned to one of a plurality of processes running in said frame server”).

We agree with the district court. The testimony of Verizon's expert on anticipation of the ‘578 and [‘582 patent](#) claims was insufficient for a reasonable jury to conclude that Bellcore VoD or GTE VoD anticipate the asserted claims.

B. Verizon ‘214 and [‘542 Patents](#)

ActiveVideo argued that asserted claim 9 of the [‘214 patent](#) was anticipated by European Patent Application No. 0,721,253 A2 (EP253). ActiveVideo also argued that claim 1 of the [‘542 patent](#) was anticipated by [U.S. Patent No. 5,319,455](#) ([‘455 patent](#)) and the CoverGirl advertisement.³ Before the case was submitted to the jury, the district court granted Verizon's JMOL of no invalidity, determining that there was insufficient evidence for ActiveVideo's anticipation defenses to reach the jury. With respect to the [‘214 patent](#), the district court concluded that ActiveVideo's expert *1330 failed to show that the EP253 reference disclosed a first or second indication or a first or second command for selecting anchor channels, as required by asserted claim 9. With respect to the [‘542 patent](#), the district court found that ActiveVideo's expert failed to show that the CoverGirl advertisement was enabled and failed to show that the [‘455 patent](#) disclosed “receiving, at said head end facility over a return path, a request” or “obtaining, at said head end facility over said return path, a selection request” as required by asserted claim 1.

[16] The district court did not err by preventing ActiveVideo's anticipation defenses from reaching the jury. For the [‘214 patent](#), ActiveVideo's expert failed to explain, from EP253, how a user “would be able to ascertain that any given channel located to the right of another in the station index originated from a common broadcast provider.” See J.A. 273. That is, ActiveVideo's expert failed to explain how EP253 discloses the required first anchor channel indication and a second multiplex channel indication when at least one multiplex channel exists that is associated with the anchor channel. ActiveVideo's expert testified that the “ESPN” logo on EP253 figure 14A (reproduced below) constituted the “first indication” while the “ESPN2” logo, which is “pretty clearly branded and coming from ESPN” was the “second indication” corresponding to a multiplex channel associated with the ESPN anchor channel. J.A. 5678.

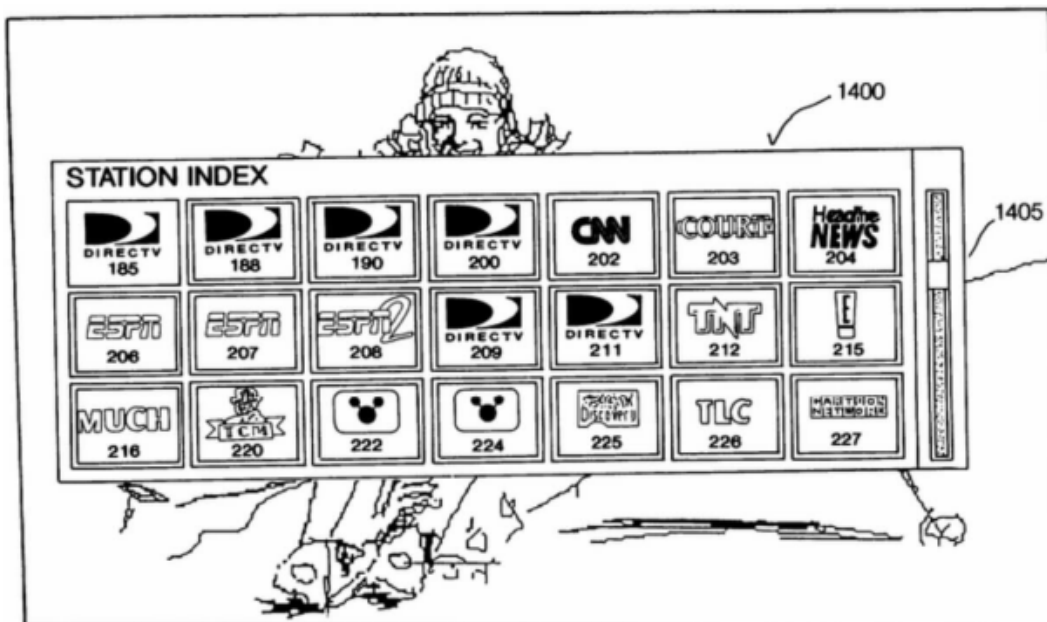


FIG. 14A

J.A. 96077. EP253 Figure 14A does not, however, permit a user to identify an anchor channel or any associated multiplex channels either by similarity in logo “branding” or by spatial proximity. For example, channels 206 and 207 both show a similarly “branded” “ESPN” logo but there is no indication as to which one of them is the “anchor channel” and which is a “multiplex channel” associated with an anchor channel. And, although “ESPN2” appears spatially to the right of “ESPN,” the same spatial orientation is true of unrelated channels, such as “E!” and “TNT.” The district court correctly concluded that Figure 14A in EP253 does not disclose the required first indication and second indication, and thus that no reasonable jury could conclude that EP253 anticipates [’214 patent](#) claim 9.

[17] For the [’542 patent](#), the testimony provided by ActiveVideo’s expert is conclusory ***1331** and lacks sufficient technical detail. The expert provided no description of how the systems disclosed in the CoverGirl advertisement or the [’455 patent](#) actually work. For example, the expert failed to explain what “nodes” are, whether or how they are related to a headend facility, or how any information is passed back and forth between a user and a “node” or headend facility. We agree with the district court that the testimony of ActiveVideo’s expert about these references was insufficient for a reasonable jury to find anticipation of [’542 patent](#) claim 1.

