

# United States Court of Appeals for the Federal Circuit

2009-1374

TIVO INC.,

Plaintiff-Appellee,

v.

ECHOSTAR CORPORATION,  
ECHOSTAR DBS CORPORATION,  
ECHOSTAR TECHNOLOGIES CORPORATION,  
ECHOSPHERE LIMITED LIABILITY COMPANY,  
ECHOSTAR SATELLITE LLC,  
and DISH NETWORK CORPORATION,

Defendants-Appellants.

Seth P. Waxman, Wilmer Cutler Pickering Hale and Dorr LLP, of Washington, DC, argued for plaintiff-appellee. With him on the brief were Edward C. DuMont, Daniel S. Volchok and Thomas Saunders. Of counsel on the brief were Morgan Chu, Andrew Iancu, Christine W.S. Byrd and Perry Goldberg, Irell & Manella LLP, of Los Angeles, California.

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Appealed from: United States District Court for the Eastern District of Texas

Chief Judge David Folsom

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Appeal from the United States District Court for the Eastern District of Texas in case no. 2:04-CV-01, Chief Judge David Folsom.

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DECIDED: March 4, 2010

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Before MAYER, LOURIE, and RADER, Circuit Judges.

Opinion for the court filed by Circuit Judge LOURIE. Dissenting opinion filed by Circuit Judge RADER.

LOURIE, Circuit Judge.

Appellants (collectively, “EchoStar”) appeal from the district court’s decision finding them in contempt of the court’s permanent injunction order. TiVo Inc. v. Dish Network Corp., 640 F. Supp. 2d 853 (E.D. Tex. 2009). Because we find that the district court did not abuse its discretion in imposing sanctions against EchoStar, we affirm the finding of contempt.

## BACKGROUND

TiVo, Inc. ("TiVo") owns U.S. Patent 6,233,389 ("the '389 patent" or "TiVo's patent"), which is entitled "Multimedia Time Warping System." The patented technology allows television users to simultaneously record and play ("time-shift") television broadcasts using what is commonly known as a digital video recorder ("DVR"). A DVR allows users to fast-forward, rewind, pause, and replay a "live" television program while it is playing on the television set. TiVo's patent covers various features essential to the working of a DVR.

In 2004, TiVo sued EchoStar in the United States District Court for the Eastern District of Texas, alleging that its receivers infringe "hardware" claims (claims 1 and 32) and "software" claims (claims 31 and 61) of the '389 patent. The hardware claims are not at issue in this appeal.

Claim 31 of the '389 patent is the first of the two software claims. It provides as follows:

A process for the simultaneous storage and play back of multimedia data, comprising the steps of:

- [1] providing a physical data source, wherein said physical data source accepts broadcast data from an input device, parses video and audio data from said broadcast data, and temporarily stores said video and audio data;
- [2] providing a source object, wherein said source object extracts video and audio data from said physical data source;
- [3] providing a transform object, wherein said transform object stores and retrieves data streams onto a storage device;
- [4] wherein said source object obtains a buffer from said transform object, said source object converts video data into data streams and fills said buffer with said streams;
- [5] wherein said source object is automatically flow controlled by said transform object;
- [6] providing a sink object, wherein said sink object obtains

data stream buffers from said transform object and outputs said streams to a video and audio decoder;  
[7] wherein said decoder converts said streams into display signals and sends said signals to a display;  
[8] wherein said sink object is automatically flow controlled by said transform object;  
[9] providing a control object, wherein said control object receives commands from a user, said commands control the flow of the broadcast data through the system; and  
[10] wherein said control object sends flow command events to said source, transform, and sink objects.

Claim 61 is similar to claim 31, except that it recites an apparatus rather than a process.

The accused EchoStar receivers can be broadly classified in two categories based on the processing chip employed by the receiver: the “50X” series and the “Broadcom” series. The jury found that both the 50X receivers and the Broadcom receivers infringed the asserted hardware as well as software claims and awarded TiVo approximately \$74 million in lost profits and reasonable royalties. The district court entered judgment on the verdict and issued a permanent injunction against EchoStar. In granting the injunction, the district court ordered EchoStar (1) to stop making, using, offering to sell, and selling the receivers that had been found infringing by the jury (the “infringement” provision) and (2) to disable the DVR functionality in existing receivers, with the exception of select receivers that had already been placed with its subscribers (the “disablement” provision).

Following the entry of final judgment by the district court, we affirmed in part, reversed in part, and remanded the district court’s decision. EchoStar had appealed issues of claim construction and infringement to us. We found that the district court had incorrectly construed at least one limitation of the hardware claims and reversed the

portion of the judgment upholding the jury's verdict that EchoStar's DVRs literally infringed the hardware claims. TiVo, Inc. v. EchoStar Commc'ns Corp., 516 F.3d 1290, 1304–05 (Fed. Cir. 2008). However, we found no error in the district court's claim construction of the software claims and also affirmed the jury's verdict that the EchoStar devices infringed the software claims of the '389 patent. Id. at 1310.

At that time, EchoStar did not appeal the district court's grant of a permanent injunction. In our opinion, we noted that the district court's injunction, which had been stayed during the course of the appeal, would take effect following our decision. Id. at 1312. We advised the district court that it may make a determination as to any additional damages that TiVo may have sustained while the stay of the permanent injunction had been in effect. Id.

