No. 2014-1732

United States Court of Appeals for the Federal Circuit

CONVOLVE, INC.,

Plaintiff-Appellant,

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, THE,

Plaintiff

v.

COMPAQ COMPUTER CORP.,

Defendant-Appellee,

SEAGATE TECHNOLOGY, INC.,

Defendant,

SEAGATE TECHNOLOGY, LLC,

Defendant-Appellee.

Appeal from the United States District Court for the Southern District of New York in Case No. 1:00-CV-5141-GBD-JCF, Judge George B. Daniels.

BRIEF FOR DEFENDANT-APPELLEE COMPAQ COMPUTER CORPORATION

MARK E. FERGUSON
CHRISTOPHER D. LANDGRAFF
CHRISTOPHER R. HAGALE
BARTLIT BECK HERMAN PALENCHAR & SCOTT LLP
54 W. Hubbard Street, Suite 300
Chicago, Illinois 60654
(312) 494-4400

Attorneys for Defendant-Appellee, Compaq Computer Corporation

March 10, 2015

Form 9

FORM 9. Certificate of Interest

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Convolve, Inc. v. Compaq Computer Corp.

No. 14-1732

CERTIFICATE OF INTEREST

Counsel for the (petitioner) (appellant) (respondent) (appellee) (amicus) (name of party) Compaq Computer Corporation certifies the following (use "None" if applicable; use extra sheets if necessary):

1. The full name of every party or amicus represented by me is:

Compaq Computer Corporation

2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:

Hewlett-Packard Company

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

Hewlett-Packard Company discloses that it is a publicly traded company and that no other publicly-held corporation owns ten percent (10%) or more of Hewlett-Packard Company's stock.

4. ☑ The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are: Bartlit Beck Herman Palenchar & Scott LLP - Mark E. Ferguson, Carolyn Frantz, Carrie Jablonski, Christopher D. Landgraff, Brian O'Donoghue, Christopher R. Hagale; Bingham McCutchen LLP - Diane C. Hertz, Richard S. Taffet; Fish & Richardson P.C. - Duane David Hough; Kramer, Levin, Naftalis & Frankel - Robert William Morris; Ropes & Gray LLP - Robert F. Bahrampour, Robert J. Goldman, Herbert F. Schwartz

9/4/14
Date

/s/ Christopher D. Landgraff
Signature of counsel

Christopher D. Landgraff
Printed name of counsel

Please Note: All questions must be answered
cc: _____

Table of Contents

Certificate of Interest i

Table of Authorities iv

Statement of Related Cases 1

Statement of the Issues 2

Statement of the Case 3

Statement of Facts 5

I. The Accused Compaq Computers 5

II. The '473 Patent 7

III. Procedural Background 13

Summary of the Argument 15

Argument 16

I. Standard Of Review 16

II. In Order To Avoid Summary Judgment Of Noninfringement, Convolve Needed To Put Forth Evidence Of The Presence Of Every Claim Element 16

III. There Is No Infringement Of Any Asserted Claim Of The '473 Patent Because Convolve Did Not And Cannot Show That The Processor Of The F10 BIOS Issues Shaped Commands 17

A. The Processor Of The F10 BIOS Must Output Shaped Commands 19

B. Convolve Is Bound By The Meaning Ascribed To The '473 Patent In Reexamination 22

C. Convolve's Claim Construction Argument Is Irrelevant 23

D. Convolve's Other Argument Is Wholly Undeveloped 24

IV. Convolve Did Not And Cannot Show That The Required Relationship Between Acoustic Noise And Seek Time Is Inversely Related, As Every Asserted Claim Of The '473 Patent Requires 25

A. Every Asserted Claim Requires That Acoustic Noise And Seek Time Be Inversely Related For Each And Every Seek Operation 26

B. Convolve Has Conceded That There Is Not An Inverse Relationship Between Acoustic Noise And Seek Time In The Accused Products 29

C. Convolve's Arguments In The District Court Cannot Save Its Infringement Claim 31

Conclusion 35

Table of Authorities

Cases

Amazon.com, Inc. v. Barnesandnoble.com, Inc.,
239 F.3d 1343 (Fed. Cir. 2001) 34

CardSoft LLC v. Verifone, Inc.,
769 F.3d 1114 (Fed. Cir. 2014) 24

Convolve, Inc. v. Compaq Computer Corp.,
224 F.R.D. 98 (S.D.N.Y. 2004) 4

Convolve, Inc. v. Compaq Computer Corp.,
223 F.R.D. 162 (S.D.N.Y. 2004) 4

Convolve, Inc. v. Compaq Computer Corp.,
33 F. Supp. 3d 316 (S.D.N.Y. 2014) 4

Convolve, Inc. v. Compaq Computer Corp.,
527 F. App'x 910 (Fed. Cir. 2013) 14

Convolve, Inc. v. Compaq Computer Corp.,
643 F. Supp. 2d 336 (S.D.N.Y. 2008) 4

Convolve, Inc. v. Compaq Computer Corp.,
No. 14-1049 1

Convolve, Inc. v. Compaq Computer Corp.,
No. 2012-1074, 527 F. App'x 910 (Fed. Cir. 2013) (unpublished),
cert. denied, 134 S. Ct. 801 (2013) 1