C. Verizon [’748 Patent](#)

[18] [19] The Fourth Circuit reviews the grant of summary judgment *de novo*. [Boitnott v. Corning, Inc.](#), 669 F.3d 172, 175 (4th Cir.2012). Verizon originally asserted a counterclaim that ActiveVideo infringed independent claim 13 and dependent claim 20 of the [’748 patent](#). Claim 13 reads:

A method of retrieving and retransmitting data processing network information in response to a user selection request, comprising:

transmitting first selection information to be displayed on a television;

receiving a user selection request based on the transmitted first selection information;

retrieving data processing network information, in a network format, corresponding to the user selection request;

transforming the data processing network information from the network format having a first interactive element to a television format having a second interactive element; and

transmitting the data processing network information in the television format to the television.

[’748 patent](#) claim 13 (emphasis added).

Shortly after construing the disputed terms of the asserted claims, ActiveVideo moved for summary judgment of invalidity, arguing that [U.S. Patent No. 6,034,689 \(’689 patent\)](#) anticipated the asserted claims. In response, Verizon’s primary argument was that the [’748 patent](#) was limited to transforming network information at the gateway server rather than at the STB. Verizon also argued that:

In addition, the [’689](#) fails to meet the fourth and fifth limitations of claim 13 of the [’748 Patent](#). The [’689 Patent](#) discloses only the resizing of elements in an HTML document. Nowhere does it disclose the transformation of an HTML document. If “parsing” were sufficient to constitute a “transformation,” then the patent examiner would not have allowed the claims....

J.A. 16467. Verizon did not expand on this argument.

The district court granted ActiveVideo's motion, concluding that because claim 13 did not limit the location in the system where transformation must occur, the '689 patent disclosed every element of asserted claims 13 and 20. Verizon moved for partial reconsideration, arguing that the "parsing" performed by the '689 patent was not the same as the "transformation" required by '748 patent claim 13. Verizon argued that the '689 patent preserves the HTML format of its interactive elements instead of transforming them into different interactive elements as required by claim 13. The district court denied Verizon's motion, concluding that reconsideration was an improper vehicle for Verizon to "seek to expand upon an argument that they failed to develop in their original brief in the form of a Motion for Reconsideration." J.A. 39685.

Verizon argues on appeal that the district court erroneously granted summary judgment because a genuine issue of material fact exists as to whether the '689 patent discloses "transforming ... information from the network format having a *1332 first interactive element to a television format having a second interactive element," as required by '748 patent claim 13. Verizon presents essentially the same argument here that it made in its motion for partial reconsideration before the district court: because the '689 patent does not transform a first interactive element (HTML "hypertext anchors" or "hot links") into a different second interactive element, a genuine issue of material fact exists as to whether the '689 patent anticipates claim 13 of the '748 patent.

ActiveVideo argues that Verizon waived this argument by failing to present it to the district court or by presenting it "at best ... in skeletal form." Cross-Appellant's Br. 36. We conclude that Verizon did not waive the argument that the '689 patent fails to disclose the transformation required by '748 patent claim 13. Verizon presented its present argument to the district court sufficiently to preserve it for appeal. See *Warner-Lambert Co. v. Teva Pharms. USA, Inc.*, 418 F.3d 1326, 1338 n. 11 (Fed.Cir.2005). Whether the "parsing" of an HTML element as disclosed in the '689 patent satisfies the '748 patent claim limitation requiring transformation from a network format having a first interactive element to a television format having a second interactive element is a question of fact that should be decided by a jury. Because a genuine issue of material fact exists as to whether the '689 patent anticipates claims 13 and 20 of the '748 patent, we vacate the district court's judgment of invalidity as to the '748 patent and remand for further proceedings.

III. Damages

[20] [21] [22] [23] We review a district court's decision regarding damages methodology for abuse of discretion. *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1310 (Fed.Cir.2009). The jury's damages award is reviewed for substantial evidence. *Id.* We review evidentiary rulings under the law of the regional circuit. *Verizon Servs. Corp. v. Cox Fibernet Va., Inc.*, 602 F.3d 1325, 1331 (Fed.Cir.2010). The Fourth Circuit reviews a district court's evidentiary rulings for an abuse of discretion. *United States v. Wilkerson*, 84 F.3d 692, 696 (4th Cir.1996).

A. Evidentiary Issues

[24] [25] [26] Verizon argues that the district court abused its discretion by preventing Verizon's damages expert from relying on an agreement between ActiveVideo and Cablevision, which post-dated the hypothetical negotiation by several years. Verizon argues that because the district court allowed ActiveVideo's damages expert to rely on a Gemstar agreement even though it post-dated the hypothetical negotiation by two years, it was an abuse of discretion to exclude the Cablevision agreement. Verizon also argues that the district court erroneously prevented it from cross-examining ActiveVideo's damages expert about an ActiveVideo offer to license its patents to Scientific Atlanta on a royalty-free basis. And Verizon argues that testimony from ActiveVideo's damages expert—that he discounted \$100 million from Verizon's VoD equipment costs because Verizon would get that money back from its suppliers through indemnity agreements—was severely prejudicial and erroneously allowed the expert to testify to a legal conclusion.

Although we may not have decided these evidentiary issues the same way had we presided over the trial, the district court did not abuse its discretion. The Cablevision agreement post-dated the hypothetical negotiation by four years and the district court thus had a legitimate reason to exclude it. The fact that the district court allowed ActiveVideo's expert to rely on the Gemstar agreement, which post-dated the *1333 hypothetical negotiation by two years, is irrelevant because Verizon *never* challenged its admissibility. The district court likewise had a legitimate reason for disallowing cross-examination of ActiveVideo's expert on the Scientific Atlanta offer because it was unsigned and was not admitted into evidence. And although the district court allowed indemnity testimony by ActiveVideo's expert, that testimony was allowed only to rebut the criticism by Verizon's damages expert; the district court contemporaneously instructed the jury that ActiveVideo's expert could not testify to a legal conclusion. We conclude that the district court did not abuse its discretion in deciding these evidentiary issues.