Following the decision on the appeal, TiVo moved the district court to find EchoStar in contempt of the court's permanent injunction. After conducting a series of hearings on TiVo's motion, the district court ruled that EchoStar was in contempt of its earlier order. The district court rejected EchoStar's argument that it had redesigned its infringing products so that they were more than colorably different from the adjudged infringing devices. The district court evaluated two of EchoStar's major modifications to the infringing DVR software and concluded that the modified software continued to infringe. The district court therefore found EchoStar to be in violation of the infringement provision of the injunction. Moreover, the district court found that even if EchoStar had achieved a noninfringing design-around, EchoStar would still be in contempt because it had failed to comply with the disablement provision in the district court's order requiring it to disable DVR technology completely from the receivers

adjudged to be infringing at trial. For EchoStar's contempt of the court's order, the district court imposed sanctions against EchoStar in the amount of nearly \$90 million. TiVo Inc. v. Dish Network Corp., 655 F. Supp. 2d 661, 666 (E.D. Tex. 2009). The court also awarded damages to TiVo for the continued infringement by EchoStar's redesigned software. Further, the court amended its earlier injunction, requiring EchoStar to seek the court's approval before implementing future noninfringing workarounds to its DVR software. EchoStar now appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

### A. Contempt of the Infringement Provision

#### 1. Contempt Proceeding

We have held that a district court must make a two-part inquiry in finding a defendant in contempt of an injunction in a patent infringement case. See KSM Fastening Sys., Inc. v. H.A. Jones Co., 776 F.2d 1522, 1530 (Fed. Cir. 1985). First, the court must determine whether a contempt hearing is an appropriate forum to adjudge infringement by the redesigned product. Id. at 1532. The court may do this by comparing the accused product with the original infringing product to determine if there is "more than a colorable difference" between the accused product and the adjudged infringing product such that "substantial open issues with respect to infringement" exist. Id. Where the court finds that to be the case, a new trial is necessary to determine further infringement and the court may not proceed with a contempt finding. Id. Only in cases where the court is satisfied on the threshold inquiry of forum appropriateness can a court inquire whether the redesigned product continues to infringe the claims as

previously construed by the court. Id.

EchoStar argues that it was impermissible for the district court to try issues relating to continued infringement by EchoStar's modified software in a contempt proceeding. According to EchoStar, its modifications to the infringing DVR software were so substantial that TiVo should have been required to litigate its claims over the modified software in a separate infringement action.

EchoStar contends that it undertook a Herculean effort in redesigning the DVR software in its receivers so that it would no longer infringe the software claims in TiVo's patent. Primarily, EchoStar claims that it removed at least two key infringing elements from the software in its Broadcom series receivers: video and audio data parsing, and automatic flow control. Regarding the first modification, EchoStar claims that it eliminated the parsing feature which was useful in creating an index of "start codes" of the audio and video data. That index enabled "trick play" operations. The new EchoStar DVR software is therefore "indexless" and performs those operations through a "brute-force" method, utilizing average frame rate statistics to estimate the location of any video data. With regard to the second modification, EchoStar claims that its earlier software made use of a "record buffer" in addition to a pool of ten transport buffers. The record buffer acted as intermediate storage for data being written to the hard drive when each of the ten transport buffers was full. The record buffer also performed a "blocking" function whereby data transfer from the transport buffers would be blocked until the successful transfer of record buffer data to the hard drive. EchoStar claims that it removed the record buffer and redesigned its software to transfer data directly from the transport buffers to the hard drive, thereby eliminating the blocking feature from its

Broadcom receiver software. For its 50X series receivers, EchoStar implemented only the change to the indexing mechanism described above.

According to EchoStar, the district court failed to recognize that the modified components had completely transformed the infringing software. EchoStar argues that the court misapplied the colorable differences test by failing to analyze the theories upon which the jury had adjudged EchoStar's software to be infringing. EchoStar argues that a contempt proceeding is only suitable where the adjudged infringer makes nothing more than bad-faith cosmetic changes. EchoStar presents a long list of arguments as to why its redesigned software should be considered more than colorably different. It argues that it removed features from its software that TiVo had previously pointed to as infringing. In order to succeed, EchoStar contends, TiVo had to accuse completely different components of its software and advance new infringement theories with regard to the modified software. According to EchoStar, the fact that TiVo was forced to contradict one of its positions at trial, and that the district court had to resort to expert testimony in order to resolve the new infringement theory both show that the changes were substantial.

TiVo responds by arguing that EchoStar's modifications are trivial. TiVo contends that the modified software comprises only a small fraction of EchoStar's DVR software. Moreover, TiVo contends, the modifications do not affect any element of the two asserted claims. TiVo also urges us to reject EchoStar's proposition that its modified software must be evaluated against the claims as adjudged by the previous jury instead of the claims construed by the district court. According to TiVo, removing infringing elements identified by it at the previous trial cannot ensure that EchoStar does

not infringe TiVo's patent, or even guarantee a new trial as long as those changes do not raise substantial open issues of infringement. TiVo contends that none of the modifications EchoStar made to its software presented the trial court with such open issues.

We review the district court's decision to proceed via a contempt hearing for abuse of discretion. KSM, 776 F.2d at 1532. We conclude that the district court did not abuse its discretion in finding that EchoStar's modified software raised no substantial open questions of infringement. As a threshold matter, we determine that the district court used the proper standard in its analysis. EchoStar argues that TiVo had to prove by clear and convincing evidence that a contempt proceeding was appropriate in this case. We agree instead with the district court that, although TiVo was required to put forth evidence that such a proceeding was appropriate, that question is left to the discretion of the trial court to be answered under the analysis mandated by our decision in KSM.

With regard to the 50X series receivers, the district court found that the modification made to remove indexing of start codes impacted only a single claim limitation, namely, "parses video and audio data from said broadcast data." The court found that the change did not render the infringing software more than colorably different because there was another feature of the software that continued to meet that limitation. The court noted that EchoStar's own experts had testified at trial that "PID filtering," a mechanism designed to distinguish between various television programs, satisfied that limitation. Moreover, the court noted, EchoStar's own engineers referred to PID filtering as "parsing," and EchoStar's own internal documents referred to the

modified software as “Indexless DVR and TS Parsing.” Given that EchoStar’s modification impacted only one limitation, one that it had already conceded was infringed by another software component, the court concluded that the adjudicated and modified products were not more than colorably different.

We agree with the district court that no substantial open questions of infringement remained to be resolved through a trial on this modification. The district court did not err when it looked to other components that EchoStar had itself conceded met the same limitation that was being claimed. In KSM, we stated that “the district court is able to utilize principles of claim and issue preclusion (res judicata) to determine what issues were settled by the original suit and what issues would have to be tried.” 776 F.2d at 1532. Here, there was ample testimony presented at trial regarding parsing of data in EchoStar’s receiver software and whether it satisfied the parsing limitation. Multiple experts for both TiVo and EchoStar had testified at trial that PID filtering was in fact “parsing.” EchoStar did not make any changes to its PID filter software components. In light of such evidence, it was not an abuse of discretion for the district court to conclude that EchoStar’s modification to its indexing software component had not rendered its 50X receivers more than colorably different from the adjudged infringing ones.