Convolve, Inc. v. Dell, Inc.,
No. 2:08-CV-244-CE (E.D. Tex.) 1

CVI/Beta Ventures, Inc. v. Turla LP,
112 F.3d 1146 (Fed. Cir. 1997) 32

Dippin' Dots, Inc. v. Mosey,
476 F.3d 1337 (Fed. Cir. 2007) 35

Dynacore Holdings Corp. v. U.S. Philips Corp.,
363 F.3d 1263 (Fed. Cir. 2004) 16

Ekchian v. Home Depot, Inc.,
104 F.3d 1299 (Fed. Cir. 1997) 31

Granite Mgmt. Corp. v. United States,
416 F.3d 1373 (Fed. Cir. 2005) 25

Harari v. Lee,
656 F.3d 1331 (Fed. Cir. 2011) 20, 21

In re Seagate Tech., LLC,
497 F.3d 1360 (Fed. Cir. 2007) (*en banc*) 1

Jurgens v. McKasy,
927 F.2d 1552 (Fed. Cir. 1991) 23, 28, 32

Lemelson v. United States,
752 F.2d 1538 (Fed. Cir. 1985) 16

Matsushita Elec. Indus. Co. v. Zenith Radio Corp.,
475 U.S. 574 (1986) 16

Norian Corp. v. Stryker Corp.,
432 F.3d 1356 (Fed. Cir. 2005) 20

Novartis Corp. v. Ben Venue Labs., Inc.,
271 F.3d 1043 (Fed. Cir. 2001) 17

TiVo, Inc. v. EchoStar Commc'ns Corp.,
516 F.3d 1290 (Fed. Cir. 2008) 20

Tolbert v. Queens Coll.,
242 F.3d 58 (2d Cir. 2001) 24

Statement of Related Cases

This Court has addressed this case or matters relating to this case on three previous occasions:

- *In re Seagate Tech., LLC*, Misc. No. 830, 497 F.3d 1360 (Fed. Cir. 2007) (*en banc*). Appeal was on petition for writ of mandamus, and this Court decided the appeal *en banc* on August 20, 2007.

- *Convolve, Inc. v. Compaq Computer Corp.*, No. 2012-1074, 527 F. App'x 910 (Fed. Cir. 2013) (unpublished), *cert. denied*, 134 S. Ct. 801 (2013). Appeal was of entry of summary judgment in favor of Defendants-Appellees. The panel on appeal consisted of Chief Judge Rader, Judge Dyk, and Judge O'Malley (writing judge), and the appeal was decided on July 1, 2013.

- *Convolve, Inc. v. Compaq Computer Corp.*, No. 14-1049. Appeal was of order denying American International Underwriters Insurance Company and National Union Fire Insurance Company of Pittsburgh, PA motion to intervene and to modify the district court's "Stipulation and Protective Order." This Court granted movants-appellants' motion to voluntarily dismiss the appeal on June 30, 2014.

The patent-in-suit, U.S. Patent No. 6,314,473 ("the '473 patent") is also asserted against different products and different defendants (Dell, Inc., Western Digital Corporation, Hitachi Global Storage Technologies, Inc., and Hitachi Ltd.) in *Convolve, Inc. v. Dell, Inc.*, No. 2:08-CV-244-CE (E.D. Tex.).

Statement of the Issues

1. Whether the district court's holding that Compaq Computer Corporation's ("Compaq") accused products do not infringe the '473 patent should be upheld because Convolve, Inc. ("Convolve") has presented no evidence—and in fact has conceded—that the processor of the F10 BIOS does not issue "commands" as that term is used in the asserted claims of the '473 patent.

2. Whether the district court's holding that Compaq's and Seagate Technology, LLC's ("Seagate") accused products do not infringe the '473 patent should be upheld because Convolve has presented no evidence of an "inverse relation" between seek time and acoustic noise in the accused products, as every asserted claim requires.

3. Whether the district court's holdings discussed in Seagate's brief should be affirmed for the reasons articulated in Seagate's brief, which Compaq fully adopts and incorporates.

Statement of the Case

Convolve sued Compaq and Seagate, asserting infringement of three patents, misappropriation of numerous trade secrets, and related common-law claims. The district court granted summary judgment in Defendants' favor on all claims in August of 2011, and this Court affirmed that judgment in all respects except with respect to Convolve's claim of infringement of the '473 patent. The '473 patent relates to the idea of providing an interface to a computer hard disk drive that allows one to select between a "quick" seek mode and a "quiet" seek mode.

On remand, the district court invited further summary judgment briefing on the arguments not reached by the district court in its August 2011 order. On July 11, 2014, upon hearing the arguments presented in Compaq and Seagate's summary judgment motion, the district court granted summary judgment against Convolve with respect to its claim for infringement of the '473 patent.

Pursuant to Federal Circuit Rules 28(a)(7) and 28(b), which require Compaq to include in the Statement of the Case "the citation of any published decision of the trial tribunal in the proceedings," Compaq lists the following published decisions from the trial tribunal in this case:

Convolve, Inc. v. Compaq Computer Corp., 33 F. Supp. 3d 316 (S.D.N.Y. 2014);

Convolve, Inc. v. Compaq Computer Corp., 643 F. Supp. 2d 336 (S.D.N.Y. 2008);

Convolve, Inc. v. Compaq Computer Corp., 223 F.R.D. 162 (S.D.N.Y. 2004); and

Convolve, Inc. v. Compaq Computer Corp., 224 F.R.D. 98 (S.D.N.Y. 2004).

Statement of Facts

Compaq incorporates Seagate's comprehensive statement of facts, and offers these additional facts.

I. The Accused Compaq Computers

As described in more detail in Seagate's brief, the technology at issue here involves disk drives. More specifically, the technology involves the ability to enhance the speed of "seeks" conducted by disk drives at the expense of some additional noise and, conversely, the ability to slow down seek operations to reduce noise.

At the time of the commencement of this suit, Compaq made personal computers that contained disk drives, but Compaq did not itself manufacture disk drives. Seagate was one of the disk-drive manufacturers from whom Compaq purchased disk drives for incorporation into its personal computers.

