

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

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**EON CORP. IP HOLDINGS LLC,**  
*Plaintiff-Appellant*

v.

**AT&T MOBILITY LLC,**  
*Defendant-Appellee*

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2014-1392

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Appeal from the United States District Court for the District of Delaware in No. 1:13-cv-00910-RGA, Judge Richard G. Andrews.

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**EON CORP. IP HOLDINGS LLC,**  
*Plaintiff-Appellant*

v.

**FLO TV INCORPORATED,**  
*Defendant-Appellee*

**MOBITV INC.,**  
*Defendant-Appellee*

**U.S. CELLULAR CORPORATION,**  
*Defendant-Appellee*

**SPRINT NEXTEL CORPORATION, HTC AMERICA  
INC., QUALCOMM, INC., SIMPLEXITY, LLC, D/B/A  
WIREFLY, MOTOROLA MOBILITY LLC,**  
*Defendants-Appellees*

**LETSTALK.COM INC.,**  
*Defendant*

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2014-1393

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Appeal from the United States District Court for the  
District of Delaware in No. 1:10-cv-00812-RGA, Judge  
Richard G. Andrews.

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Decided: May 6, 2015

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Before PROST, *Chief Judge*, NEWMAN and BRYSON, *Circuit Judges*.

PROST, *Chief Judge*.

In these consolidated cases, EON Corp. IP Holdings LLC (“EON”) asserts U.S. Patent No. 5,663,757 (“’757 patent”) against a number of defendants. The district court granted the defendants’ motion for summary judgment, holding all claims of the ’757 patent invalid as indefinite. In particular, the district court found that the specification failed to disclose an algorithm to provide

structure for various computer-implemented means-plus-function elements. On appeal, we affirm.

## I. BACKGROUND

The asserted '757 patent, which issued on September 2, 1997, is directed to software embodied in a “local subscriber data processing station” that operates in tandem with a television to interconnect various interactive features of the television. The software allows actions such as “impulse purchase transactions with immediate payment,” audience participation voting, and sorting television programs by theme. '757 patent col. 2 l. 65. EON alleges that “the modern iteration of the '757 Patent’s local subscriber data processing station is a smartphone with certain capabilities.” Appellant’s Br. 5–6.

Consequently, on September 23, 2010, EON filed an action against seventeen defendants, including smartphone manufacturers, cellular network providers, and smartphone content providers (“the FLO TV case”). Nine months later, on June 14, 2011, EON sued several other defendants in a separate action (“the AT&T case”). The two cases were consolidated through claim construction.

At the same time, the '757 patent went through two reexaminations. The claims were amended in the first reexamination, and all claims as amended were confirmed in the second reexamination. However, on November 1, 2013, the defendants in the FLO TV action moved for summary judgment of invalidity for indefiniteness. To resolve the motion, the district court held a claim construction hearing on January 8, 2014, a summary judgment hearing on January 9, 2014, and a hearing to receive expert testimony on February 5, 2014. Soon after the hearings, the district court granted summary judgment to the FLO TV defendants, finding that all claims of

the '757 patent were invalid as indefinite. The eight terms that were held to be indefinite are the following:

1. “means under control of said replaceable software means for indicating acknowledging shipment of an order from a remote station” (Claim 7);
2. “means controlled by replaceable software means operable with said operation control system for . . . reconfiguring the operating modes by adding or changing features and introducing new menus” (Claims 1-6, 8-10);
3. “means responsive to said self contained software for establishing a mode of operations for selection of one of a plurality of authorized television program channels” (Claim 8);
4. “means establishing a first menu directed to different interactively selectable program theme subsets available from said authorized television program channels” (Claim 8);
5. “means for causing selected themes to automatically display a second menu” (Claim 8);
6. “means controlled by replaceable software means operable with said operation control system for establishing and controlling a mode of operation that records historical operating data of the local subscriber’s data processing station” (Claim 9);
7. “means controlled by replaceable software means operable with said operat[ion] control system for establishing and controlling fiscal transactions with a further local station” (Claim 10); and
8. “means for establishing an accounting mode of operation for maintaining and reporting fiscal transactions incurred in the operation of the local subscriber’s data processing station” (Claim 10).

