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## United States Court of Appeals for the Federal Circuit

05-1351,-1352

PHILIPS ELECTRONICS NORTH AMERICA CORPORATION  
and U.S. PHILIPS CORPORATION,

Plaintiffs-Cross Appellants,

v.

CONTEC CORPORATION, SEOBY ELECTRONICS CO., LTD.,  
REMOTE SOLUTION, CO., LTD. (formerly known as Hango Electronics Co., Ltd.),  
and HANGO REMOTE SOLUTION, INC.,

Defendants,

and

COMPO MICRO TECH, INC.,

Defendant-Appellant.

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DECIDED: April 18, 2006

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Before MICHEL, Chief Judge, FRIEDMAN, Senior Circuit Judge, and GAJARSA, Circuit Judge.

MICHEL, Chief Judge.

Compo Micro Tech, Inc. ("CMT") appeals from the district court's orders (1) construing the phrase "signal structure identification data;" (2) granting summary judgment of infringement of United States Patent No. 4,703,359, which was conceded

based on the aforementioned construction; (3) denying summary judgment on invalidity as to both patents-in-suit; and (4) denying judgment as a matter of law as to invalidity and damages. Philips Electronics North America Corporation and U.S. Philips Corporation (collectively “Philips”) cross-appeal, challenging the district court’s constructions of the phrases “entry initiate signal” and “an entry initiate key” as well as its resulting grant of summary judgment of non-infringement of United States Patent No. 5,872,562. As described in further detail below, because we agree with the claim constructions of all three disputed phrases, we affirm the grants of summary judgment of infringement of the ’359 patent and non-infringement of the ’562 patent. We further hold that the district court properly denied CMT’s motions for summary judgment and judgment as a matter of law. We thus affirm the final judgment as to infringement and damages.

## I. BACKGROUND

Both patents-in-suit are directed to universal remote controls (“URCs”), which allow consumers to program a single remote control to operate a variety of appliances sold by different manufacturers, particularly home entertainment devices – i.e., TVs, VCRs and DVD players. On February 12, 2002, Philips filed a complaint alleging patent infringement against Contec Corporation (“Contec”) in the United States District Court for the District of Delaware. The accused products can be programmed using both the “scan” method and the “code entry” method, as described in the operating instructions and on the back of the URC itself. In September 2002, Philips amended its complaint, joining Contec’s suppliers: CMT, Seoby Electronics (“Seoby”) as well as Hango Remote Solution, Inc. and Remote Solution, Ltd. (collectively “Hango”). Philips settled

with Contec and Seoby; a consent judgment was entered against those defendants on August 28, 2003. The case against Hango was severed for a separate trial. This appeal concerns only the case against CMT.

The '359 patent discloses a "scan" method (and apparatus) whereby the URC is preprogrammed with the infrared signal patterns corresponding to many different appliances and learns the correct infrared signal pattern for controlling a particular appliance by sequentially attempting each format until that appliance responds appropriately. The '562 patent, on the other hand, discloses a "code entry" method (and apparatus) that requires the user to manually enter a code corresponding to the correct infrared signal pattern for each appliance to be used with the URC.

For reasons not relevant to this appeal, only method claims of the '359 patent were asserted. Independent Claim 1 reads as follows, with the disputed phrase underlined for emphasis:

1. Method for adapting a remote control unit to generate appliance command signals having a required signal structure for controlling a selected one of a plurality of appliances of different categories and different manufacturers, each appliance being responsive to a different signal structure, comprising the steps of:

generating a selected category signal signifying the category of said selected one of said plurality of appliance under user control;

setting said selected appliance to execute a predetermined action upon receipt of a response-evoking signal having said required signal structure;

transmitting in sequence a plurality of response command signals each commanding said predetermined action in a different signal structure until said selected appliance executes said predetermined action, whereby the last-transmitted one of said response command signals

constitutes said response-evoking signal having said required signal structure;

storing signal structure identification data corresponding to said required signal structure of said response-evoking signal, thereby creating stored signal structure identification data; and

generating subsequent appliance command signals at least in part under control of said selected category signal and said stored signal structure identification data.

