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Recent Development

RECENT DEVELOPMENTS IN COPYRIGHT LAW

Kevin J. Meek[a1] David N. Fogg[a1]

Table of Contents

Since June of 1992, the federal courts have handed down several important decisions affecting the law of copyrights. More particularly, the decisions relate to the protectability of computer software, the fair use of a copyrighted work, the level of creativity required for copyright protection, and infringement under the Semiconductor Chip Protection Act.

I. The Decreasing Scope Of Copyright Protection For Computer Software

In the area of computer software, the Ninth Circuit and the Federal Circuit have held that "reverse engineering object code to discern the unprotectable ideas of a computer program is a fair use."[1] Additionally, the Second Circuit and a district court in the Ninth Circuit have fashioned tests for infringement of the non-literal elements of computer software[2] that substantially diminish the scope of copyright protection.[3]

A. Non-Literal Elements of Computer Software Receive a Narrow Scope of Protection

***122** In *Computer Associates,* the Second Circuit adopted a three part test for determining copyright infringement of non-literal elements of a computer program that substantially narrows the scope of protection under the copyright laws.[4] Computer Associates marketed computer software for job scheduling called CA-SCHEDULER.[5] As part of its software, Computer Associates included a program called ADAPTER that allowed the task-specific programs of CA-SCHEDULER to be used with any of three different operating systems.[6]

Altai also marketed a job scheduling program called ZEKE.[7] ZEKE, however, only worked on one operating system.[8] In an

effort to modify its job program to work on other operating systems, Altai hired Arney, a former employee of Computer Associates.[9] Arney obtained and incorporated portions of Computer Associates source code in his modifications of ZEKE.[10]

Computer Associates filed suit against Altai claiming copyright infringement.[11] Altai immediately began to rewrite its modified computer program.[12] The modified version of ZEKE did not include any code from CA-SCHEDULER.[13] With the removal of this code by Altai, Computer Associates was left with a claim that Altai infringed the non-literal aspects of CA-SCHEDULER.[14]

The *Computer Associates* court adopted a three part test for determining copyright infringement of non-literal elements of a computer program.[15] First, a court should apply an "abstraction test" by "dissect[ing] the allegedly copied program's structure and [isolating] each level of abstraction contained within it."[16] Second, a court should apply a "filtration test" by
examining the structural components at each level of abstraction to determine whether their particular inclusion at that level was "idea" or was dictated by considerations of efficiency, so as to be necessarily incidental to that idea; required by factors external to the program itself; or taken from the public domain.[17]
Finally, the court should compare the allegedly infringing work with the "protectable expression" found in the filtration step.[18]

In elaborating on the filtration step, the court provided defendants with three weapons to attack copyright protection of the non-literal elements of a computer program.[19] First, the court explained that efficient code structure indicates that the code structure represents an idea rather than an expression of an idea.[20] The court reached this conclusion relying on the long standing doctrine of merger as applied to copyrighted works in general.[21] This means that copyright infringement of non-literal elements of a computer program is only available to a poorly written, or inefficiently structured, program. This result is not consistent with the constitutional mandate that copyright protection is "to promote the progress of science and useful arts."[22] Second, the court explained that elements dictated by external ***123** factors will be denied copyright protection under the doctrine of *scenes a faire*.[23] Under this doctrine, copyright protection is denied when
extrinsic considerations such as (1) the mechanical specifications of the computer on which a particular program is intended to run; (2) compatibility requirements of other programs with which a program is designated to operate in conjunction; (3) computer manufacturer's design standards; (4) demands of the industry being serviced; and (5) widely accepted programming practices within the computer industry. . .
circumscribe "a programmer's freedom of design choice."[24] In applying the doctrine of *scenes a faire* to computer software, the court overstated its scope. A rigid application of the court's test would deny protection to the structure of a section of code simply because some aspect of the structure was dictated by an external factor without consideration of whether the external requirements could be met in other ways. Finally, the court noted that non-literal elements of a computer program that are "found in the public domain" are not protectable.[25]

The *Computer Associates* court fashioned this difficult test for finding copyright infringement of non-literal elements of a computer program expecting that the test would substantially narrow the scope of copyright protection.[26] The court felt obligated to reach this result based on at least two policy considerations.[27] First, the court noted that:

> Indeed, it may well be that the Copyright Act serves as a relatively weak barrier against public access to the theoretical interstices behind a program's source and object codes. This results from the hybrid nature of a computer program, which, while it is literary expression, is also a *highly functional, utilitarian component* in the larger process of computing.[28]

Finally, the court leaned away from extending protection to the non-literal elements of the computer program to preserve "the balance between competition and protection."[29] The court was not impressed by the argument that "if programmers are not guaranteed broad copyright protection for their work, they will not invest the extensive time, energy, and funds required to design and improve program structures."[30] The court misconstrued this argument to mean that the computer programmers desired protection of the non-literal elements of the computer program under the "sweat of the brow" doctrine.[31] The argument should have been interpreted to mean that it is improper to deny copyright protection to the non-literal elements of a computer program in light of the constitutional mandate "to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries" because the structure of a computer program meets the minimal level of creativity required by the copyright laws.[32]

B. Copying Computer Software is Acceptable as a Fair Use During the Reverse Engineering Process

Sega designs and markets video game systems.[33] Accolade designs video game cartridges compatible with the Sega video game system.[34] To make its video game cartridges compatible with the ***124** Sega system, Accolade "'reverse engineered' Sega's video game programs."[35] Accolade obtained copies of Sega video game cartridges and "transformed the machine-readable object code . . . into human-readable source code using a process called 'disassembly' or 'decompilation'."[36] Next, Accolade printed and studied the source code generated by the disassembly process.[37] Accolade experimented with the disassembled code on a computer "to discover the interface specifications."[38] From these experiments, Accolade produced a manual that "contained only functional descriptions of the interface requirements and did not include any of Sega's code."[39] Based on this manual, Accolade "created its own games for the" Sega system.[40]