B. Methodology

[27] Verizon argues that the testimony of ActiveVideo's damages expert should have been excluded for failing to meet the reliability requirement of [Federal Rule of Evidence 702](#) and [Daubert v. Merrell Dow Pharmaceuticals, Inc.](#), 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993). Verizon argues that reliance by ActiveVideo's expert on the Gemstar and Grande agreements as royalty benchmarks was improper because (1) Gemstar did not involve the patents-in-suit and did not cover any of the technologies in the case, and (2) Grande covered ActiveVideo patents *and* software services yet the entire license fee was attributed to the asserted patents without any attempt to “disaggregate the value of the patent license from the value of the services.” Appellants' Br. 35–36. Verizon contends the Grande fee is “at best a too-high ceiling, not a reasonable benchmark.” *Id.* Verizon argues that ActiveVideo's expert improperly calculated the value of VoD to Verizon by looking at the growth in DirecTV customers before and after it introduced VoD, without controlling for other factors that led to this growth, including a new marketing relationship with AT & T and the transition to digital television. And Verizon argues that ActiveVideo's expert's calculation of 62.5% churn (customer cancellations) in Verizon customers in the absence of VoD is flawed because he failed to control for factors other than VoD that affect churn, including pricing, quality, customer service, and reliability.

Verizon points out various weaknesses in the damages assessment by ActiveVideo's expert. At their core, however, Verizon's disagreements are with the conclusions reached by ActiveVideo's expert and the factual assumptions and considerations underlying those conclusions, not his methodology. These disagreements go to the weight to be afforded the testimony and not its admissibility. *See id.*, 598 F.3d at 854 (holding that a party's quarrel with the facts the damages expert used go to the weight, not admissibility, of the expert's opinion). The degree of comparability of the Gemstar and Grande license agreements as well as any failure on the part of ActiveVideo's expert to control for certain variables are factual issues best addressed by cross examination and not by exclusion. *See id.* at 852 (“[W]hen the methodology is sound, and the evidence relied upon sufficiently related to the case at hand, disputes about the degree of relevance or accuracy (above this minimum threshold) may go to the testimony's weight, but not its admissibility.”) The district court did not err by failing to exclude the testimony of ActiveVideo's damages expert.

C. Marking

In this case, the district court granted Verizon's JMOL on pre-suit damages for three of the four asserted ActiveVideo patents due to ActiveVideo's failure to mark its products under § 287(a). The district court, however, denied Verizon's JMOL with respect to the ActiveVideo '678 patent, which contains only method claims. Verizon argues, based on *1334 [Devices for Medicine, Inc. v. Boehl](#), 822 F.2d 1062 (Fed.Cir.1987), that the district court erred in denying JMOL on the '678 patent because it merely claims a method of using the system claimed in the other patents. Verizon argues that the long standing rule that marking is not required for patents with only method claims should not apply if the patentee has also asserted other patents that contain apparatus claims embodying the same invention. We decline to adopt the rule of law suggested by Verizon and conclude that it would in fact be contrary to our established precedent.

[28] If a patentee practices the claimed invention and fails to mark its product with the relevant patent number, damages may be limited. See 35 U.S.C. § 287. The marking provision provides, in relevant part:

In the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice. Filing of an action for infringement shall constitute such notice.

35 U.S.C. § 287(a). However, “[t]he law is clear that the notice provisions of § 287 do not apply where the patent is directed to a process or method.” *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1332 (Fed.Cir.2010) (quoting *Crown Packaging Tech., Inc. v. Rexam Beverage Can Co.*, 559 F.3d 1308, 1316 (Fed.Cir.2009)); see also *Crystal Semiconductor Corp. v. TriTech Microelectronics Int’l, Inc.*, 246 F.3d 1336, 1353 (Fed.Cir.2001) (“Because the [asserted] patent only claims methods, the notice provisions of § 287(a) do not apply to it.”); *Am. Med. Sys., Inc. v. Med. Eng’g Corp.*, 6 F.3d 1523, 1538 (Fed.Cir.1993); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1083 (Fed.Cir.1983) (“It is ‘settled in the case law that the notice requirement of [§ 287(a)] does not apply where the patent is directed to a process or method.’ ” (quoting *Bandag, Inc. v. Gerrard Tire Co.*, 704 F.2d 1578, 1581 (Fed.Cir.1983))). The demarcation lines have been clear for many years: patents with only method claims do not require marking whereas patents with apparatus claims do.

In *American Medical*, we held that if a single patent contains both apparatus claims and method claims, the marking requirement applies to all the claims:

Where the patent contains both apparatus and method claims, however, to the extent that there is a tangible item to mark by which notice of the asserted method claims can be given, a party is obliged to do so if it intends to avail itself of the constructive notice provisions of [section 287\(a\)](#).

Am. Med., 6 F.3d at 1538. Verizon argues that the marking requirement should likewise apply to ActiveVideo's '678 patent despite the fact that it contains only method claims because ActiveVideo's other three asserted patents contained apparatus claims. This we cannot do. “The law is clear that the notice provisions of [section 287](#) do not apply where the patent is directed to a process or method.” *Am. Med.*, 6 F.3d at 1538. See also *State Contr. & Eng’g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1074 (Fed.Cir.2003) (“[*American Medical*] is inapposite because here an asserted patent—the '288 patent—contains only method claims, and we look to the asserted patents independently. We have not previously held that a patent containing only method claims is examined to see if something could have been marked in order to assess whether the notice provision applies, and we decline to do so now.”).⁴

*1335 Verizon asks us to extend the marking requirement to patents with nothing but method claims, if the patentee also asserts other patents with apparatus claims embodying the same invention in the same litigation. Verizon argues that in this case, the claims in the method patent are simply directed to a method of using the apparatus claimed in ActiveVideo's other asserted claims. The proposed rule would be a confusing mess for the district courts to try to apply. Here for example, it is not clear that the '678 patent is merely a method of using the apparatuses claimed in the '578 and '883 patents. Indeed, the method claims in the '678 patent contain limitations that are not present in the apparatus claims. Compare, e.g., '678 patent claim 1, with '578 patent claim 9, and '883 patent claim 26. Our prior decisions that patents which contain only method claims are not subject to the [section 287](#) marking requirements have a sound basis. And we reaffirm the bright-line easy to enforce rule: if the patent is directed only to method claims, marking is not required.