We also reject EchoStar’s and the dissent’s argument that the district court was required to limit its analysis to whether the modified devices had eliminated start-code detection and indexing. EchoStar argues that a contempt hearing is proper only when the redesigned devices are alleged to infringe in the exact same manner that has already been adjudicated to infringe. We disagree. The test for colorable differences is

not divorced from the scope of the claim that has previously been found to have been infringed. See Additive Controls & Measurement Sys., Inc. v. Flowdata, Inc., 154 F.3d 1345, 1350 (Fed. Cir. 1998) (evaluating only those changes that were relevant claim limitations). Modifications that EchoStar made to its software based on what it alone considered to be the basis of the jury's infringement finding cannot guarantee the creation of substantial open issues with respect to infringement. Where the court is clearly convinced, based on evidence presented at trial, that there are no substantial open issues on continuing infringement of the asserted claims, we see no reason to disallow summary proceedings. See KSM, 776 F.2d at 1532 (citing MAC Corp. of Am. v. Williams Patent Crusher & Pulverizer Co., 767 F.2d 882, 885-86 (Fed. Cir. 1985)) ("So long as the district court exercises its discretion to proceed or not to proceed by way of contempt proceedings within these general constraints, this court must defer to its judgment on this issue."); see also Additive Controls, 154 F.3d at 1350 (holding that within the general constraints stated in KSM, the district court has broad discretion to determine how best to enforce its injunctive decrees). EchoStar's proposed standard would make it almost impossible for a district court to employ a contempt proceeding to enjoin infringing products. Compelling the parties to undertake a new trial every time there is a dispute over previously adjudicated infringing products would fail to serve the goals of judicial economy. We disagree with the dissent that a new trial is necessary here for the parties to reargue an issue – the operation of the exact same PID filter – that has now been argued multiple times to the district court.

For the same reasons, we conclude that the district court did not err in finding only colorable differences between the adjudicated Broadcom receiver software and the

modified one. For its Broadcom receivers, EchoStar implemented a software change eliminating a record buffer in addition to the start code indexing modification discussed above. The district court found that the additional change affected only the automatic flow control claim limitation. The court found that both the modified and original products operate a circular transport buffer structure with ten buffers within the structure. The court concluded that in essence the buffer modification was nothing more than a change from eleven buffers to ten.

We agree with the district court that that was not a major redesign of the software. EchoStar seeks to magnify the significance of its buffer redesign by arguing that the modifications resulted in skewing of the infringement mapping asserted by TiVo at trial, thereby requiring TiVo to remap each claim limitation against different components of the software. That, EchoStar argues, mandates a new trial. However, EchoStar did not significantly change the manner in which data flows to the transport buffers, simply the manner in which it is written to the hard disk. The district court was familiar with the operation of the prior infringing software, and properly determined that EchoStar's change primarily impacted the manner in which automatic flow control was achieved. Moreover, we have made clear that the presence of a new issue does not necessarily preclude the district court from making use of a contempt proceeding to determine continued infringement. See Additive Controls, 154 F.3d at 1350 ("The presence of a new issue, however – even a new issue of claim construction – does not necessarily require that a separate infringement action be brought to determine whether the accused device infringes the patent in suit."). In Additive Controls, we upheld a district court's decision to proceed with contempt proceedings where the court had to

conduct claim construction prior to determining whether the variations were more than colorably different from the infringing products. Id. We held that the district court's determination (via a contempt proceeding) of infringement by the modified devices and based on its new claim construction was not an abuse of discretion. Id. We therefore conclude that the court did not abuse its discretion in finding that the Broadcom receiver software had not been altered significantly enough to raise substantial open issues of infringement.

Finally, we reject EchoStar's argument that evidence of its good faith suffices to protect it from any finding of contempt. EchoStar argues that it paid 15 engineers to spend 8000 hours on the redesign, which took a year. Similarly, it stresses the fact that it obtained an opinion of noninfringement from a respected patent law firm. It further contends that the redesign compromised performance in order to avoid infringement of TiVo's patent, giving it a product inferior to what it previously had. In light of this evidence, EchoStar argues, the district court was prohibited from utilizing a contempt hearing in this case.

We disagree and conclude that EchoStar misreads our law. Although we have acknowledged that good faith may be an indicator that redesigned products are more than colorably different, Arbek Mfg., Inc. v. Moazzam, 55 F.3d 1567, 1570 (Fed. Cir. 1995), we have also made it clear that a lack of intent alone cannot save an infringer from a finding of contempt. Additive Controls, 154 F.3d at 1353 ("The general rule in civil contempt is that a party need not intend to violate an injunction to be found in contempt."). It was clearly within the district court's discretion to give appropriate weight to EchoStar's good faith arguments, but not to accept them.

The district court has presided over this case for over five years. Given its familiarity with the parties, the patent at issue, and the infringing products, in addition to the well articulated reasoning for its decision, we do not find an abuse of discretion in the court's decision to hold contempt proceedings.

2. Infringement of the '389 Patent

EchoStar argues that because TiVo failed to prove by clear and convincing evidence that the redesigned devices infringe, it is not in contempt of the infringement provision of the injunction. With regard to the 50X series receivers, EchoStar argues that at the very least, the claim limitation "parses video and audio data from said broadcast data" is not met by its new software. It argues that the district court improperly found infringement based on the simple fact that the software includes a PID filter that parses some data. The filter, however, EchoStar argues, looks only at the header of a data packet, not the payload where the video and audio are contained. Therefore, EchoStar urges, its modified software does not parse any audio and video data.