Convolve claimed in the district court that a feature included on Compaq computers, called the "F10 BIOS," when used in combination with certain Seagate disk drives, infringed certain claims of the '473 patent. The F10 BIOS was a feature of the Basic Input Output System ("BIOS") software used when a computer is first turned on, before the Windows operating

system begins to run. This feature is accessed by pressing the "F10" key as soon as the computer enters its start-up routine. The processor on the host Compaq computer runs BIOS code to generate the F10 BIOS user interface. If a user selects a mode setting through the F10 BIOS user interface, the mode setting is stored in the memory of the host computer processor. The host computer processor sends parameters to the data storage device's supervisor microprocessor. The data storage device's supervisor microprocessor then sends instructions to the servo microprocessor in the data storage device. The following chart from Convolve's experts' infringement report graphically represents the various processors at work in this pathway.

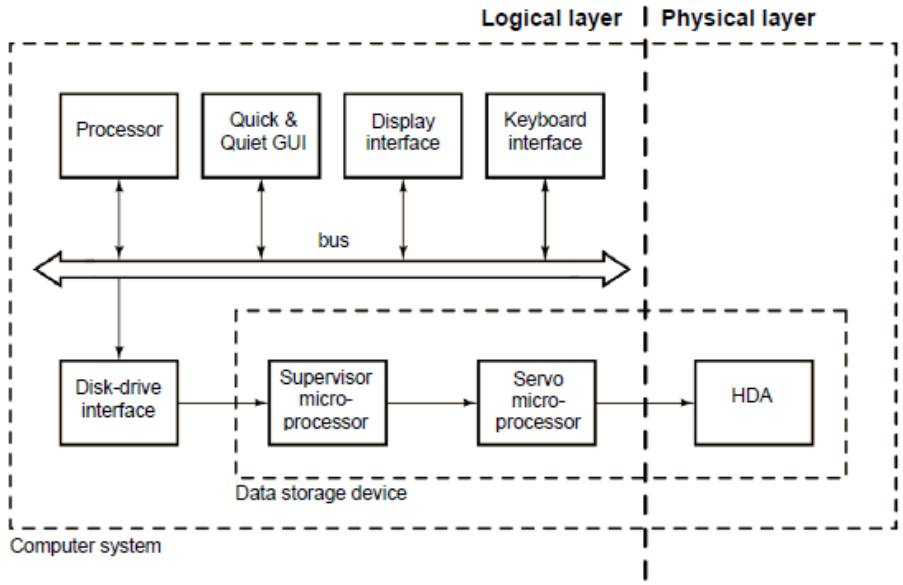


Figure 3. Commands outside the data storage device specify parameters of signals in the physical layer.

A3961 (10/30/2007 Souri/Phinney Report).

Convolve contends that, for certain Compaq computers sold between 2000 and 2002, users could issue "commands" through the F10 BIOS feature and select either a "quick" (also called "performance") mode or a "quiet" mode for seek operations to be performed on the incorporated Seagate disk drive.

II. The '473 Patent

The '473 patent was issued to Dr. Neil Singer on November 6, 2001. A98 ('473 Patent). Claims 1, 3, and 4 of the '473 patent provide in part that

> [w]hat is claimed is . . . [a u]ser interface for operatively working with a processor . . . the user interface comprising: means for providing settings for controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device in inverse relation . . . and means for causing the processor to output commands to the data storage device to alter seek trajectory shape . . . .

A149 ('473 patent, 43:15-21). Claim 9 of the '473 patent requires in part "a processor which executes the process steps so as (i) to generate a user interface . . . and (iii) to output commands to the data storage device causing the data storage device to alter seek trajectory shape . . . ." A149 ('473 patent, 44:20-28). Claim 15 of the '473 patent requires in part "a

processor which executes the process steps to control, through a user interface, one of a seek time of a data storage device and an acoustic noise level of the data storage device . . . and to output commands to the data storage device causing the data storage device to alter seek trajectory shape . . . ." A150 ('473 patent, 46:3-10).

The "output commands" element is found in every asserted claim. The district court has ruled that "commands[] are sent (as output) from the processor performing the shaping to the data storage device (as input)." A86 (8/9/2005 *Markman* Order) (quotation marks omitted). The district court has also ruled that "shaping" means "applying a transformation to a signal." A87 (8/9/2005 *Markman* Order). Convolve and its experts have admitted that all claims of the '473 patent are the same with respect to the "output commands" claim element. A2354-2355 (5/2/2014 Pl. Opp. to SJ), A2455 (5/2/2014 Decl. of Joshua Phinney ¶ 223). Convolve's experts repeatedly identified output from the F10 BIOS in Compaq computers as satisfying the "output commands" claim element in the claim charts included in their initial infringement report. A4046, A4048-4049, A4090-4094 (10/30/2007 Souri/Phinney Report). Convolve now asserts that the

shaped commands are generated from a processor within the data storage device. (Convolve Br. at 43.)

Convolve's position on appeal contradicts its statements to the United States Patent and Trademark Office ("PTO"). On reexamination, Convolve defended its patent against the prior art Ray Thesis by submitting the August 10, 2009 declaration of Warren Seering. In considering the arguments made by Convolve, including through the Seering Declaration, the PTO found that the Ray Thesis did not anticipate the '473 patent because "the commands of Ray did not originate from a host computer user interface." A4218 (1/4/2010 PTO Office Action).

In that same office action, the PTO relied on Convolve's argument in confirming certain claims of the '473 patent and stated that the '473 patent required:

> corresponding structures that operate via the user interface running on the processor external to the data storage device, and sending commands via the user interface to alter the storage device seek trajectory. . . . The examiner concurs with Patent owner that Ray does not disclose a host processor running a user interface, and that commands of Ray appear to be generated by modified DSP code internal to the storage device, and not via a host processor. . . . Hence, claim 1 is confirmed.

A4219 (1/4/2010 PTO Office Action). Thus, commands generated internal to the data storage device do not satisfy the "output commands" element of the '473 patent.

Similarly, an "inverse relation" between acoustic noise level and seek time is an element of every asserted claim. The specification, in describing this inverse relationship, explains that

> [d]isk drive noise level and seek time vary inversely along the continuum, meaning that, as the noise level of the disk drive progressively increases, the seek time of the disk drive progressively decreases. Likewise, as the noise level of the disk drive progressively decreases, the seek time of the disk drive progressively increases.