We affirm the district court's denial of Verizon's JMOL with respect to the ActiveVideo '678 patent, which contains only method claims.

D. Covenant Not to Sue

As one of its damages defenses, Verizon argued that it was an intended third party beneficiary to an agreement between ActiveVideo and TV Guide and that the ActiveVideo–TV Guide agreement contained a covenant not to sue that barred damages against Verizon until the agreement expired. Prior to trial, both parties moved for JMOL on this defense. The district court granted ActiveVideo's motion and denied Verizon's, concluding that Verizon failed to prove that it was an intended beneficiary to the agreement. Verizon contends that the district court's ruling was clearly erroneous.

[29] [30] It is undisputed that the ActiveVideo–TV Guide agreement is governed by New York law. Under New York law, an intended beneficiary may enforce a contract, but it bears the burden of proving its status as an intended third-party beneficiary. *Port Chester Elec. Constr. Corp. v. Atlas*, 40 N.Y.2d 652, 389 N.Y.S.2d 327, 357 N.E.2d 983, 985–86 (1976). To prove it is an intended beneficiary, a party must show (1) the existence of a valid contract, (2) that the contract was intended for its benefit, and (3) that the benefit is sufficiently immediate, rather than incidental, to indicate the assumption by the contracting parties of a duty to compensate the intended beneficiary. *Burns Jackson Miller Summit & Spitzer v. Lindner*, 59 N.Y.2d 314, 464 N.Y.S.2d 712, 451 N.E.2d 459, 469 (1983).

[31] Verizon argues that the plain and unambiguous language of the agreement proves that Verizon is a third party beneficiary to the agreement because (1) Verizon is both a customer and licensee of TV Guide and (2) the covenant expressly bars any claims of patent infringement against customers and licensees of TV Guide. Verizon offers no additional evidence. ActiveVideo argues that Verizon is not an intended beneficiary of the TV Guide agreement, which was a joint development agreement between ActiveVideo's predecessor *1336 and TV Guide to produce a specific product. ActiveVideo argues that the covenant extended to customers and licensees of the product to be jointly developed under the agreement and that the product was never actually completed. ActiveVideo argues that Verizon did not even become a TV Guide customer until years after the joint development project collapsed and that Verizon failed to offer any evidence to establish its status as an intended beneficiary.

The district court did not err in granting ActiveVideo's JMOL that Verizon failed to prove it was an intended beneficiary to the agreement. The purpose of the agreement was for ActiveVideo's predecessor ICTV and TV Guide to “adapt” the ICTV application to operate with TV Guide's interactive program guides. The agreement is not clear, however, as to exactly who the included covenant was intended to cover or what product(s) were intended to be covered. Neither “customer” nor “licensee” is defined in the agreement, and the agreement does not indicate that the parties intended for the covenant to run to any and all TV Guide customers or licensees without regard to the type of product or service purchased or licensed from TV Guide.

Verizon's reading of the agreement is commercially unreasonable. The agreement in question was a joint development agreement between TV Guide and ICTV for the purpose of developing a product that integrated ICTV's technology with TV Guide's interactive programming guide. J.A. 92243. It would be reasonable for the parties making such an agreement to seek protection for the potential licensees of the anticipated product from claims of patent infringement. But in this case, Verizon's relationship with TV Guide has nothing to do with this agreement. The joint product was never developed and the project was abandoned. See J.A. 4342, 6938–39. And Verizon did not become associated with TV Guide until well after the joint development project collapsed. See J.A. 4203, 4219–20. At trial, ActiveVideo offered testimony that the parties to the agreement intended the covenant to apply only to licensees of the product that was to be jointly developed. J.A. 6945. Verizon, on the other hand, offered no evidence as to the parties' intent. Verizon only offered the ambiguous language of the agreement itself. We conclude, as did the district court, that Verizon failed to meet its burden to show that the agreement was intended for Verizon's benefit and that the benefit to Verizon was sufficiently imminent. See *Burns Jackson*, 464 N.Y.S.2d 712, 451 N.E.2d at 469. Accordingly, the district court did not err in granting ActiveVideo's JMOL or in denying Verizon's.

IV. Permanent Injunction and Sunset Royalty

After trial, ActiveVideo moved the district court to permanently enjoin Verizon from future infringement of the '578 and '582 patents.⁵ The district court granted ActiveVideo's motion and stayed the injunction for a six-month sunset royalty period. Verizon challenges the injunction and sunset royalty amount. We granted Verizon's motion to stay the injunction pending appeal. The permanent injunction entered by the district court reads:

IT IS ORDERED that effective May 23, 2012, Defendants are enjoined from (1) further infringement of the U.S. Patent 5,550,578 (“the '578 patent”), including by use of SeaChange and NextGen VOD services and others not colorably different, until expiration of the '578 patent and from (2) further infringement of U.S. Patent 6,205,582 (“the '582 patent”), including by providing VOD via *1337 SeaChange, NextGen, and others systems not colorably different, offered in conjunction with (a) widgets or (b) on-demand VOD catalogs, including post view navigation or others not colorably different, until expiration of the '582 patent.

J.A. 5.

[32] [33] We review the grant of a permanent injunction for abuse of discretion. *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 702 (Fed.Cir.2008). For a permanent injunction to issue, the party requesting an injunction must demonstrate that: (1) it has suffered an irreparable injury; (2) legal remedies, such as money damages are inadequate compensation; (3) the balance of hardships warrants an injunction; and (4) the public interest would not be disserved by an injunction. *eBay Inc. v. MercExchange, LLC*, 547 U.S. 388, 391, 126 S.Ct. 1837, 164 L.Ed.2d 641 (2006). “We may find an abuse of discretion on a showing that the court made a clear error of judgment in weighing relevant factors or exercised its discretion based upon an error of law or clearly erroneous factual findings.” *Innogenetics*, 512 F.3d at 1379 (internal quotation marks omitted).