TiVo responds that the district court has previously construed the term "parses" broadly to mean "analyzes," a construction that has never been challenged, and all that is required for the modified software to meet this limitation is a component that analyzes video and audio data. TiVo argues that EchoStar's attempt to differentiate header data from the packet payload is improper because both are part of an MPEG packet, and the whole packet is video and audio data. Moreover, TiVo argues that experts for both sides testified at trial that PID filtering meets the parsing limitation under the court's claim construction.

We review the district court's finding of continued infringement and other subsidiary factual findings made in a contempt proceeding for clear error. Additive Controls, 154 F.3d at 1351. We may reverse a finding of infringement only if we are left with a definite and firm conviction that a mistake has been committed by the trial court. Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1564 (Fed. Cir. 1991) (citations omitted).

We have no such conviction here. We agree with TiVo that there was overwhelming evidence before the district court to find that the "parses" limitation was met by the PID filter component. EchoStar's own expert, Dr. Rhyne, testified at trial that the infringing software contained PID filters "that examine the MPEG transport stream and do a parsing." At the contempt proceeding, Dr. Rhyne testified that the operation of PID filters in the modified software had not changed since trial. As TiVo points out, the PID codes in the packet headers are just as necessary to view television as the start codes in the packet payload. More importantly, there is nothing in the claims or the specification that requires audio and video data to be limited to specific fields of an audio or video data packet in the context of this limitation.

EchoStar argues that both parties have switched positions on this issue and therefore that judicial estoppel prevents TiVo, the prevailing party, from taking a position that is clearly inconsistent with its earlier position. We, like the district court, do not see TiVo's position on the PID filter component as being "clearly inconsistent" with the one that it took at trial. See New Hampshire v. Maine, 532 U.S. 742, 750 (2001) (holding that in order to invoke judicial estoppel, "a party's later position must be 'clearly inconsistent' with its earlier position"). EchoStar does not point to any statement

wherein TiVo unequivocally denied that a PID filter can accomplish audio and video parsing. On the contrary, TiVo points to several instances where it conceded the fact. For example, at the summary judgment stage, EchoStar's own counsel pointed out to the district court that TiVo's expert had agreed that PID filtering satisfies the parsing limitation. Moreover, TiVo's statements at trial regarding the PID filter were made in connection with EchoStar's infringement of the hardware claims. Those claims specifically required a "media switch," which parses an MPEG stream, separating it into its video and audio components. See '389 patent, cls. 1, 32. As we noted in our earlier opinion, the specification discloses in detail the parsing function that is claimed as part of the media switch. TiVo, 516 F.3d at 1301–02. TiVo's expert testimony at trial was clearly related to infringement of that media switch limitation of the asserted hardware claims. In pursuing contempt against EchoStar, TiVo takes the position that the operation of a PID filter in EchoStar's software meets the parsing limitation of the software claims. Although the general presumption is that the same claim term in the same patent carries the same construed meaning, Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1334 (Fed. Cir. 2003), here, the scope of the software claims is indeed very different from that of the hardware claims. We cannot agree with EchoStar that TiVo's current position on PID filtering is entirely inconsistent with its position at trial. See Sandisk Corp. v. Memorex Prods., Inc., 415 F.3d 1278, 1291 (Fed. Cir. 2005) (rejecting judicial estoppel arguments where the patentee's earlier claim construction position related to narrower term and the subsequent position was on a broader term). The district court properly found that the PID filter in EchoStar's modified software "parses video and audio data" as required by the software claims.

We now turn to the question of continued infringement by the Broadcom receiver software wherein EchoStar implemented an additional record buffer modification. Regarding the Broadcom software, EchoStar argues that the claims require that data move through a specific set of software components in a specific order, and neither TiVo nor the district court was able to map this flow within EchoStar's redesigned software. Specifically, EchoStar argues that following the removal of the record buffer and related operations, its software no longer met claim limitations that require extraction and conversion of data as well as filling of a buffer. Further, EchoStar argues, that with its new buffer design, the automatic flow control limitation is no longer met. Specifically, EchoStar contends that by eliminating the "blocking" function that had been alleged to provide automatic flow control, it completely removed this claim limitation from its software.

TiVo responds by arguing that EchoStar's software cannot escape infringement by the trivial change that it made. TiVo contends that all EchoStar did was to remove a copy buffer that was available as a programming convenience, allowing programmers to divorce themselves from the Broadcom driver code. TiVo contends that EchoStar's own engineers represented the modification as nothing more than the removal of an intermediate buffer. It points out that it provided detailed mapping of each claim limitation against components of EchoStar's modified software, complete with record citations and specific examples of code, showing how the software continues to infringe. Further, TiVo argues, its expert testified at the contempt hearing to infringement of each of the claim limitations at issue.

We are persuaded that the district did not clearly err in finding continued

infringement by the modified Broadcom receiver software. We reject EchoStar's primary argument that TiVo's new mapping of the modified software results in noninfringement. According to EchoStar, under the new mapping, the "Input Buffer" on the Broadcom chip is the "temporary storage," and the "transport buffer" in RAM is the "buffer." Therefore, EchoStar argues, its software no longer extracts, converts, or fills data as required by the claims, or at least not in the order required by the claims. For instance, EchoStar argues that in the redesigned receivers, the buffer is filled not by software but by hardware, namely, the Broadcom chip. We have previously rejected a similar distinction between the operation of hardware and software proposed by EchoStar. See *TiVo*, 516 F.3d at 1309 (finding EchoStar's hardware/software distinction unhelpful because software alone cannot perform data extraction from a physical device). The fact that the buffer is now filled by the Broadcom chip software does not render EchoStar's modified software noninfringing. TiVo provided expert testimony, along with exemplary code, on how the modified software satisfies each of these limitations. TiVo further produced infringement charts showing how each of these claim limitations continued to be met. Moreover, there was ample evidence presented at trial by both parties to analyze the workings of EchoStar's software. It was therefore not improper for the district court to summarily find that each of the limitations continued to be met in substantially the same manner as before. The court focused on the one limitation that was clearly impacted by the modification, the automatic flow control limitation. The court found that in spite of the redesign, several aspects of the software continued to satisfy that limitation. Before trial in this case, the district court had construed "automatically flow controlled" to mean "self-regulated." The court held that

such self-regulation is found in the ten buffers that the software uses in a circular arrangement, rotating between buffers as each of them begins to fill. As TiVo points out, the system ensures that under normal conditions the buffers are no more than 70% full. The court looked to pointers and descriptors used by the software to manage flow of data and concluded that those were all methods of self-regulation of data. The claims do not require, and the court did not construe the claims to require, that data flow be completely halted in order to achieve automatic flow control. We find that there was clear and convincing evidence that the automatic flow control limitation was met.