A130-131 ('473 patent, 6:65-7:3).

Throughout this case and throughout reexamination proceedings before the PTO, Convolve has maintained that this inverse relationship must hold true for all seeks performed by the computer. For example, Convolve's opening claim construction brief in the district court asserted that the "specification of the '473 patent describes a tradeoff between seek time and acoustic noise level in a disk drive . . . ." A3881 (12/20/2002 Pls' Opening Brief in Support of Patent Claim Construction). Convolve's *Markman* brief further stated that "[t]he invention does not contemplate

operation of the interface so as to improve both the **seek time** and the **acoustic noise level** simultaneously, but rather, as the claim recites controls them 'in **inverse relation**'. According to the invention, altering one inversely changes the other." A3884-3885 (12/20/2002 Pls' Opening Brief in Support of Patent Claim Construction).

Convolve focused on the "inverse relation" requirement and the need to maintain that relationship across all seeks in rebutting challenges to the '473 patent's validity. During the first reexamination of the '473 patent, Convolve sought to distinguish the '473 patent from the prior art Koizumi U.S. Patent No. 5,982,570 ("Koizumi") by stating that:

> *The claims of the '473 patent require* altering the user interface settings controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device in inverse relation, and reducing selected unwanted frequencies in accordance with the altered settings. Because of the unpredictable nature of exciting frequencies by changing the input current with different time delays, Koizumi fails to teach or suggest *a method ensuring that the inverse relationship between the seek time and acoustic noise level is maintained when the seek time is changed by the user interface*.

A4177-4178 (1/28/2008 Barbastathis Decl. ¶ 39) (emphasis added).

Likewise, in the proceedings in the district court, Convolve's technical experts submitted a rebuttal to expert reports of Dr. Messner and Dr. Stone concerning the '473 patent. Like the January 28, 2008 declaration, Convolve's February 29, 2008 report distinguishes the Koizumi patent from the '473 patent by arguing that "[t]he Koizumi patent does not disclose the step a method of 'altering settings in the user interface for one of seek time and acoustic noise level of the data storage device in inverse relation,' since seeks in different working modes are not inherently louder or quieter." A4192 (2/29/2008 Rebuttal Report Regarding U.S. Patent 6,314,473).

Convolve's experts have repeatedly stated that the inverse relationship must hold for every seek. Convolve's Dr. Souri agreed that "you need to know [the inverse relationship] for all seeks" and that the prior art Koizumi patent does not anticipate the '473 patent because in practicing the Koizumi patent "for all seeks, you're going to discover that you don't have that inverse relation." A4184-4185 (7/1/2008 Souri Dep. 268:13-269:19).

Convolve conceded in the district court that the inverse relationship does not hold across all seeks in the accused products. A2349-2350 (5/2/2014 Pl. Opp. to SJ)*; see also* A4186 (7/1/2008 Souri Dep. 291:1-13),

A4203 (7/2/2008 Phinney Dep. 65:3-19) (applying the quiet mode noise filters "doesn't necessarily affect all seek lengths" in the accused ATA IV drive).

III. Procedural Background

Convolve's original claims against Compaq and Seagate in this litigation included claims for scores of trade-secret misappropriation, related common-law claims, and assertions of patent infringement on a number of patents, including the '473 patent. After defeating several trade-secret claims, Seagate and Compaq moved for summary judgment on all of Convolve's claims in 2009. The district court granted the motion for summary judgment on all claims, issuing a sixty-two-page opinion analyzing the parties' arguments. This Court affirmed all of the district court's rulings, save for summary judgment of noninfringement of the '473 patent that the district court granted on an argument relating to a claim term not at issue in this appeal.

On remand, the district court again considered several grounds for summary judgment that it had not ruled on in its previous summary judgment order. Because the district court concluded that Convolve could not show the required "output commands" and "user interface" claim

elements, as well as finding Convolve's claims were limited under the doctrine of intervening rights, the district court did not reach a number of Compaq's and Seagate's alternative grounds entitling them to summary judgment, including Compaq and Seagate's inverse relation argument.[1]

Compaq raised the inverse relation argument as an alternative basis for affirmance in the previous appeal, and this court stated it would not entertain the argument "at this time" because these "are issues the district court did not reach." *Convolve, Inc. v. Compaq Computer Corp.*, 527 F. App'x 910, 932 (Fed. Cir. 2013). Because no court in this litigation has ruled on this argument, and because resolution of the inverse relation argument requires only that Convolve be held to its numerous statements over the course of the litigation, Compaq and Seagate again ask this Court to affirm the judgment of noninfringement based on Convolve's concession that the inverse relationship between seek time and noise does not hold for all seek operations, as it must.

[1] Convolve's frustrated characterization of these arguments as "next-best" is baseless. (Convolve Br. at 4.) The fact that there are several valid reasons for finding noninfringement as a matter of law does not reduce the strength of the alternative bases for affirming the district court's decision.

Summary of the Argument

Accused Compaq computers do not infringe the '473 patent because the processor of the F10 BIOS does not "output commands" as that term is used in the '473 patent claim language. The district court held that the F10 BIOS is the only user interface in the accused products.[2] Because Convolve concedes that the processor of the F10 BIOS does not issue shaped commands, summary judgment was proper.

Additionally, Compaq and Seagate have not infringed the asserted claims of the '473 patent because the accused products do not exhibit an "inverse relation" between seek time and acoustic noise, as every claim requires. Convolve has consistently contended that this inverse relationship must hold for every seek; yet it has set forth no evidence to satisfy this requirement for any of the accused drives and in fact concedes that the inverse relationship does not hold for every seek.

Compaq also adopts and incorporates the arguments made in Seagate's brief.