A. Permanent Injunction

In this case, the district court found that all four factors favored the granting of a permanent injunction. Verizon challenges the grant of the injunction on both legal and factual grounds. As the district court correctly observed, the issues of irreparable harm and adequacy of remedies at law are inextricably intertwined. The parties briefing to this court has similarly intertwined the discussion of these two factors.

The district court found that ActiveVideo suffered irreparable harm because “Verizon's unlawful infringement unquestionably impedes upon the portion of the market share which Cablevision could have, and it thus impedes on ActiveVideo's ability to introduce its patented technology to the portion of the market that Verizon controls. There is no doubt that ActiveVideo suffers indirect losses when Cablevision suffers direct losses from Verizon's infringement.” J.A. 11–12. “Without Verizon's added competition, Cablevision would have more subscribers and need an expanded CloudTV platform which would, in turn, generate more revenue and broader recognition for ActiveVideo. The presence of Verizon's infringing product leads to a loss of market share for ActiveVideo and Cablevision.” J.A. 15. The district court also found that the litigation costs, which caused the patentee to divert resources from developing technology and improving its business, “are the type of past harm which a court can consider in determining whether to issue injunctive relief.” J.A. 16. The district court rejected Verizon's arguments regarding delay in bringing suit and ActiveVideo's licensing campaign.

[34] As an initial matter, it was legal error for the district court to determine that ActiveVideo's litigation costs supported irreparable harm and favored granting an injunction. Litigation costs are undoubtedly undesirable and may take funds away from other endeavors, but they are not an irreparable harm in the injunction calculus. See *Innogenetics*, 512 F.3d at 1381 n. 8 (“If litigation costs were a factor, injunctive relief would be warranted in every litigated patent case.”). Reliance on litigation costs to support a determination of irreparable harm was therefore legal error.

[35] The district court also clearly erred in its reliance on the loss of market share Cablevision suffers due to Verizon's infringement as a predicate for its irreparable harm finding. Verizon and ActiveVideo do not compete; this is not disputed.

*1338 ActiveVideo sells VoD hardware and software to providers of video services; Verizon markets and sells video services to end users. ActiveVideo has a customer, Cablevision, who licenses ActiveVideo's Cloud TV platform. Cablevision markets and sells video services to end users under its brand name, "Optimum" and "iO." Cablevision has a license from ActiveVideo wherein it pays ActiveVideo a licensing fee for each subscriber Cablevision has. Hence, if Verizon takes a customer away from Cablevision, ActiveVideo loses that fee. As Verizon argues, such a loss is certainly not irreparable. Straight-forward monetary harm of this type is not irreparable harm.⁶ Whether ActiveVideo receives this subscriber fee from Verizon or from Cablevision, it will be adequately compensated. Nor is this harm "incalculable" as ActiveVideo argues. The inquiry is whether ActiveVideo is irreparably harmed by Verizon's infringement. ActiveVideo does not lose market share when Cablevision loses a subscriber to Verizon, it loses the Cablevision licensing fee. Cablevision, not ActiveVideo, has lost market share. Determining how many additional subscribers Cablevision would have absent Verizon's infringing activity might be difficult to calculate. But, the question is not how many subscribers Cablevision would have absent Verizon's infringement. Cablevision does not have an exclusive license to the patents at issue. The question is how much was ActiveVideo harmed by Verizon's infringement. ActiveVideo, as the patent holder, is harmed, not just when its licensee loses sales, but rather every time the infringing service is sold. The harm to ActiveVideo due to Verizon's infringement is readily quantifiable. When Verizon pays ActiveVideo a per month royalty for each FiOS-TV subscriber, then ActiveVideo is adequately compensated. Cablevision's loss of market share does not make ActiveVideo's harm irreparable. Given that the district court's fact finding regarding irreparable harm was based in large part on the loss of market share to Cablevision, this fact finding is clearly erroneous. To be clear, we are not suggesting that loss of market share cannot be a basis for irreparable harm or that there can be no irreparable harm absent direct competition. We conclude only that in light of the evidence presented and the relationships of the relevant parties, no such basis is present in this case.

Finally, in support of its irreparable harm finding, the district court found that "[w]ith every customer Verizon has unlawfully acquired, they have taken away ActiveVideo's ability to spread its brand name, to obtain references from potential customers, and to expand its goodwill throughout the areas in which Verizon and Cablevision are fierce competitors." J.A. 15–16. There is no evidence, however, indicating that FiOS-TV damages ActiveVideo's "CloudTV" brand name. Indeed, the record shows that Cablevision does not even use the ActiveVideo "CloudTV" brand and instead uses its own brands, "Optimum" and "iO." J.A. 91469, 92427, 93132. As for customers, the district *1339 court mixes apples and oranges. ActiveVideo does not share a customer base with Verizon. Verizon competes for customers with Cablevision, not ActiveVideo. The focus of the irreparable harm analysis should be on harm to ActiveVideo, not Cablevision. As discussed above, the number of subscribers to whom Verizon offers the infringing service is quantifiable and compensable by an ongoing royalty. See *Paice LLC v. Toyota Motor Corp.*, 504 F.3d 1293, 1314–15 (Fed.Cir.2007).