All claims of the '562 patent were asserted. As to the apparatus claims, independent

Claim 1 is representative. It requires, in relevant part:

keyboard means having a plurality of keys for providing respective keyboard output signals upon user activation of respective one of said keys, said plurality of keys including a predetermined group of keys each representing a different one of said different categories of devices, each of said memory addresses corresponding to at least one of said keyboard output signals, said keyboard output signals further comprising an entry initiate signal;

As to the method claims, Claim 9 is representative and reads as follows:

9. Method for generating device control signals remotely controlling a plurality of devices each belonging to a respective category of devices, at least two of said devices being of the same category of devices, and at least two being of different categories of devices, two of said devices of the same or different categories requiring a different signal format, in a remote control transmitter having said signal formats permanently stored at respective memory addresses, said remote control transmitter further having a keyboard having a plurality of keys, said plurality of keys including a predetermined group of keys each corresponding to one of said different categories of devices, comprising the steps of

user activation of one key in said predetermined group of keys;

user activation of an entry initiate key;

user activation of at least one address key, after said entry initiate key, said address key signifying the memory address storing specific device formatting data for said selected one

of said plurality of devices, thereby reading out said specific device formatting data; and

transmitting device control signals in accordance with said device formatting data to a selected category of devices and said selected one of said plurality of devices in said selected category.

A technology tutorial, Markman hearing and cross-motions for summary judgment were all heard by Judge Kent A. Jordan on November 25, 2003. During the hearing, both sides agreed that, with respect to the '359 patent, if the court adopted the claim construction proffered by the other side, summary judgment of infringement would be appropriate.<sup>1</sup>

On March 29, 2004, the district court issued a Markman order, construing (1) "signal structure identification data" to mean "information (data) that identifies a signal structure;" (2) "entry initiate signal" to mean "the keyboard output signal generated by the entry initiate key;" and (3) "an entry initiate key" to mean "one entry initiate key." On April 5, 2004, the district court issued an order granting Philips' motion for summary judgment of infringement (and denying CMT's cross-motion for summary

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<sup>1</sup> Counsel for Philips framed it this way: "So if the Court construes it in Philips' favor, the defendants have proffered no reason why summary judgment on infringement should not be granted. And vice versa. If the Court construes the term to mean what Compo Micro Tech proposes, then Philips could concede that summary judgment on the '359 patent is required. So I don't think with respect to infringement on the '359 there is any issue between the parties." See Joint Appendix 3272.

Counsel for CMT agreed: "I concede that if Your Honor construed it so broadly to mean any stored product identification data, as they would submit, of any kind, then we would fall within and must fall within the construction and we would be liable for infringement." Id.

The district court confirmed that CMT stipulated that the claim construction was case-dispositive: "The important point for me to know at this junction is, it's not disputed that at the end of the day, at least in this Court, if it is determined Philips is right, summary judgment of infringement for Philips is in order." To this, counsel for CMT unequivocally responded: "If your Honor adopts their construction as they have proffered it to the Court, yes, Your Honor." JA 3274.

judgment of non-infringement) on Claims 1, 3 and 4 of the '359 patent. It emphasized that "signal structure identification data" had been the only disputed term in the '359 patent. Because Philips' proposed construction was adopted and CMT had conceded at oral argument that, under that construction, the accused products literally infringed, summary judgment was appropriate. In the same order, the district court also granted CMT's motion for summary judgment of non-infringement of the '562 patent. It noted that in the accused URCs, a user must press two keys, (i.e., both a category key and some other, non-category key), simultaneously in order to initiate the programming sequence. Because "an entry initiate key" had been construed to mean only one entry initiate key, the '562 patent was not literally infringed. The district court further held that Philips was precluded from asserting the doctrine of equivalents due to prosecution history estoppel, as Claim 1 had been amended from "user activation of respective ones of said keys" to "one of said keys."