Following its summary judgment order, the district court entered final judgment of invalidity on March 5, 2014 in the FLO TV case. The parties in the AT&T case then entered into a joint stipulation to final judgment of invalidity, which the district court granted on March 18, 2014. EON appeals, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

## II. DISCUSSION

We review the grant of summary judgment of indefiniteness de novo, applying the same standard used by the district court. *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 149 F.3d 1309, 1315 (Fed. Cir. 1998). Summary judgment is appropriate if, viewing the evidence in the light most favorable to the non-moving party, the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law. Fed. R. Civ. P. 56; *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). We review the district court's ultimate conclusion of indefiniteness under 35 U.S.C. § 112 de novo. *Eidos Display, LLC v. AU Optronics Corp.*, 779 F.3d 1360, 1364 (Fed. Cir. 2015). In this case, the district court made numerous detailed findings of fact. Because the indefiniteness inquiry here is intertwined with claim construction, *see Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1379 (Fed. Cir. 1999) (“[A] court’s determination of the structure that corresponds to a particular means-plus function limitation is indeed a matter of claim construction.”), we review these subsidiary factual determinations for clear error. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 836 (2015); *see also Biosig Instruments, Inc. v. Nautilus, Inc.*, No. 2012-1289, slip op. at 5 (Fed. Cir. Apr. 27, 2015); Fed. R. Civ. P. 52(a)(6) (“Findings of fact . . . must not be set aside unless clearly erroneous . . .”).

The parties agree that the claim terms at issue are all means-plus-function terms governed by 35 U.S.C. § 112 ¶ 6.<sup>1</sup> Section 112, paragraph 6 states that:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Means-plus-function claim limitations under § 112 ¶ 6 must satisfy the definiteness requirement of § 112 ¶ 2. *S3 Inc. v. NVIDIA Corp.*, 259 F.3d 1364, 1367 (Fed. Cir. 2001).

The parties also agree that the functions claimed in the terms at issue are all performed by computer software. It is well-established that the corresponding structure for a function performed by a software algorithm is the algorithm itself. *See WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1348–49 (Fed. Cir. 1999). Accordingly, “[i]n cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.” *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

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<sup>1</sup> Paragraph 6 of 35 U.S.C. § 112 was replaced with newly designated § 112(f) when § 4(c) of the America Invents Act (AIA), Pub. L. No. 112-29, took effect on September 16, 2012. Because the applications resulting in the patents at issue in this case were filed before that date, we will refer to the pre-AIA version of § 112.

### A. The *Katz* Exception

In this case, EON does not dispute that the '757 patent discloses no algorithms. It is uncontested that the only structure disclosed in the '757 patent is a microprocessor. For this reason, EON relies on an exception to the algorithm rule created in *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303 (Fed. Cir. 2011). *Katz* held that a standard microprocessor can serve as sufficient structure for “functions [that] can be achieved by any general purpose computer without special programming.” *Katz*, 639 F.3d at 1316. In *Katz*, claim terms involving basic “processing,” “receiving,” and “storing” functions were not necessarily indefinite because a general purpose computer need not “be specially programmed to perform the recited function.” *Id.* However, other claim terms involving conditionally coupling calls were indefinite because those functions required special programming and no algorithm was disclosed. *Id.* at 1315.

This court has since analyzed the “narrow” *Katz* exception once, finding that it did not apply. *See Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364 (Fed. Cir. 2012). A representative example of one of the means-plus-function terms at issue in *Ergo* follows:

programmable control means coupled with said adjusting means for controlling said adjusting means, said programmable control means having data fields describing metering properties of individual fluid flows.

U.S. Patent No. 5,507,412 claim 1 (filed June 14, 1998). The *Ergo* court explained that “[i]t is only in the rare circumstances where any general-purpose computer without any special programming can perform the function that an algorithm need not be disclosed.” *Id.* at 1365. The court found that an algorithm was needed to lend sufficient structure to the terms at issue because “[t]he

‘control means’ at issue in this case cannot be performed by a general-purpose computer without any special programming. The function of ‘controlling the adjusting means’ requires more than merely plugging in a general-purpose computer.” *Id.*

EON asserts that the functions claimed in the ’757 patent do not involve “special programming”—and thus fall within the *Katz* exception—because they are relatively simple to implement. However, the *Katz* exception is not so broad. As we stated in *Katz*, a microprocessor can serve as structure for a computer-implemented function only where the claimed function is “coextensive” with a microprocessor itself. *Katz*, 639 F.3d at 1316. Examples of such coextensive functions are “receiving” data, “storing” data, and “processing” data—the only three functions on which the *Katz* court vacated the district court’s decision and remanded for the district court to determine whether disclosure of a microprocessor was sufficient.