---

[2] Convolve has argued that the ATA and SCSI interfaces in Seagate's drives are "user interfaces" within the meaning of the claims. As discussed fully in Seagate's brief, the district court correctly rejected that view.

Argument

I. Standard Of Review

Compaq adopts and incorporates the discussion of the standard of review in Seagate's brief.

II. In Order To Avoid Summary Judgment Of Noninfringement, Convolve Needed To Put Forth Evidence Of The Presence Of Every Claim Element

To avoid summary judgment of noninfringement, Convolve was required to come forward with admissible evidence showing that the accused products include each and every element of the asserted claims of the '473 patent. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 585-86 (1986); *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed. Cir. 2004). If even one element is missing from the accused products, then Compaq and Seagate do not infringe. *Lemelson v. United States*, 752 F.2d 1538, 1551 (Fed. Cir. 1985).

"Since the ultimate burden of proving infringement rests with the patentee, an accused infringer seeking summary judgment of noninfringement may meet its initial responsibility either by providing evidence that would preclude a finding of infringement, or by showing that the evidence on file fails to establish a material issue of fact essential to

the patentee's case." *Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1046 (Fed. Cir. 2001).

On the record below, Compaq and Seagate met their "initial responsibility," and Convolve failed to establish material issues of fact required to avoid summary judgment.

III. There Is No Infringement Of Any Asserted Claim Of The '473 Patent Because Convolve Did Not And Cannot Show That The Processor Of The F10 BIOS Issues Shaped Commands

Every asserted claim includes the "output commands" element. The district court held that the term "commands" means "input signals to the data storage device that have been shaped by a processor." A38 (7/11/2014 SJ Order) (internal quotation marks omitted). Because the district court determined that the F10 BIOS—which the district court held is the only user interface in the accused devices—does not issue shaped commands, the district court ruled that the accused products do not infringe the '473 patent and summary judgment is appropriate. A38-43 (7/11/2014 SJ Order).

Convolve represents to the Court that it did not "argue that the generic BIOS commands to the drive satisfied the 'outputting commands' elements." (Convolve Br. at 17.) This is not so. Throughout this litigation

Convolve and its experts have consistently argued that the F10 BIOS feature in the accused devices meets the "output commands" claim element. Indeed, Convolve's experts identified the F10 BIOS commands as satisfying the "output commands" limitation on numerous occasions in the claim charts included in their initial infringement report. A4046, A4048-4049, A4090-4094 (10/30/2007 Souri/Phinney Report).

Convolve now concedes that the F10 BIOS does not output shaped commands and does not practice the "output commands" element of the '473 patent. Convolve argues that this concession is not fatal to its infringement claim because accused Seagate disk drives integrated into Compaq computers issue shaped commands. But this argument is unavailing. Convolve must show that the processor of the F10 BIOS—which the district court held is the only user interface in the accused Compaq computers—issues shaped commands.[3]

[3] Convolve misleadingly argues that "Compaq's counsel appeared to concede that 'the command designations from the claim language are found in the underlying disc drives.'" (Convolve Br. at 18.) There was no such concession. Convolve omitted the full quotation, which shows that Compaq's counsel was in fact describing Convolve's counsel's argument: "Mr. Bailey [Convolve's counsel] argued that the command designations

The claims of the '473 patent require that the processor of the user interface be the processor that outputs shaped commands. Moreover, Convolve has avoided prior art on reexamination by convincing the PTO that the commands must originate from the host computer external to the data storage device, and cannot now argue otherwise. Because Convolve has offered no evidence that the processor of the F10 BIOS issues shaped commands, the district court was correct to grant summary judgment.

A. The Processor Of The F10 BIOS Must Output Shaped Commands

All asserted claims of the '473 patent require that the processor of the user interface be the processor that outputs shaped commands to the data storage device. The language of claim 9 of the '473 patent is illustrative. Claim 9 claims "a processor which executes the process steps so as (i) to generate a user interface . . . and (iii) to output commands to the data storage device . . . ." A149 ('473 Patent, 44:20-27).

Claim 15 contains language similar to that of claim 9. A150 ('473 Patent, 46:3-9). And claims 1, 3, and 4 of the '473 patent require a "[u]ser

---

from the claim language are found in the underlying disc drives . . . ." A3349 (6/3/2014 SJ Hearing Tr. 109:20-21).

interface for operatively working with a processor," as well as a "means for causing the processor to output commands to the data storage device . . . ." A149 ('473 Patent, 43:16-44). Thus, the asserted claims are directed to a processor that is both the processor of the user interface and the processor that generates shaped commands to the data storage device.

This Court has held that "the word 'a' generally means 'one or more' in open-ended claims containing the transitional phrase 'comprising,' [but that the] general rule does not apply when the specification or the prosecution history shows that the term was used in its singular sense." *Norian Corp. v. Stryker Corp.*, 432 F.3d 1356, 1359 (Fed. Cir. 2005) (internal citation omitted); *see also Harari v. Lee*, 656 F.3d 1331, 1341-42 (Fed. Cir. 2011); *TiVo, Inc. v. EchoStar Commc'ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir. 2008) (holding that "a" in the patent claim had the singular meaning). Here, the general rule that "a" means "one or more" does not apply. The claims use the plural when designating more than one of something. The claim language repeatedly uses the plural for other terms in the claim language (for example, "alter settings," "output commands," "shaping input signals," "selected unwanted frequencies," "plurality of frequencies," "process steps"). A149-150 ('473 Patent). Because Convolve clearly

evinced when it intended the plural, the singular meaning attaches to the term "a processor." *Harari*, 656 F.3d at 1341-42.