We also agree with TiVo that there is no inherent order required among the claim limitations, and none has been argued before. We therefore conclude that each of the claim limitations continues to be met by the modified Broadcom receiver software. We are persuaded that there was clear and convincing evidence before the district court to find that both types of EchoStar receivers continue to infringe and that it was not an abuse of discretion for the court to find EchoStar in contempt of the infringement provision.

B. Contempt of the Disablement Provision

EchoStar argues that the district could not find it in contempt of a provision that, when reasonably read, does not require it to do anything more than to change its DVR software component. EchoStar contends that it simply downloaded noninfringing software to the receivers that it had placed with consumers. EchoStar argues that the district court's injunction cannot be read to prohibit such noninfringing design-arounds. According to EchoStar, the plain language of the disablement provision contains two distinct directives. EchoStar explains that the first clause, requiring disablement of "the

DVR functionality," refers only to the functionality that previously existed and was found to be infringing. EchoStar argues that because its modified software had not yet been developed or installed in those receivers, the district court could not have ordered it to disable functionality that did not exist. EchoStar contends that the second clause, requiring EchoStar not to enable the same infringing DVR functionality in future products, confirms its understanding. EchoStar further argues that the district court, in ordering that it "disable all storage to and play back from a hard disk drive of television data," had to mean that EchoStar was required to disable all infringing storage and playback functionality. Therefore, EchoStar argues, the district court erred when it interpreted its injunction to require a permanent disablement of all DVR functionality in the specified EchoStar units.

TiVo responds that the district court was abundantly clear about what it meant by the disablement provision. According to TiVo, the order defines the term "DVR functionality" and specifically lists the eight EchoStar models to which it applies. Further, TiVo notes, the court emphasized what it meant by requiring disablement of "all storage to and playback from a hard disk of television data" in the enumerated EchoStar models. TiVo also contends that EchoStar had adequate notice of the meaning of the injunction because EchoStar had argued to the district court that it should be allowed to implement DVR functionality in the listed models in a noninfringing manner. In response, TiVo contends, TiVo had argued to the district court that all DVR functionality in all EchoStar units should be disabled. According to TiVo, the district court rejected EchoStar's argument and adopted TiVo's proposal for broader relief in order to prevent mischief on the part of EchoStar. TiVo argues that such broad injunctions have

previously been approved by this court. TiVo argues that in light of such clear notice, EchoStar simply assumed the risk of a future finding of contempt by deciding to proceed based on its own understanding of the order, without seeking further guidance from the district court or appealing the injunction to this court. Therefore, TiVo argues, EchoStar is barred from collaterally attacking the disablement provision now.

A district court's interpretation of the terms of an injunction or any other legal instrument is a question of law that we review *de novo*. See Laitram Corp. v. NEC Corp., 115 F.3d 947, 951 (Fed. Cir. 1997). Under the Federal Rules of Civil Procedure, “[e]very order granting an injunction . . . shall be specific in terms [and] shall describe in reasonable detail, and not by reference to the complaint or other document, the act or acts sought to be restrained.” Fed. R. Civ. P. 65(d). Rule 65(d) “was designed to prevent uncertainty and confusion on the part of those faced with injunctive orders, and to avoid the possible founding of a contempt citation on a decree too vague to be understood.” Abbott Labs. v. TorPharm, Inc., 503 F.3d 1372, 1382 (Fed. Cir. 2007) (quoting Schmidt v. Lessard, 414 U.S. 473, 476 (1974)). We have held that a district court cannot find a party in contempt of its injunction order where the party had no explicit notice that it was enjoined from specific conduct. Id. at 1383. However, it is also well established that where a district court has made clear its intent in barring certain conduct, a party is not free to ignore the court's order and only appeal a later contempt finding. See Carborundum Co. v. Molten Metal Equip. Innovations, Inc., 72 F.3d 872, 883 (Fed. Cir. 1995) (finding no abuse of discretion in a district court contempt finding where a defendant had failed to follow an injunction that the court had clarified during the proceedings). The time to appeal such an order is when it is handed

down, not when a party is later found to be in contempt. Other circuits have also held that the scope of an injunction may be challenged only on direct appeal. W. Water Mgmt., Inc. v. Brown, 40 F.3d 105, 108 (5th Cir. 1994); accord John Zink Co. v. Zink, 241 F.3d 1256, 1260 (10th Cir. 2001) (finding arguments related to interpretation of an injunction waived where the defendants had failed to raise them in their earlier appeal).

We conclude that the district court's injunction was sufficiently clear to bar EchoStar from challenging it now. The injunction expressly proscribes "the DVR functionality" and further clarifies what it means by the term. The order clearly defines the term "Infringing Products" prior to referring to it in the disablement provision. The order then goes on to restate that "[t]he DVR functionality, storage to and playback from a hard disk drive shall not be enabled in any new placements of the Infringing Products." EchoStar's argues that this second sentence, because it references new placements, requires that the term "DVR functionality" be read as referring only to infringing software.