*Katz*’s “special programming” language has its origins in *WMS Gaming*. As mentioned above, *WMS Gaming* held that the corresponding structure for a software algorithm is the algorithm. In *WMS Gaming*, disclosure of a general purpose computer was insufficient because “[a] general purpose computer, or microprocessor, programmed to carry out an algorithm creates ‘a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.’” *WMS Gaming*, 184 F.3d at 1348 (quoting *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (en banc) (abrogated by *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008), *aff’d but criticized sub nom. Bilski v. Kappos*, 561 U.S. 593 (2010))). As the foregoing citation demonstrates, *WMS Gaming* borrows language from *Alappat*. *Alappat*, which was predominantly a § 101 case, held that the recited algorithm claimed patent-eligible subject matter because its combination with a

general purpose computer created a new “machine” for the purposes of § 101. 33 F.3d at 1545. Specifically, *Alappat* reasoned that “a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.”<sup>2</sup> *Id.* The *Alappat* court used this explanation to justify an expansive view of § 101 under which nearly any algorithm was patentable so long as the claim was written to a computer loaded with the software. *Id.* (“[A] computer . . . is apparatus not mathematics.”).

By way of *WMS Gaming*, the “special programming” language in *Katz* derives from *Alappat*’s legacy. After *WMS Gaming*, a number of cases held means-plus-function claims indefinite for failure to disclose a sufficient algorithm. See, e.g., *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008); *Finisar Corp. v. DirecTV Grp.*, 523 F.3d 1323, 1340–41 (Fed. Cir. 2008); *Aristocrat*, 521 F.3d at 1338. For the “processing,” “receiving,” and “storing” claim terms, *Katz* distinguished those cases using *WMS Gaming*’s vocabulary, which culminated in *Katz*’s “special programming” phrase:

Those cases involved specific functions that would need to be implemented by programming a general purpose computer to convert it into a special purpose computer capable of performing those

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<sup>2</sup> Building on *Alappat*, *WMS Gaming* reasoned that “[t]he instructions of the software program that carry out the algorithm electrically change the general purpose computer by creating electrical paths within the device. These electrical paths create a special purpose machine for carrying out the particular algorithm.” *WMS Gaming*, 184 F.3d at 1348.

specified functions. *See, e.g., Aristocrat*, 521 F.3d at 1333–34; *Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1253 (Fed. Cir. 2005); *WMS Gaming*, 184 F.3d at 1349. By contrast, in the seven claims identified above, Katz has not claimed a specific function performed by a special purpose computer, but has simply recited the claimed functions of “processing,” “receiving,” and “storing.” Absent a possible narrower construction of the terms “processing,” “receiving,” and “storing,” discussed below, those functions can be achieved by any general purpose computer without special programming.

*Katz*, 639 F.3d at 1316.

Taken in context, then, “special programming” does not denote a level of complexity. On this point, the district court erred in holding that “special programming” does not encompass commercially available off-the-shelf software. To the contrary, and as originally described in *Katz*, “special programming” includes any functionality that is not “coextensive” with a microprocessor or general purpose computer. *Id.* In other words—to use the language of *Alappat*—the general purpose computer becomes a special purpose computer when loaded with the special programming, so a general purpose computer or microprocessor no longer lends sufficient structure to the claim. Therefore, as is plain from this review, the *Katz* exception is a necessary corollary to the general rule stated in *WMS Gaming* and further elaborated in *Aristocrat* and other later cases. A microprocessor or general purpose computer lends sufficient structure only to basic functions of a microprocessor. All other computer-implemented functions require disclosure of an algorithm.