Convolve has admitted that all asserted claims of the '473 patent are the same with respect to the "output commands" claim element. A2354-2355 (5/2/2014 Pl. Opp. to SJ) (arguing that "the same 'command' element [is] present in all asserted claims—*i.e.*, an accused product that meets the 'command' element for *one claim* meets it for *all claims*"), A2455 (5/2/2014 Decl. of Joshua Phinney ¶ 223) (declaring that "[t]he identification of 'output commands' . . . is the same for every claim"). Thus, for every asserted claim, Convolve must show that the processor of the F10 BIOS outputs shaped commands.

Convolve cannot make such a showing; indeed, Convolve admits that the processor of the F10 BIOS does not output shaped commands. Rather, Convolve now argues that the "output commands" element is practiced by a processor internal to the disk drive. Because the F10 BIOS processor does not "output commands," as the asserted claims of the '473 patent require, the district court was correct to rule that the accused devices do not infringe any of those claims.

B. Convolve Is Bound By The Meaning Ascribed To The '473 Patent In Reexamination

Convolve's arguments in reexamination also preclude Convolve's current position. From 2008 to 2010, the PTO reexamined the validity of the '473 patent in light of prior art (the Ray Thesis). Convolve defended its patent against the Ray Thesis by submitting an August 10, 2009 declaration in support of a finding of no anticipation of the '473 patent. The PTO noted that Convolve argued that the Ray Thesis did not anticipate the '473 patent because "the commands of Ray did not originate from a host computer user interface." A4218 (1/4/2010 PTO Office Action). The PTO accepted Convolve's argument and stated that Claim 1 of the patent required:

> corresponding structures that operate via the user interface running on the processor external to the data storage device, and sending commands via the user interface to alter the storage device seek trajectory. . . . The examiner concurs with Patent owner that Ray does not disclose a host processor running a user interface, and that *commands of Ray appear to be generated by modified DSP code internal to the storage device, and not via a host processor*. . . . Hence, claim 1 is confirmed.

A4219 (1/4/2010 PTO Office Action) (emphasis added). The PTO applied similar reasoning to other claims of the '473 patent. A4219-4220 (1/4/2010 PTO Office Action).

Thus, Convolve avoided a finding of anticipation by arguing to the PTO that a processor on the host computer must be the processor of the user interface and output commands. Convolve cannot avoid that construction of the claims of the '473 patent here. *See Jurgens v. McKasy*, 927 F.2d 1552, 1561 (Fed. Cir. 1991). Having previously disavowed a claim scope that would include commands generated from within the data storage device, Convolve cannot establish infringement based on such a structure.

C. Convolve's Claim Construction Argument Is Irrelevant

The main thrust of Convolve's argument on appeal is that, under the district court's 2005 *Markman* order, "commands" may be generated from within the disk drive. (Convolve Br. at 43.) This argument misses the point for at least two reasons. First, as shown in the preceding section, five years after the district court's 2005 *Markman* order, Convolve disavowed a claim scope that would include commands generated from within the data storage device, so it cannot argue for such a claim scope here. Second, the district court held that the only user interface in the accused products is the F10 BIOS, which is processed on the host computer. Because the claims of the '473 patent require the processor of the user interface to output

commands, and because that processor is located on the host computer in the accused devices, it is irrelevant that as a general matter "commands" *may* originate from within the disk drive.

D. Convolve's Other Argument Is Wholly Undeveloped

Convolve asserts that the district court erred "by failing to consider appellees' own contentions that the internal commands outputted by prior art drives met the 'commands' limitation." (Convolve Br. at 43 (emphasis omitted).) Convolve does not present any argument whatsoever as to why the Court should reverse on this ground; this argument is thus entitled to no consideration. *See, e.g.*, *CardSoft LLC v. Verifone, Inc.*, 769 F.3d 1114, 1119 (Fed. Cir. 2014) ("Arguments that are not appropriately developed in a party's briefing may be deemed waived" (citation omitted).); *Tolbert v. Queens Coll.*, 242 F.3d 58, 75 (2d Cir. 2001) ("It is a settled appellate rule that issues adverted to in a perfunctory manner, unaccompanied by some effort at developed argumentation, are deemed waived" (internal quotation marks and citation omitted).). In any event, Defendants' experts' opinions concerning whether prior art systems meet the "output commands" element do not determine whether the host processor in the accused devices must "output commands." For the reasons outlined above,

Convolve cannot satisfy the "output commands" element in the accused devices because it has conceded that the processor of the F10 BIOS does not "output commands." The district court properly granted summary judgment on this ground.

IV. Convolve Did Not And Cannot Show That The Required Relationship Between Acoustic Noise And Seek Time Is Inversely Related, As Every Asserted Claim Of The '473 Patent Requires

"An appellee may rely upon any ground supported by the record for affirmance of the judgment, whether or not the lower court relied on that ground." *Granite Mgmt. Corp. v. United States*, 416 F.3d 1373, 1378 (Fed. Cir. 2005).

The undisputed record supports affirming the judgment of noninfringement of the '473 patent based on the fact that there is no evidence that the accused devices maintain an "inverse relation" between seek time and acoustic noise in the accused products, as every asserted claim requires.

A. Every Asserted Claim Requires That Acoustic Noise And Seek Time Be Inversely Related For Each And Every Seek Operation

Every asserted claim of the '473 patent requires that "seek time" and "acoustic noise level" be inversely related. A149-150 ('473 patent, 43:15-46:14). This means, according to the '473 patent, "that, as the noise level of the disk drive progressively increases, the seek time of the disk drive progressively decreases. Likewise, as the noise level of the disk drive progressively decreases, the seek time of the disk drive progressively increases." A130-131 ('473 patent, 6:66-7:3).

The '473 patent purports to allow the user to decide between louder, faster seeks and slower, quieter seeks. The record below establishes that through its *Markman* arguments, its representations to the PTO in reexamination, and through its experts, Convolve has confirmed that this claimed inverse relationship must hold for every seek.