We do not agree with the stretched reading of this provision that EchoStar proposes. See Signtech USA, Ltd. v. Vutek, Inc., 174 F.3d 1352, 1359 (Fed. Cir. 1999) (holding that where an injunction provides adequate notice of the conduct enjoined, the specificity requirement of Rule 65(d) is served). "All" plainly means all. At a minimum, EchoStar had notice of the possibility that the district court was imposing a complete ban on the DVR software of each of the listed receivers. As TiVo points out, at the time the district court issued its injunction, EchoStar's receiver hardware had been found to infringe the hardware claims as well, a finding that we later reversed. It would thus have been reasonable for one to read the injunction when it issued as barring any

implementation of software similar to the one found by the district court to be infringing in all of the hardware that was found to be infringing. We find it important to note that the district court did not order a complete disablement or recall of the infringing hardware. The DVR software is but one of many components of EchoStar's receiver software. The one piece of evidence that we do have of EchoStar's understanding of the disablement provision is its emergency motion for us to stay the injunction, in which EchoStar repeatedly stated that the injunction would render millions of its customers without DVR service or require them to go through considerable trouble and expense of obtaining DVR service from another provider. The motion, filed even as EchoStar was developing and preparing to roll out its workaround, in no way demonstrates EchoStar's contrary understanding of the disablement provision. As long as a plain reading of the order would have provided EchoStar with notice of what it is now being held in contempt, we cannot allow a collateral challenge to the order at this time. See Travelers Indem. Co. v. Bailey, 129 S. Ct. 2195, 2204 (2009) (barring a collateral challenge to an order, regardless of its merits, where the issue could have been raised on direct appeal).

EchoStar raised a variety of issues including claim construction, infringement, and various other trial rulings in its appeal from the district court's prior judgment. See TiVo, 516 F.3d 1290. EchoStar even moved us to stay the permanent injunction pending that appeal, and we granted a stay. EchoStar strongly protested the injunction, detailing the potential damage it would suffer from the injunction in its motion to stay. However, it failed to raise the issue on appeal. The fact that there were numerous other issues on appeal cannot excuse its failure to appeal the injunction. Had EchoStar

brought an appeal on the injunction, we could have addressed its legitimacy. The time to do so has long passed. “It is just as important that there should be a place to end as that there should be a place to begin litigation.” Travelers, 129 S. Ct. at 2206 (citations omitted). We thus agree with the district court that EchoStar waived any argument that the injunction was overbroad.

The dissent argues that it would be completely improper for the district court to find EchoStar in contempt of the disablement provision if the modified technology was outside the scope of the asserted claims. While it is true that infringement is generally essential for a violation of an injunction against infringement, KSM, 776 F.2d at 1528, it is also settled law that as long as EchoStar had explicit notice of what it had been ordered to do and had refused to do so, the court possessed broad equitable powers to enforce its decree. See Abbott, 503 F.3d at 1383; see also KSM, 776 F.2d at 1524 (“A civil contempt proceeding for violation of an injunction issued after patent litigation, while primarily for the benefit of the patent owner, nevertheless, involves also the concept of an affront to the court for failure to obey its order.”).

The dissent suggests that under the trial court’s interpretation of the disablement provision, in order to escape contempt, EchoStar was effectively required to go into each of its customers’ homes and physically replace each cable box containing any DVR functionality with an identical cable box with the same software. However, use of identical boxes with the same software would be in contempt of the court’s infringement provision. See Additive Controls, 154 F.3d at 1350, 1356 (affirming the district court’s contempt finding where the redesigned products were manufactured by a successor company and marketed under a different name). Regardless of its validity, which was

never before us, the district court’s disablement provision was clearly meant to prevent EchoStar from providing DVR functionality on its receivers.

In reading the disablement provision as applying only to infringing DVR software, the dissent relies on the fact that TiVo acknowledged to the district court that EchoStar could reprogram receiver software at its existing placements to disable the DVR component within those receivers via satellite. We find the manner in which the disablement could be accomplished irrelevant to the issue at hand. TiVo never conceded to the district court that EchoStar should be allowed to replace the infringing DVR software component (in its then-adjudged infringing hardware) with a potentially noninfringing software component either via satellite or otherwise. We find that EchoStar had ample notice of what it had been ordered to do. Further, by adding a separate provision on disablement and specifically defining what it meant by “DVR functionality” in its order, the district court made its expectations sufficiently clear, and more importantly fulfilled the requirements of Rule 65(d).

Finally, we address EchoStar’s request that we vacate the district court’s recent amendment to its injunction requiring EchoStar to inform the court of any further redesign attempts and to seek preclearance before implementing a design-around. We deny that request.

Pursuant to 35 U.S.C. § 283, district courts are authorized to “grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.” We have repeatedly stated that district courts are in the best position to fashion an injunction tailored to prevent or remedy infringement. See Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 777 (Fed. Cir.

1993). Although we have discouraged judicial restraint of noninfringing activities, Johns Hopkins Univ. v. CellPro, Inc., 152 F.3d 1342, 1367 (Fed. Cir. 1998), we have also held that broad injunctions that preempt future design-arounds may be used in exceptional cases where the district court reasonably concludes that such measures are necessary to compel compliance with the court's orders. See Additive Controls, 154 F.3d at 1356. Where an infringer refuses to acknowledge a judicial finding of infringement and obey an injunction barring future infringement, the district court has broad discretion in enforcing its orders.

Having presided over this case for many years, the district court was in a unique position to evaluate the likelihood that EchoStar would continue to infringe TiVo's patent. Id. (emphasizing that the "district court's familiarity with the proceedings" justified upholding an injunction requiring pre-approval of "any activities with respect to" infringing devices); Spindelfabrik Suessen-Schurr Stahlecker & Grill v. Schubert & Salzer, 903 F.2d 1568, 1577 (Fed. Cir. 1990) (explaining that repeated and blatant violations of the district court's earlier injunction fully justified broad provisions requiring court approval before implementing design around efforts). Given EchoStar's refusal to disable the DVR functionality in its existing devices and the fact that its original attempts to design around TiVo's patent were wholly unsuccessful, the district court had ample justification for its determination that court pre-approval of any new design-around effort was necessary to prevent future infringing activity. We see no reason to set this determination aside.

## CONCLUSION

We have considered the EchoStar's remaining arguments and do not find them

persuasive. Accordingly, the judgment of the district court is

AFFIRMED

# United States Court of Appeals for the Federal Circuit

2009-1374

TIVO, INC.,

Plaintiff-Appellee,

v.

ECHOSTAR CORPORATION,  
ECHOSTAR DBS CORPORATION,  
ECHOSTAR TECHNOLOGIES CORPORATION,  
ECHOSPHERE LIMITED LIABILITY COMPANY,  
ECHOSTAR SATELLITE LLC,  
and DISH NETWORK CORPORATION,

Defendants-Appellants.