The district court only briefly mentions harm to ActiveVideo (as distinct from Cablevision's lost market share and potential loss of brand recognition). The district court found that "Verizon's actions stripped ActiveVideo of the opportunity to get a nationwide deployment which would have bolstered ActiveVideo's reputation in the cable industry. This lost opportunity, which is also difficult to quantify, favors granting an injunction." J.A. 17. The district court does not cite any record evidence in support of this claimed harm, and we can find none in the record. The evidence of record including evidence from ActiveVideo's own witnesses indicates that Verizon's use of VoD stimulates an increased demand for such services. See, e.g., J.A. 47164 n. 9 (listing testimony); J.A. 4081 ("Q: Okay. Mr. Wagner, it is your opinion that ActiveVideo would not lose any sales by licensing to Verizon, correct? A: I have not calculated any lost profits here, so that is correct."); J.A. 47264–65 ("Q: So you conclude that Verizon's entry into the television business with its FiOS TV service in 2005 influenced the other MSOs to introduce more robust VoD offerings; is that correct? A: Yes.... Q: So that would have created an increased demand for interactive TV services, such as ... VoD ... from the MSOs; is that correct? A: In theory, yes, that's cause and effect.").⁷

We conclude that the district court clearly erred when it found that this record supported a finding of irreparable harm. This factor weighs against granting an injunction. The losses to ActiveVideo due to Verizon's infringement are clearly quantifiable. Moreover, ActiveVideo sought to broadly and extensively license this technology (Cablevision, Grande, and TV Guide)

including a campaign to secure a license from Verizon itself, which started in 2004. In light of the record evidence including ActiveVideo's past licensing of this technology and its pursuit of Verizon as a licensee, no fact finder could reasonably conclude that ActiveVideo would be irreparably harmed by the payment of a royalty (a licensing fee). As ActiveVideo's CEO testified, ActiveVideo had been trying to get Verizon as a customer since 2004. J.A. 3356 (“we really wanted a U.S. customer like Verizon”); J.A. 3373 (“ActiveVideo *1340 had been trying to get Verizon as a customer since late 2004; isn't that right? A. Yeah”); J.A. 6058 (“Q. Now ActiveVideo's been willing to license its patents in the past, right? A. We have always been willing to for the right price. Q. I believe you've also been willing to sell them, correct? A. Everything's for sale except my children.”). In fact, during this litigation Verizon sought an eight-month sunset royalty (Verizon would have a compulsory license for eight months) to give it an opportunity to design around. ActiveVideo asked for a sunset royalty of a “minimum of a one-year period,” four months longer than Verizon requested and six months longer than the court eventually ordered. The fact that ActiveVideo actually sought to extend the sunset royalty period longer than Verizon wanted is further evidence that ActiveVideo is not being irreparably harmed and that money damages can adequately compensate ActiveVideo for any Verizon infringement. To be clear, we are not holding that any time a patentee offers a license to the defendant, it will be unable to secure an injunction. We conclude only that in light of the record in this case, which shows extensive licensing, licensing efforts, solicitation of the defendant over a long period of time preceding and during litigation, and no direct competition between Verizon and ActiveVideo, it was clearly erroneous for the district court to conclude that money damages would not adequately compensate ActiveVideo for Verizon's infringement.

[36] Analyzing the adequacy of remedies at law, the court again referenced ActiveVideo's lost business opportunities: “The Court cannot predict how large a share of the television market ActiveVideo would have been able to control, and it cannot speculate as to how much ActiveVideo's brand name and recognition would have grown absent Verizon's infringement.” J.A. 18–19. The district court, however, cited no evidence in the record to support these assertions. Loss of business opportunity or damage to brand recognition could provide a basis for concluding that monetary relief would be inadequate. There simply is no record evidence which establishes these losses. ActiveVideo can be adequately compensated for Verizon's infringement through an on-going royalty payment. There are no concerns about Verizon's inability to pay. *Cf. Bosch*, 659 F.3d at 1154–55. ActiveVideo's loss of revenue due to Verizon's infringement can be adequately remedied by an ongoing royalty from Verizon for each of its subscribers. This is what ActiveVideo has sought from Verizon since 2004, and based on the infringement determinations ActiveVideo is certainly entitled to it. There is no record evidence that ActiveVideo has lost any market share or any customers at all due to Verizon's infringement. In fact, ActiveVideo's own expert testified that ActiveVideo has not lost any sales by licensing to Verizon. Finally, there is no evidence that ActiveVideo's brand would be harmed as Cablevision sells its product under its own brand name. The district court's fact finding that ActiveVideo has proven that no adequate remedy at law exists is clearly erroneous. This record cannot support such a finding. Therefore, this factor also weighs against granting an injunction.

[37] Verizon also argues that the district court improperly weighed the balance of hardships in favor of ActiveVideo because (1) an injunction would have potentially disastrous consequences for Verizon while the payment of ongoing royalties in lieu of an injunction would give ActiveVideo unprecedented profits, and (2) there is no evidence that ActiveVideo's small company size would render it more susceptible to harm from Verizon's continued infringement, especially since they are not competitors.

*1341 Balancing the hardships the district court found that “both parties will suffer hardship in this case, but the greater hardships lie with ActiveVideo.” J.A. 20. It concluded that “[b]ecause it is such a small corporation (with less than 150 employees), ActiveVideo will suffer serious hardship if an injunction is not granted.” *Id.* The district court failed, however, to identify any reason why this is the case. It is certainly true that ActiveVideo would suffer substantial hardship if it was not compensated for Verizon's infringement. But there is no evidence that an injunction is necessary to avoid hardship to ActiveVideo. The fact that ActiveVideo is a smaller company or that it is more reliant on these patents than Verizon does not mean that there is hardship absent an injunction, especially here where ActiveVideo and Verizon do not compete in the same market. In fact, ActiveVideo does not dispute Verizon's contention that under the sunset royalty rate established by the district court, ActiveVideo would receive from Verizon, in one month, 70% of the total revenue ActiveVideo has generated during its entire 23 year history. The district court clearly erred in its determination that the balance of the hardships favors

granting an injunction. There is no evidence in this record upon which the district court could conclude that the hardship favored ActiveVideo receiving an injunction.