Convolve has argued that "[t]he invention does not contemplate operation of the interface so as to improve both the **seek time** and the **acoustic noise level** simultaneously, but rather, as the [representative] claim recites controls them 'in **inverse relation**'. According to the

invention, altering one inversely changes the other." A3884-3885 (12/20/2002 Pls' Opening Brief in Support of Patent Claim Construction).

Consistent with their *Markman* position, during the first reexamination of the '473 patent, Convolve confirmed that the inverse relationship must be "ensured" in order to practice the claims. In attempting to distinguish the '473 patent from Koizumi's '570 patent, Convolve argued to the PTO that Koizumi does not anticipate the '473 patent because it does not *always* maintain an inverse relationship between acoustic noise and seek time:

> Because of the unpredictable nature of exciting frequencies by changing the input current with different time delays, Koizumi fails to teach or suggest a method *ensuring* that the inverse relationship between the seek time and acoustic noise level is maintained when the seek time is changed by the user interface.

A4177-4178 (1/28/2008 Barbastathis Decl. ¶ 39) (emphasis added).

Also, in interpreting the phrase "inverse relation," Convolve's technical experts claimed below that in order to practice the invention, prior art systems must perform seeks with user-selectable access times that are "inherently louder or quieter." A4192 (2/29/2008 Rebuttal Report Regarding U.S. Patent No. 6,314,473). "The Koizumi patent does not

disclose the step a method of 'altering settings in the user interface for one of seek time and acoustic noise level of the data storage device in inverse relation,' since seeks in different working modes are not inherently louder or quieter." *Id.*

Convolve's experts adopted and confirmed Convolve's position that the inverse relationship must exist for every seek in order to practice the asserted claims of the '473 patent. In trying to explain why the Koizumi patent does not anticipate the '473 patent, for example, Convolve's expert Dr. Souri testified that Koizumi lacks the "inheren[t]" inverse relationship that must be known for *all seeks*. A4184-4185 (7/1/2008 Souri Dep. 268:13-269:19). Dr. Souri testified that "you need to know it for *all seeks*." A4185 (7/1/2008 Souri Dep. 269:7-11) (emphasis added). When practicing the Koizumi invention, according to Dr. Souri, "if you do do it for all seeks, you're going to discover that you don't have that inverse relation." *Id.*

Convolve must be held to its claim that the inverse relationship must be ensured and maintained for every seek. *Jurgens v. McKasy*, 927 F.2d 1552, 1561 (Fed. Cir. 1991) (meaning ascribed by reexamination examiner

and undisputed by counsel for patentee governs; finding "[a]s a matter of law, there is no literal infringement").[4]

B. Convolve Has Conceded That There Is Not An Inverse Relationship Between Acoustic Noise And Seek Time In The Accused Products

On the record in the district court, not only did Convolve put forth no evidence that seek time and acoustic noise level are inherently inversely related when the user selects the "performance" or "quiet" mode in the accused drives, but it also conceded that the inverse relationship does not hold across all seeks in the accused products. For example, Convolve conceded that the relationship does not hold across all seeks for the accused ATA drives. A2349 (5/2/2014 Pl. Opp. to SJ). With respect to the accused Cheetah drives (also called JIT drives), Convolve does not contend that the inverse relationship holds for all seeks; it asserts it holds for "certain seeks." A2350 (5/2/2014 Pl. Opp. to SJ). Indeed, it is uncontested that there are times when the same "seek" algorithms on the accused JIT

[4] In the district court, Convolve referenced the specification of the '473 patent without citation in an attempt to support its view that the inverse relation need not hold for all seeks. A2348 (5/2/2014 Pl. Opp. to SJ). But it is the claims of the patent, and Convolve's admissions as to the meaning of those claims, that control what the patent covers.

drives are used regardless of whether the user selects the quick mode or quiet mode. Thus, the required inverse relationship between seek time and noise does not exist in the accused product.[5]

Without evidence that one or more accused products operates to provide the inverse relationship between speed and noise for all seeks, no claim of infringement can succeed. Because Convolve failed to support its claim below, this Court should direct the district court to enter judgment of noninfringement on this separate ground as well.

[5] These concessions are consistent with the undisputed evidence in the record proving that the inverse relationship does not hold across all seeks. The accused ATA IV drive, for example, uses the same mode for short seeks regardless of whether the user has selected the "quick" or "quiet" mode. The filters applied for short seeks in "quick" mode are the same as those deployed for short seeks in "quiet" mode. A4197-4198 (2/13/2003 Campbell Dep. 49:24-50:7). Thus, for seeks that do not exceed 121 tracks, there is no inverse relationship between seek time and acoustic noise; the noise and speed are the same regardless of mode. *Id.*; *see also* A4199 (2/13/2003 Campbell Dep. 62:14-22) (explaining that "short seeks" or "model reference seeks" are those that are 121 tracks or fewer). Convolve's experts also have conceded that the inverse relationship does not hold for all seeks in the accused products. *See, e.g.*, A4203 (7/2/2008 Phinney Dep. 65:3-19), A4186 (7/1/2008 Souri Dep. 291:8-13).

C. Convolve's Arguments In The District Court Cannot Save Its Infringement Claim

Convolve's summary judgment opposition below argued—directly contrary to what it represented to the PTO, and contrary to the repeated admissions of its experts —that the '473 patent does not require an inverse relationship across all seeks. A2349-2350 (5/2/2014 Pl. Opp. to SJ). But having taken the opposite position to avoid a finding that Koizumi anticipates the '473 patent, Convolve cannot be permitted to reverse course in litigation. *Ekchian v. Home Depot, Inc.*, 104 F.3d 1299, 1304 (Fed. Cir. 1997) ("[B]y distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover . . . .").

Convolve now argues that its experts' statements requiring the inverse relationship be found in every seek were taken out of context and that its experts were discussing "inherent anticipation," not the meaning of claim terms. But there is nothing out of context about the straightforward admissions of Convolve's experts, both in declarations submitted to the PTO and in sworn testimony in this case.