Appeal from the United States District Court for the Eastern District of Texas in case no. 2:04-CV-01, Chief Judge David Folsom.

RADER, Circuit Judge, dissenting.

I.

“Contempt . . . is not a sword for wounding a former infringer who has made a good-faith effort to modify a previously adjudged or admitted infringing device to remain in the marketplace. Rather, the modifying party generally deserves the opportunity to litigate the infringement question at a new trial, ‘particularly if expert and other testimony subject to cross-examination would be helpful or necessary.’” Arbek Mfg. Inc., v. Moazzam, 55 F.3d 1567, 1570 (Fed. Cir. 1995) (quoting KSM Fastening Sys., Inc. v. H.A. Jones Co., 776 F.2d 1522, 1531 (Fed. Cir. 1985)). Citing a broad injunctive provision and a substantially-altered accused design, this court today punishes a good faith design-around effort.

A full examination of the disputed claim shows little similarity between the former infringement proceedings and the issues now before this court. The accused structures are different. The theories of infringement are different. The pertinent claim constructions apply in ways that are different. The parties' positions have flip-flopped. The modified method operates in a significantly different way from the old. Indeed, the only thing that is not different is the identity of the parties themselves. These differences deserve a trial, not a summary contempt proceeding.

## II.

"Even if Echostar had achieved a non-infringing design around, this Court would still find that Echostar is in contempt of this Court's permanent injunction." Those words come directly from the district court's contempt order. In other words, even assuming the modified technology falls outside the asserted claims, Echostar would still be in contempt. How can that be correct?

Under its strained interpretation of its earlier injunction, the district court effectively required Echostar to go into each of its customers' homes and physically remove each cable box containing any DVR functionality — infringing or not! The trial court required this course of action even in the face of both parties' recognition that a satellite link could more easily remove or replace the "infringing" technology. In other words, if Echostar would enter each home and replace each of its cable boxes with identical cable boxes uploaded with the same software, it would escape contempt. These absurdities spring from the "disablement provision:"

Defendants are hereby FURTHER ORDERED to, within thirty (30) days of the issuance of this order, disable the DVR functionality (i.e., disable all storage to and playback from a hard disk drive of television data) in all but

192,708 units of the Infringing Products that have been placed with an end user or subscriber. The DVR functionality, i.e., disable all storage to and playback from a hard disk drive of television data) [sic] shall not be enabled in any new placements of the Infringing Products.

While this court manages to find a way to refashion the intent and purpose of the disablement provision, no reasonable patent attorney would read it as this court does. The district court's injunction applied only to infringing products. The court did not refer to any modified product or any other "DVR functionality" for that matter. Yet, the injunction today applies to any DVR functionality regardless of infringement.

Neither Tivo nor this court cite to any case supporting such a broad injunction. In fact, this court's case law directs otherwise: "If a trial court is faced with an overly broad injunction during a contempt proceeding, the court should interpret it according to the rule of law quoted from KSM," which prohibits only "infringement of the patent by the devices adjudged to infringe and infringement by devices no more than colorably different therefrom." Int'l Rectifier Corp. v. IXYS Corp., 383 F.3d 1312, 1316 (Fed. Cir. 2004). This court only gives that rule lip service.

The reason for this rule is clear: "[T]hose against whom an injunction is issued should receive fair and precisely drawn notice of what the injunction actually prohibits." Granny Goose Foods, Inc. v. Bhd. of Teamsters, 415 U.S. 423, 444 (1974). This premise has "led courts to construe injunctions narrowly where they failed to give adequate notice that particular conduct was enjoined." Abbott Labs. v. TorPharm, Inc., 503 F.3d 1372, 1382 (Fed. Cir. 2007). Because no reasonable patent attorney would have read the disablement provision to cover what is now enjoined, this court's decision sounds rather hollow in referring to Echostar's failure to appeal. In the end, Echostar

should rely on the most reasonable interpretation of the disablement provision and avoid unnecessary appeals. If the district court wished to enjoin the broad conduct it now claims it did, it should have done so with a few simple words and given clear notice of its expectations. Instead, it provides an artificial, after-the-fact justification for its contempt finding.

In the proceedings leading up to the injunction, Tivo used broad language to request an injunction that it characterized as “narrow.” In defending the very language ultimately adopted by the district court, Tivo stated that it was only seeking to enjoin “infringement of the patent by the devices adjudged to infringe and infringement by devices no more than colorably different therefrom” — “nothing more, nothing less.” The record belies these representations.

For starters, this court and Tivo draw a dichotomy between hardware and software claims. At the time of the injunction, neither party nor the district court offered such a distinction. To the contrary, the only distinction tendered by Tivo was between “new placements” and “existing placements.” New placements referred to cable boxes sitting on the shelves of retailers and distributors awaiting distribution to customers. Existing placements referred to cable boxes already installed in customers’ homes. As to the former category, Tivo requested that Echostar “be ordered to recall and retrieve from its distributors and retailers the infringing DVR products that have not yet entered the stream of commerce or are in the possession of the distributors and retailers.” That is, for this limited category of products, Tivo requested the exact proscription it now seeks to apply to all of Echostar’s products. Echostar encouraged the trial court to “enjoin only the provision of infringing DVR software to those boxes upon activation.”

The district court ultimately sided with Tivo:

Defendants are hereby FURTHER ORDERED immediately to recall and retrieve from their distributors and retailers the Infringing Products that have not yet entered the stream of commerce or are still in the possession of Defendants' distributors and retailers.

The existing placements, however, were a different story. As to that category of products, Tivo admitted that Echostar could avoid infringement and the scope of the putative injunction by merely reprogramming and disabling the DVR functionality in question. Tivo made the following admission:

Echostar can reprogram and disable the infringing DVR functionality in all existing DVR units by updating their software via satellite transmission. . . .  
Echostar has used this method of updating software routinely.