The final factor asks whether “the public interest would not be disserved by a permanent injunction.” *eBay*, 547 U.S. at 391, 126 S.Ct. 1837. The heart of the patent grant is the right to exclude. See 35 U.S.C. § 154(a)(1) (“Every patent shall contain ... a grant to the patentee ... of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States.”). Although enforcing the right to exclude serves the public interest, the public interest factor requires consideration of other aspects of the public interest. See 7 Donald A. Chisum, *Chisum on Patents* § 20.04[2][c][vii] (2009) (“The proper question on the public interest should be: will an injunction harm a specific public interest that outweighs the public's interest in a robust patent system?” (internal citations and quotation marks omitted)). Here, the district court found that Verizon's customers will suffer some harm with the removal of their VoD services, but it was satisfied that ActiveVideo showed that the customers' interests in entertainment did not outweigh the public interest in allowing patentees to enforce their right to exclude. The district court finding that the public interest supports the grant of an injunction here is not clearly erroneous.

Given the record in this case, it was an abuse of discretion for the district court to grant a permanent injunction. The district court fact findings that there was irreparable harm, inadequate remedies at law, and hardship which favored granting an injunction to ActiveVideo are clearly erroneous. Given that these findings cannot be supported by the record evidence, no injunction can issue. If the general public interest in upholding patent rights alone was sufficient to mandate injunctive relief when none of the other three factors support injunctive relief, then we would be back to the general rule that a patentee should always receive an injunction against infringement. But the Supreme Court rejected the idea that there is a general rule that courts should issue permanent injunctions against patent infringement. *eBay*, 547 U.S. at 393–94, 126 S.Ct. 1837. We vacate the grant of a permanent injunction in this case and remand for the district court to consider an appropriate ongoing royalty rate for future infringement by Verizon. See *Paice*, 504 F.3d at 1315, 1317; *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1361–62 (Fed.Cir.2008).

*1342 B. Sunset Royalty

Following trial, Verizon asked the district court to stay the injunction during an eight month “sunset” period during which a design around to the ActiveVideo patents could be completed. The district court stayed the permanent injunction for a six month sunset royalty period during which Verizon was ordered to pay a sunset royalty for its continued infringement. The court held that granting this sunset royalty would mitigate harm to the public and provide Verizon considerable time to implement non-infringing alternatives. Verizon moved this court for a further stay of the injunction pending appeal, which we granted.

[38] On appeal, Verizon argues that the sunset royalty amount should be vacated because it was based on the “flawed damages methodologies” of ActiveVideo's expert. Appellants' Br. 42. ActiveVideo sought a sunset royalty amount of \$3.40 per subscriber per month. Verizon argues that the royalty rate should be \$0.17 per FiOS–TV subscriber per month. Verizon argues that ActiveVideo receives \$0.17 before costs in its agreement with Cablevision. In a thorough and well-reasoned opinion, the district court concluded that the sunset royalty rate should be \$2.74 per FiOS–TV subscriber per month. The district court accepted ActiveVideo's expert testimony that Verizon received an incremental profit of \$6.86 per FiOS–TV subscriber per month. The court analyzed the respective bargaining positions of the parties *post-verdict*, and concluded that “it would have been reasonable for the parties to make an agreement whereby Verizon would receive 60% of the profits and ActiveVideo would receive 40% of the profits.” J.A. 31. This results in the \$2.74 per subscriber per month royalty. The district court rejected Verizon's suggestion that it should pay the same rate as Cablevision. The district court found that after the patent is held not invalid and infringed by Verizon, ActiveVideo is in a much better bargaining position with Verizon than it was with Cablevision in 2009. Based on the fact that Verizon may be able to design around, but does not know precisely how effective such a design around might be, the court discounted the profit split from the 50/50 to 60/40 (in favor of Verizon).

This may seem high, and while it is likely true that Verizon would not have agreed to that amount prior to litigation, Verizon has been adjudicated to infringe and the patent has been held not invalid after a substantial challenge by Verizon. See *Paice*,

504 F.3d at 1317 (Rader, J., concurring) (“[P]re-suit and post-judgment acts of infringement are distinct, and may warrant different royalty rates given the change in the parties' legal relationship and other factors.”); *Amado*, 517 F.3d at 1362 (“Prior to judgment, liability for infringement, as well as the validity of the patent, is uncertain, and damages are determined in the context of that uncertainty. Once a judgment of validity and infringement has been entered, however, the calculus is markedly different because different economic factors are involved.”). The district court is correct; there has been a substantial shift in the bargaining position of the parties. See *Amado*, 517 F.3d at 1362 (“There is a fundamental difference, however, between a reasonable royalty for pre-verdict infringement and damages for post-verdict infringement.”). We reject Verizon's argument that the district court erred in concluding that the jury verdict placed ActiveVideo in a stronger bargaining position.

Verizon also argues that the royalty amount adopted by the district court was erroneous because the jury rejected ActiveVideo's profit calculation when it failed to adopt ActiveVideo's bottom-line damages number. And Verizon contends that *1343 the district court erred in failing to explain why the royalty number proposed by ActiveVideo was correct. We discern no error in the district court's analysis. Verizon's “flawed methodology” argument is merely a continuation of the argument we previously dismissed. See *supra* Part III.B. There are a number of reasons why the jury may have rejected ActiveVideo's “bottom-line” damages number. There is no way to know whether the jury rejected ActiveVideo's profit figure or whether it discounted the damages model based on other factors. ActiveVideo's expert reconciled his profit figure with the jury verdict, and the district court did not clearly err in crediting that testimony to determine an appropriate sunset royalty rate. See *Honeywell Int'l, Inc. v. Hamilton Sundstrand Corp.*, 523 F.3d 1304, 1314 (Fed.Cir.2008) (concluding that it can virtually never be clear error for a judge to credit the testimony of one witness over another when the witness has told a consistent, coherent, and facially plausible story).