In a separate order, also issued on April 5, 2004, the district court denied CMT's motion for summary judgment of invalidity. With respect to the '359 patent, the motion was denied because there remained "genuine issues of material fact, due to competing expert opinions," as to whether Claims 1, 3 and 4 were anticipated by a particular Japanese reference. Summary judgment on obviousness was also inappropriate because CMT had not "undertaken the analysis, required by Graham, to support its argument that claims 3 and 4 are obvious in light of the cited prior art references." As for the '562 patent, there remained issues of material fact as to (1) whether a remote control device called "CORE" and its accompanying reference manual constituted invalidating prior art; (2) whether the two other remote controls (the UR1 and UR2) were

adequately disclosed to the PTO; and (3) whether the examiner considered the '359 patent during prosecution of the '562 patent.

A jury trial commenced on April 12, 2004. During the charging conference, the parties disagreed on the jury instruction concerning damages, with CMT suggesting an additional sentence. Ultimately, however, the district court declined to deviate from the standard jury instruction. On April 19, 2004, the jury returned its verdicts, finding (1) the '359 patent was not proven invalid as anticipated or obvious; (2) where the parties had agreed to the number of units sold, \$1.00/unit was a reasonable royalty; and (3) CMT's infringement was not willful. On July 26, 2004, judgment was entered accordingly. CMT was required to pay a reasonable royalty of \$5,793,879 on sales made from September 17, 2002 through December 31, 2003 as well as \$183,923 in pre-judgment interest.

CMT moved for judgment as a matter of law pursuant to FRCP 50(a) at the close of plaintiffs' case and again at the close of all the evidence, but these motions were denied without prejudice. On August 9, 2004, CMT renewed its motion for judgment as a matter of law pursuant to FRCP 50(b), arguing that (1) the jury's finding that the '359 patent was not invalid was not supported by substantial evidence and (2) Philips was not entitled to recover damages because it had not proven that consumers used the accused URCs in an infringing way – i.e., programming with the “scan” method rather than the “code entry” method. This motion was denied on March 8, 2005.

CMT's appeal and Philips' cross-appeal were both filed on April 6, 2005. We have jurisdiction pursuant to 28 U.S.C. 1295(a)(1).

## II. DISCUSSION

### A. Infringement

In this action, the questions of infringement turned entirely on the claim constructions adopted by the district court. Claim construction is a question of law reviewed *de novo*. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454-56 (Fed. Cir. 1998) (en banc). We determine the customary meaning of claim terms as understood by a person of ordinary skill in the art, using the methodology first set forth in Vitronics Corp v. Conceptronics, Inc., 90 F.3d 1576, 1582-83 (Fed. Cir. 1996), and reaffirmed in Phillips v. AWH Corp., 415 F.3d 1303, 1312-19 (Fed. Cir. 2005).

#### 1. The '359 patent

With respect to the phrase “signal structure identification data,” the district court noted that the parties did not dispute that “signal structure” was defined in the specification to mean “infrared signals having particular characteristics that the appliance understands, such as frequency, pulse width, and bit timing.” It thus focused the inquiry on the claim terms “identification” and “data,” adopting their ordinary meanings as proffered by Philips. The phrase was construed to mean “information (data) that identifies a signal structure.”

CMT argues that the district court erred in failing to adopt its own proposed construction, i.e., “information (data) that constitutes part of an address used to address one table in a multiplicity of product code tables.” It makes three arguments on this issue. First, it argues that the specification uses this phrase only in describing the particularly preferred embodiment, wherein it is made clear that “the stored signal structure identification data constitutes part of an address, the remainder of the address

being provided by user selection of the category to which the appliance belongs. . . [which] is used to address one table in a multiplicity of product code tables.” ’359 Patent col. 2, ll. 35-41. Second, it points out that during prosecution, the claim was amended from “storing signal structure identification data corresponding to said required signal structure of said response-evoking signal, thereby creating stored product identification data” to “thereby creating stored signal structure identification data.” Third, CMT stresses that the claim language itself requires “generating subsequent appliance command signals at least in part under control of said selected category signal and said stored signal structure identification data,” which suggests that the latter is only part of an address used to look up product codes.