These statements appear directly below the heading “Existing placements” in Tivo’s brief supporting an injunction submitted after the jury returned a verdict of infringement on both hardware and software claims. Yet surprisingly, this court now claims that Echostar was on notice of the broad reach of its injunction. Again, Tivo expressly acknowledged that the infringing technology could be removed and replaced via satellite. Tivo now disingenuously contends that its intention during all stages of the proceedings was to force Echostar to physically remove all of its products containing the infringing software. Given Tivo’s clear bait-and-switch ploy, this court should have recognized and forbid this game.

### III.

Turning to the “infringement provision,” contempt proceedings are not the appropriate forum to resolve the infringement issues on the “parses video and audio data” limitation. Echostar’s modified design seems far “more than colorably different”

such that “substantial open issues with respect to infringement” remain. KSM, 776 F.2d at 1530. In the original trial, Tivo identified Echostar’s “video frame start-code detection” as infringing the limitation. That “start code” technology parses the digital video and audio data before storing to memory so that the user can later conveniently reference the individual frames when fast forwarding or rewinding through the data. According to Tivo’s expert, the technology was necessary to produce a viable DVR.

In its redesign efforts, Echostar eliminated its video frame start-code detection in its entirety. Rather than parsing through all the video and audio data before storing onto the system, the modified design, upon request from the user, statistically estimates where a given frame might appear long after storage of the video and audio data. This change was a critical component of a vast redesign effort by fifteen engineers working full time for over 800 total hours. Before proceeding, Echostar got two separate approvals of this change from an independent law firm.

Because of the substantial change to the design, Tivo abandons its infringement theory premised on the start-code feature. Instead, Tivo focuses on an entirely different structure in the modified device — the PID filter. The PID filter had been part of the prior design but was never accused of infringement. Every channel broadcasted over Echostar’s system carries a particular set of numbers known as the PID number. Broadcast data breaks into two discrete components: header information and payload. The header information contains the PID number. The payload contains the actual video and audio data for the particular channel. Before passing through the PID filter, the payload information is scrambled to avoid piracy. When a user turns the cable box to a particular channel, the PID filter receives a message to pass the payload

information under that number to the user.

The problem with Tivo's new theory is simple: it had previously disclaimed the PID filter as an infringing structure. Actually Tivo deliberately disclaimed it to avoid prior art during the infringement trial. When asked directly by Tivo's counsel about the PID filter, Tivo's expert admitted:

And so inside the receiver card, the input section, yes, there is a little bit of what you might call separation in order to perform this translation, a little bit of what you might call even a type of parsing in order to pick out the correct packets and turn them and convert them into the MPEG-I.

But just because these are words you use to describe this conversion process, you shouldn't confuse that with the claim terms. And when you're done with the input section, it's afterwards that comes the part of the claim that talks about the media switch that parses and separates.

For its part, Echostar argued that the PID filter did "parse video and audio data." Tivo's arguments won at trial. Now the parties have directly switched positions. Tivo finds infringement in the PID filter; Echostar finds no application of the claimed elements.

A "modifying party generally deserves the opportunity to litigate the infringement question at a new trial, 'particularly if expert and other testimony subject to cross-examination would be helpful or necessary.'" Arbek, 55 F.3d at 1570 (quoting KSM, 776 F.2d at 1530). At the contempt proceedings, both parties proffered conflicting expert testimony. Echostar's expert highlighted that the PID filter did not even look to the "video and audio" data because its role was restricted to passing only header information. Indeed, at the point and time when the PID entered the broadcast chain, the payload — i.e., the audio and video data — was necessarily scrambled for security. In other words, the PID filter could not reference the audio and video data even if it

wanted to. And, of course, Tivo had previously renounced the PID filter as an infringing structure.

This record cannot support this contempt conclusion. The very structure which provided the basis for Tivo's infringement theory was eliminated by Echostar in its modified design. This redesign, at a minimum, shows Echostar's substantial good faith efforts to comply. As noted, the new accused structure is and has always been a part of Echostar's design. Moreover, it has not changed its function in the slightest.

Still, ignoring these problems, Tivo's expert in the contempt proceedings relied on the district court's substitution of "analyzes" for the term "parses." Tivo also stressed that Echostar engineers used the term "parsing" in conjunction with the PID filter. Loose language, particularly in reference to features ruled out as infringing technology earlier, should not provide the basis for contempt. Rather, "[i]n litigated cases, the injunction must be interpreted in light of the rulings of the court on the scope of the claims. The patent owner may not, in contempt proceedings, seek to broaden the scope of the claims which were adjudicated and, thereby, catch the modified device." KSM, 776 F.2d at 1529; see also Cal. Artificial Stone Paving Co. v. Molitor, 113 U.S. 609, 618 (1885) ("Process of contempt is a severe remedy, and should not be resorted to where there is fair ground of doubt as to the wrongfulness of the defendant's conduct.") (emphasis added).

As with the disablement provision, this court again relies on a distinction between hardware and software claims to vitiate Tivo's previous disclaimer of the PID filter. To my eyes, this distinction deserves no credibility on this record. Tivo only presented one theory of infringement to the jury. That theory did not depend on any distinction

between hardware or software claims. To the contrary, Tivo's theory spoke to all terms across all asserted claims. Tivo's expert admitted during the contempt proceedings:

Q. Now back before the original trial, Dr. Storer, your opinion was that parsing meant the same thing in claim 1 and claim 31 and 61, right?

A. I took parsing to be analyze as the court construction, and took it to mean the same thing, absolutely.

Q. In all the claims?

A. In all the claims.

Tivo simply provided no evidence for a reasonable jury to make any infringement finding limited to either the hardware or software claims. Nor were Echostar's statements about the PID filter limited to either software or hardware claims. Both types of claims stood and fell together.

At trial, the jury returned a verdict of infringement based on the record. That record is entirely different from the theories, evidence, and positions in the contempt proceeding. Tivo should not be able to bootstrap its new, previously abandoned infringement theory to that verdict. If Tivo believes that Echostar's new design still infringes its patent, it should file a new infringement suit, not attempt to short circuit a full proceeding. In its current form, this decision discourages good faith efforts to design around an infringement verdict.