We held in *Amado* that an assessment of prospective damages for ongoing infringement should “take into account the change in the parties' bargaining positions, and the resulting change in economic circumstances, resulting from the determination of liability.” *Amado*, 517 F.3d at 1362. And, although *Amado* dealt with the imposition of royalty damages while an injunction was stayed during appeal, this holding applies with equal force in the ongoing royalty context.⁸ Though we vacate the district court's injunction, we see no error in its post-verdict royalty calculation. The district court, on remand, should determine an appropriate ongoing royalty, an inquiry that is much the same as its sunset royalty analysis. The district court may wish to consider on remand additional evidence of changes in the parties' bargaining positions and other economic circumstances that may be of value in determining an appropriate ongoing royalty. See *Paice*, 504 F.3d at 1315 (“Upon remand, the court may take additional evidence if necessary to account for any additional economic factors arising out of the imposition of an ongoing royalty.”). Indeed, ActiveVideo's bargaining position is even stronger after this appeal. We leave the procedural aspects of how to proceed on the issue of prospective damages to the discretion of the district court.

CONCLUSION

For the foregoing reasons, the district court's judgment of infringement against Verizon as to the ActiveVideo '582 patent is reversed. The district court's grant of summary judgment of invalidity as to the Verizon '748 patent is vacated and remanded for further proceedings. The district court's entry of a permanent injunction is reversed. The district court's imposition of a sunset royalty is affirmed. The district court's judgment of infringement with respect to the ActiveVideo '578, '678, and '883 patents is affirmed. Because Verizon has not argued either before the district court or on appeal that a finding of non-infringement of the '582 patent should result in a reduction of damages, we affirm the damages award against Verizon in full. The district court's judgment in all other respects is affirmed.

***1344 AFFIRMED–IN–PART, REVERSED–IN–PART, VACATED–IN–PART, AND REMANDED**

COSTS

No costs.

All Citations

694 F.3d 1312, 104 U.S.P.Q.2d 1241

Footnotes

- 1 The term “information service” appears in [‘582 patent](#) claims 5, 7, and 8, [‘678 patent](#) claims 1 and 2, [‘578 patent](#) claim 9, and [‘883 patent](#) claim 1. For [‘883 patent](#) claim 26, the district court construed “interactive mode” as “a mode in which the node is providing an *information service* to the home interface controller....” J.A. 254 (emphasis added); see [‘883 patent](#) col.5 ll.40–44. This construction is not challenged.
- 2 To the extent that Verizon's expert opined that the “master control console” in Bellcore VoD satisfied the “interactive controller” element of the [‘578 patent](#) claims or the “individually assignable processors” element of the [‘582 patent](#) claims, see J.A. 4623–24, this opinion is also insufficient because there is only one master control console disclosed in Bellcore VoD and the claims require a plurality of interactive controllers and individually assignable processors.
- 3 The “CoverGirl” advertisement is contained in a video promoting ActiveVideo's interactive television concept. J.A. 110003.
- 4 Verizon argues that in *Devices for Medicine*, we “applied the marking bar to a method-claim only patent.” Appellants' Br. 33. This is incorrect. In *Devices for Medicine*, this court reviewed a jury instruction which stated: “Notice is not required on the method claims as to an infringement but must be marked on an appliance.” *Id.* at 1066. The court did not, however, hold that this statement of law was erroneous, but rather held: “Because DFM did not present to the jury an adequate evidentiary basis on which it could have based a contrary verdict, any error in the instruction given, if error there were, was necessarily harmless.” *Id.*
- 5 The [‘883](#) and [‘678 patents](#) expired and are thus not part of the injunction.
- 6 ActiveVideo argues that this case is like *Robert Bosch LLC v. Pylon Manufacturing Corp.*, 659 F.3d 1142, 1153–54 (Fed.Cir.2011), where we held it was an abuse of discretion for the court to decline to award injunctive relief. We do not see the parallel between this case and *Bosch*. In *Bosch*, the finding of irreparable harm was based upon three facts: (1) the parties were direct competitors; (2) there was a loss of market share and potential customers; and (3) due to financial problems, the infringer might not be able to satisfy a monetary judgment. 659 F.3d at 1152–55. In this case, ActiveVideo and Verizon are not direct competitors and there is no suggestion that Verizon would be unable to pay whatever royalty or judgment is ultimately assessed. Every injunctive case must be considered according to its unique facts.
- 7 The district court does *not* find that there has been any price erosion, nor does ActiveVideo argue price erosion. ActiveVideo, in one general sentence, claims: “Moreover, a compulsory license would have myriad and complex negative effects on ActiveVideo's bargaining position vis-à-vis other potential customers or licensees.” Cross-Appellant's Br. 64–65. The evidence supporting this assertion, a declaration by ActiveVideo's CEO, claims Verizon's infringement erodes prices for the CloudTV platform. This declaration cites no evidence of price reduction that has occurred. It only speculates that but for Verizon's infringement, ActiveVideo would be able to lock in a more profitable deal with Comcast in the future. The facts of this case call that speculation into question: ActiveVideo's license to Cablevision is \$0.17 per sub-subscriber. It seems unlikely that an ongoing royalty to Verizon at \$2.74 could drive the price down in the future. Indeed, ActiveVideo's expert stated that “because the verdict of infringement increases the value of ActiveVideo's patents and ... places ActiveVideo in a stronger position in its negotiations with [potential customers], ActiveVideo would be able to demand more from cable operators to keep Verizon at a competitive disadvantage.” J.A. 49369–70.
- 8 However, some of the *Amado* factors considered by the district court in its sunset royalty analysis may not directly apply in an ongoing royalty situation. For example, the district court considered the defendant's likelihood of success on appeal, the ability of the defendant to immediately comply with the injunction, and the evidence and arguments found material to granting the permanent injunction. J.A. 28–29; see *Amado*, 517 F.3d at 1362.