During reexamination, Convolve provided its interpretation of what the asserted claims require with respect to inverse relationship. Convolve's

expert's sworn declaration in that proceeding states that the Koizumi patent did not anticipate the '473 patent because Koizumi "fails to teach or suggest a method *ensuring that the inverse relationship* between the seek time and acoustic noise level is *maintained when seek time is changed* by the user interface." A4177-4178 (1/28/2008 Barbastathis Decl. ¶ 39) (emphasis added). That statement was made in the context of arguing that "[t]he claims of the '473 patent require altering the user interface settings controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device *in inverse relation*." A4177-4178 (1/28/2008 Barbastathis Decl. ¶ 39) (emphasis added). Convolve's sworn statement that the inverse relationship must be "ensured" and "maintained" was discussing what every asserted claim requires with respect to the inverse relationship.

Convolve thus argued to the PTO, in the context of the same point at issue here, that the claims of the '473 patent require the inverse relationship to hold across all seeks. Convolve must be held to that statement. *CVI/Beta Ventures, Inc. v. Turla LP,* 112 F.3d 1146, 1158 (Fed. Cir. 1997); *Jurgens v. McKasy*, 927 F.2d at 1561.

If anything is out of context, it is Convolve's after-the-fact wordplay with respect to "inherent anticipation." A2349 (5/2/2014 Pl. Opp. to SJ). First, contrary to Convolve's suggestion, there is nothing in the sworn statement submitted during reexamination referring to inherent anticipation with respect to the inverse relationship. And in this litigation, Convolve's experts used the terms "ensure" and "inherent" to mean that the inverse relationship must hold for every seek. Dr. Souri was not discussing inherent anticipation when he admitted that the inverse relationship must be known for "all seeks." A4184-4185 (7/1/2008 Souri Dep. 268:3-269:19).

Defendants have not relied on the inherency doctrine to contend that Koizumi invalidates the '473 patent and neither did the PTO during reexamination. Convolve's admissions regarding "ensuring" the inverse relationship "for all seeks" relate to the claim requirements of the '473 patent. Convolve's attempt to misleadingly spin its prior concessions should not be permitted.

Convolve also has claimed that a Texas magistrate judge's nonbinding claim construction means that summary judgment is inappropriate here. A2348-2349 (5/2/2014 Pl. Opp. to SJ). The Texas

magistrate judge—relying on Convolve's argument that its admissions in reexamination related to inherent anticipation—did not construe the "inverse relation" element to require an inverse relation for all seeks.

It may be that Convolve's litigation experts in Texas did not make the same admissions they made in this case regarding the need to "ensure" the inverse relationship and know the inverse relationship "for all seeks." And it appears that the magistrate judge was mistaken about the context of the statements Convolve made in reexamination, as well as having impermissibly allowed Convolve to assert one meaning to the claim term for validity and a different meaning for purposes of infringement. *E.g., Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001). In any case, nothing about the magistrate judge's claim construction rises to the level of persuasive, let alone binding, authority.

Finally, Convolve has argued that the inverse relation element does not require an inverse relation for all seeks because "part-time" infringement is nonetheless infringement. A2350 (5/2/2014 Pl. Opp. to SJ). But this mischaracterizes Compaq and Seagate's position. Compaq and Seagate do not contend that devices that sometimes infringe must infringe 100% of the time in order for defendants to be liable. What Compaq and

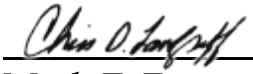
Seagate argue—backed by this Court's precedent—is that in order to infringe *at all*, the claimed and required inverse relationship must hold for all seeks. Thus, the accused devices do not ever infringe. *See Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007) (affirming summary judgment of noninfringement where claims required a step of dripping ice into spherical beads and alleged infringer did not always use only spherical beads; sometimes the accused infringer's product included non-spherical beads).

Conclusion

For the foregoing reasons, the judgment of the district court should be affirmed.

Dated March 10, 2015

Respectfully submitted,



Mark E. Ferguson
Christopher D. Landgraff
Christopher R. Hagale
BARTLIT BECK HERMAN
PALENCHAR & SCOTT LLP
54 W. Hubbard Street, Suite 300
Chicago, Illinois 60654
(312) 494-4400

Attorneys for Defendant-Appellee
Compaq Computer Corporation

CERTIFICATE OF SERVICE

I hereby certify that on October 12, 2015, I caused a copy of Brief For Defendant-Appellee Compaq Computer Corporation to be served via email on the parties listed below, and I furthermore certify that on March 10, 2015, I caused two copies of the Confidential Brief of Defendant-Appellee Compaq Computer Corporation and Compaq's supplemental appendix pages to be served via email (brief only) and Federal Express for overnight delivery upon:

Gregory A. Markel
John T. Moehringer
Robert M. Pollaro
Kevin J. McNamee
CADWALADER, WICKERSHAM & TAFT LLP
One World Financial Center
New York, NY 10281
(212) 504-6000

Counsel for Plaintiff-Appellant Convolve, Inc.

Carter G. Phillips
SIDLEY AUSTIN LLP
1501 K Street, NW
Washington, DC 20005-1403
(202) 736-8000

Counsel for Defendant-Appellee Seagate Technology, LLC

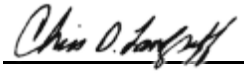
/s/ Christopher D. Landgraff
Christopher D. Landgraff
Attorney for Defendant-Appellee Compaq Computer Corporation

CERTIFICATE OF COMPLIANCE

1. This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). This brief contains 6,789 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii) and Federal Circuit Rule 32(b).

2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and with the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). This brief has been prepared in a proportionally spaced typeface using Microsoft Word 2010 in 14-point font Book Antiqua.

Dated: March 10, 2015



Christopher D. Landgraff
Attorney for Defendant-Appellee
Compaq Computer Corporation