We agree with the district court that the phrase “signal structure identification data” is entitled to its plain and ordinary meaning. The district court correctly rejected CMT’s invitation to read into the phrase a limitation from the preferred embodiment. See Electro Med. Sys., S.A. v. Cooper Life Sciences, 34 F.3d 1048, 1054 (Fed. Cir. 1994). It also accepted, as do we, Philips’ explanation that the claim amendment was only made to maintain consistency, as the final phrase of Claim 1 refers to “said stored signal structure identification data,” which otherwise does not appear earlier in the claim.

We review a district court’s grant of summary judgment de novo. IPXL Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377, 1380 (Fed. Cir. 2005). Here, because CMT stipulated that the accused products would literally infringe the ’359 patent under the definition of “signal structure identification data” proffered by Philips and adopted by the district court, we must affirm the summary judgment of infringement.

## 2. The '562 patent

As for the phrases “an entry initiate key” and “entry initiate signal,” the district court acknowledged that an indefinite article normally means “one or more” in open-ended claims, but found sufficient evidence in the specification of the '562 patent and the prosecution history to limit “an” to the singular. We agree that “a” or “an” normally carries the meaning of “one or more” in claims containing the transitional phrase “comprising.” KJC Corp. v. Kinetic Concepts, Inc., 223 F.3d 1351, 1356 (Fed. Cir. 2000). Here, however, the patentee clearly intended the use of only one entry initiate key.

Looking first to the language of Claim 9 itself, the phrase “user activation of an entry initiate key” is immediately followed by a reference to “said entry initiate key,” which reinforces the singular meaning. See Abtox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023-24 (Fed. Cir. 1997). Likewise, Claim 1 refers to a “keyboard means having a plurality of keys for providing respective keyboard output signals upon user activation of respective one of said keys . . . said keyboard output signals further comprising an entry initiate signal.” The patent thus contemplates pressing only one key at a time to provide keyboard output signals, including the entry initiate signal. Significantly, during prosecution, the claim language was amended from “ones of said keys” to “one of said keys,” a disclaimer of the plural.

The specification further confirms that the patented invention only uses one entry initiate key. In describing how a particular embodiment could incorporate the inventions described by the '359 patent as well as the '562 patent, the specification states that pressing more than one key simultaneously would initiate a routine “which is irrelevant

to an understanding of the present invention,” i.e., the “learn” or “scan” method which is described in the ’359 patent. ’562 Patent, col. 5, ll. 7-21.

In any case, if the number of keys pressed exceeds one, the routine is not part of the present invention and will not be described in detail herein.

If the number of keys pressed is equal to one, the microprocessor first tests whether this is the record key. If the user has pressed the record key (herein also referred to as the enter initiate key), he has taken the initial step for implementing the present invention, i.e., for entering the necessary data for identifying a particular manufacturer and model number directly on the keyboard.

Id. at col. 5, ll. 21-31 (emphasis added). We thus agree with the district court that “an entry initiate key” means “one entry initiate key” and “entry initiate signal” means “the keyboard output signal generated by the entry initiate key.”

Because it is undisputed that the accused device required a user to press two keys simultaneously to initiate the code entry programming sequence, a routine that was expressly disclaimed by the ’562 patent, we must affirm the summary judgment of non-infringement.

## **B. Invalidity**

Unlike a grant of summary judgment, the denial of summary judgment “is not properly reviewable on an appeal from the final judgment entered after trial” to the extent it merely indicates that there are factual disputes to be tried.<sup>2</sup> Glaros v. H.H. Robertson Co., 797 F.2d 1564, 1573 (Fed. Cir. 1986). Here, the denial of summary judgment as to invalidity rested squarely on genuine issues of material fact. Since there was subsequently a jury trial, we cannot review this decision.