Before moving on, we note that *Alappat* has been superseded by *Bilski*, 561 U.S. at 605–06, and *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014). Nonetheless,

*WMS Gaming* and *Katz* remain correctly decided. *WMS Gaming* and *Katz* are consistent with recent Supreme Court precedent, including *Nautilus, Inc. v. Biosig Instruments, Inc.*, which warned against “diminish[ing] the definiteness requirement’s public-notice function and foster[ing] the innovation-discouraging zone of uncertainty against which this Court has warned.” 134 S. Ct. 2120, 2130 (2014) (citation omitted) (internal quotation marks omitted). The disclosure of structure under § 112 ¶ 6 serves the “purpose of limiting the scope of the claim to the particular structure disclosed, together with equivalents.” *Aristocrat*, 521 F.3d at 1336. A general purpose computer is flexible—it can do anything it is programmed to do. *Id.* at 1333. Therefore, the disclosure of a general purpose computer or a microprocessor as corresponding structure for a software function does nothing to limit the scope of the claim and “avoid pure functional claiming.” *Id.* As such, when a patentee invokes means-plus-function claiming to recite a software function, it accedes to the reciprocal obligation of disclosing a sufficient algorithm as corresponding structure.

#### B. Role of the Person of Ordinary Skill in the Art

EON also argues that a microprocessor can serve as sufficient structure for a software function if a person of ordinary skill in the art could implement the software function. This argument is meritless. In fact, we have repeatedly and unequivocally rejected this argument: a person of ordinary skill in the art plays no role whatsoever in determining whether an algorithm must be disclosed as structure for a functional claim element. *See Noah Sys. v. Intuit Inc.*, 675 F.3d 1302, 1313 (Fed. Cir. 2012); *Blackboard*, 574 F.3d at 1385; *Aristocrat*, 521 F.3d at 1337.

To elaborate, “our case law regarding special purpose computer-implemented means-plus-functions claims is divided into two distinct groups: First, cases in which the

specification discloses no algorithm; and second, cases in which the specification does disclose an algorithm but a defendant contends that disclosure is inadequate.” *Noah*, 675 F.3d at 1313. Where the specification discloses no algorithm, the skilled artisan’s knowledge is irrelevant. *Id.* (citing *Aristocrat*, 521 F.3d at 1337). Where the specification discloses an algorithm that the accused infringer contends is inadequate, we judge the disclosure’s sufficiency based on the skilled artisan’s perspective. *Id.* (citing *Aristocrat*, 521 F.3d at 1337; *AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1245 (Fed. Cir. 2007)). The parties agree that the ’757 patent’s specification discloses no algorithms, so this case falls in the first category, in which the skilled artisan’s knowledge is irrelevant.

EON’s argument, identical to many we have previously rejected, “conflates the definiteness requirement of section 112, paragraphs 2 and 6, and the enablement requirement of section 112, paragraph 1.” *Blackboard*, 574 F.3d at 1385. “Enablement of a device requires only the disclosure of sufficient information so that a person of ordinary skill in the art could make and use the device. A section 112 paragraph 6 disclosure, however, serves the very different purpose of limiting the scope of the claim to the particular structure disclosed, together with equivalents.” *Aristocrat*, 521 F.3d at 1336. Accordingly, “[t]he question before us is whether the specification contains a sufficiently precise description of the ‘corresponding structure’ to satisfy section 112, paragraph 6, not whether a person of skill in the art could devise some means to carry out the recited function.” *Blackboard*, 574 F.3d at 1385.

### C. Application of the Algorithm Requirement to this Case

In light of the foregoing discussion, resolution of this case is straightforward. The district court made explicit factual findings, based on expert testimony, that each of

the eight claim terms at issue recited complicated, customized computer software. We see no clear error in any of the district court's factual findings, nor any error in the district court's ultimate conclusion of indefiniteness.

Significantly, EON does not contend on appeal that the terms at issue recite functions that are coextensive with a microprocessor. EON also does not differentiate between any of the claim terms in its argument. In fact, EON cites to testimony from its expert that a person skilled in the art would need to consult algorithms outside the specification to implement the claimed functions. Similarly, based on expert testimony, the district court found that "special code would have to be written in order to accomplish the claimed functionality." *EON Corp. IP Holdings, LLC v. FLO TV Inc.*, No. CV 10-812-RGA, 2014 WL 906182, at \*5 (D. Del. Mar. 4, 2014). As discussed above, this finding proves more than is necessary, as the defendants must only show by clear and convincing evidence that the terms at issue do not recite basic functions of a microprocessor. Therefore, the '757 patent's disclosure of a microprocessor does not lend sufficient structure to the means-plus-function terms at issue, and the '757 patent's claims are indefinite.

### III. CONCLUSION

Accordingly, we affirm the district court's grant of summary judgment of invalidity. All claims of the '757 patent are invalid for indefiniteness.

**AFFIRMED**