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<sup>2</sup> In contrast, “[a] denial of a motion for summary judgment may be appealed, even after a final judgment at trial, if the motion involved a purely legal question and the factual disputes resolved at trial do not affect the resolution of that legal question.” United Techs. Corp. v. Chromalloy Gas Turbine Corp., 189 F.3d 1338, 1344 (Fed. Cir. 1999).

As for the denial of judgment as a matter of law after the trial, we review that decision by reapplying the same standard used below. In other words, the jury's verdict can only be overturned if the "factual findings were not supported by substantial evidence or . . . the facts were not sufficient to support the conclusions necessarily drawn by the jury on the way to its verdict." Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1357-58 (Fed. Cir. 1999). The district court found that the jury was entitled to accept the testimony of either expert as more credible than that of the other and declined to disturb its findings that CMT had failed to meet its burden of proving anticipation or obviousness by clear and convincing evidence. We agree that substantial evidence, i.e., the testimony of Philips' expert, supports the jury's findings and affirm the final judgment as to the invalidity issues. We also conclude that just as the jury was legally entitled to believe that expert, his testimony was sufficient to defeat the evidence of invalidity.

### **C. Damages**

With respect to damages, CMT contended that the jury verdict could not be sustained because Philips had presented no evidence on the number of URCs actually used in an infringing manner. The district court denied judgment as a matter of law, finding that CMT had "waived its opportunity to raise those arguments" because it did not include them in the final pretrial order. On procedural issues, we apply the standard of review of the regional circuit. Sulzer Textil A.G. v. Picanol N. V., 358 F.3d 1356, 1363 (Fed. Cir. 2004). In the Third Circuit, whether to permit a change in the pretrial order is within the discretion of the trial judge. "Appellate interference with this

discretion should be kept at a minimum. It should only be exercised where there is a clear abuse of discretion.” Ely v. Reading Co., 424 F.2d 758, 763-64 (3d Cir. 1970).

CMT has demonstrated no such abuse of discretion. Both parties set forth their respective theories on damages in the Joint Pretrial Order, wherein they agreed that the issue at trial was what a reasonable royalty rate was. CMT’s own experts had prepared reports calculating damages as a percentage of net sales. In short, the district court acted within its discretion in rejecting CMT’s last-minute attempt to deviate from what it had previously argued. We thus affirm the final judgment as to the damages awarded by the jury.

To the extent that CMT is also challenging the district court’s refusal to give its proposed jury instruction limiting damages to the number of products actually used in an infringing manner by consumers, we find no reversible error. CMT argues that damages for indirect infringement must be tied to identified instances of direct infringement, citing Dynacore v. U.S. Philips Corp., 363 F.3d 1263, 1274 (Fed. Cir. 2004). CMT misreads this opinion. It is true that “[p]laintiffs who identify individual acts of direct infringement must restrict their theories of vicarious liability – and tie their claims for damages or injunctive relief – to the identified act.” Id. Yet, the very next sentence recognizes that plaintiffs, like Philips, “who identify an entire category of infringers (e.g., the defendant’s customers) may cast their theories of vicarious liability more broadly, and may consequently seek damages or injunctions across the entire category.” Id.

Here, Philips argued that the reasonable royalty reached in a hypothetical negotiation between the parties would have been based on the agreed upon number of

total sales rather than usage by individual customers, since the latter would have been difficult to predict. There was substantial evidence in the record, including expert testimony and Philips' license agreement with Sony Corporation, to support the jury's calculation of damages in this way. In any event, it could be inferred that the jurors did account for CMT's contention that not all the units sold were used in an infringing manner, since they considered \$1 per unit to be a reasonable royalty despite the testimony of Philips' expert that the reasonable royalty would have been much higher – i.e., \$2 per unit to license both patents-in-suit or \$1.50 per unit to license only one of the patents. Although it is true that no survey evidence or expert testimony was presented as to the percentage of units sold that were actually used in an infringing manner, the jurors could have relied on their own personal experiences with URCs and common sense in discounting the royalty rate.

### **III. CONCLUSION**

For the foregoing reasons, we affirm the district court's judgment in all respects.