In *Sega,* the district court found that intermediate copying of computer object code constituted infringement under the Copyright Act.[41] The district court therefore granted Sega a preliminary injunction against Accolade.[42] On appeal, the Ninth Circuit held that "intermediate copying of computer object code may infringe the exclusive rights granted to the copyright owner in § 106 of the Copyright Act regardless of whether the end product of the copying also infringes those rights."[43] The court, however, went on to conclude that although Accolade's copying of Sega's software infringed Sega's copyright, Accolade's copying constituted a 'fair use' under the Copyright Act.[44]

In determining that Accolade's copying of Sega's software constituted a fair use, the court applied the four non-exclusive statutory factors of § 107.[45] As for the purpose and character of the use, the court found that this factor weighed in favor of a fair use because "its direct purpose . . . was simply to study the functional requirements for . . . compatibility" even though Accolade copied Sega's software to produce a commercial product.[46] The court further found that any commercial advantage gained by Accolade by allowing reverse engineering was outweighed by the policy behind the Copyright Act to promote "growth in creative expression based on the dissemination of other creative works and the unprotected ideas contained in those works . . . . "[47] As for the effect on the potential market, the court found that although Accolade's reverse engineering "undoubtedly 'affected' the market for [Sega]-compatible games in an indirect fashion" this factor weighed in favor of Accolade because "video game users typically purchase more than one game."[48] The court also noted that "it is the characteristics of the game program as experienced by the user that determine the program's commercial success."[49] As for the nature of the copyright work, the court found that many aspects of Sega's software are functional and therefore not protected under the Copyright Act[50] and that Accolade copied the entire object code.[51] On these findings, the court concluded that the nature of the copyrighted work weighed in Accolade's favor because the unprotected aspects of Sega's software "cannot be examined without copying."[52] Ultimately, the court held that "[w]here there is good reason for studying or examining the ***125** unprotected aspects of a copyrighted computer program, disassembly for purposes of such study or examination constitutes a fair use."[53]

C. Sega and Computer Associates: A License to Pirate

The combination of *Sega* and *Computer Associates* may provide a "judicial license" to any computer "hacker" who wants to create and market a "new" version of a program that appears to the user to be the real thing.[54] This result is clearly not consistent with the constitutional mandate to "promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[55] However, this result is clearly possible in view of the broad language of these decisions.

II. Fair Use of a Copyrighted Work

A. It is not a Fair Use to Copy Entire Articles Published in Scientific and Technical Journals

In *American Geophysical Union v. Texaco Inc.,*[56] publishers of scientific and technical journals sued Texaco for making single copies of entire articles from the publisher's journals.[57] Texaco claimed that the copies constituted a fair use under the Copyright Act.[58] The district court held that it is not a fair use for a profit-seeking company to make unauthorized copies of copyrighted articles published in scientific and technical journals for use by company scientists employed in scientific research.[59]

Texaco spends over 80 million dollars a year in scientific research.[60] As part of its research, "Texaco subscribes to numerous scientific and technical journals".[61] Texaco makes these journals available to its research staff.[62] To free up the original journals, researchers commonly photocopy important articles in these journals to be "kept in their personal files and used in the laboratory in the course of their research work."[63]

The publishers publish journals containing multiple articles written by independent authors who assign the copyright in the articles to the publisher.[64] The articles are edited and combined into monthly issues which are sold to various research facilities including Texaco.[65] To obtain a personal copy of a particular article, a researcher may obtain a back issue of the journal, a reprint of the article, or authorization to photocopy through the Copyright Clearance Center Inc. (CCC).[66]

In determining that Texaco's copying of the publisher's technical journals did not constitute a fair use, the court applied the non-exclusive statutory factors of § 107 of the Copyright Act. As for the purpose and character of the secondary use, the court noted that "secondary users have succeeded in winning the first factor by reason of either (1) transformative (or productive) non-superseding use of the ***126** original, or (2) non-commercial use, generally for a socially beneficial or widely accepted purpose."[67] According to the court, the use by Texaco researchers did not qualify as a transformative non-superseding use even though its purpose was "to advance scientific discovery."[68] Additionally, the court noted that "even if some transformative purpose was present in transferring the article from its journal into a slender photocopy, that use is overshadowed by the primary aspect of the copying, which is to multiply copies."[69] Finally, Texaco researchers did not use the articles in a non-commercial manner, therefore, the purpose and character of the secondary use favors a finding of no fair use.[70] As for the amount and substantiality of the portion used, the court found that this factor "clearly favors the [publishers]" because the Texaco researchers "copied the entirety" of the publisher's copyrighted articles.[71] The court held that each article is the subject of a separate copyright even though it is common practice for a publisher to register an entire journal under a single copyright with the copyright office.[72]

As for the effect on the market for the copyrighted work, the court found that this factor also favored the publishers because "Texaco would need to provide its scientists additional copies through any one or more of a number of different routes, all of which would substantially supplement the revenues of the copyright owning publishers."[73]

Because the fair use exception is an "equitable rule of reason" Texaco raised the additional argument that "it has then been invited by the publisher to have each of its scientists read [the journals] free of any additional charge and is therefore in a position comparable to the *Sony* home time-shifter when it permits its scientists to make photocopies to facilitate such reading."[74] Although the court noted that this argument was not without merit, the court concluded that Texaco's use of "three subscriptions to [a journal] to furnish copies to hundreds of scientists" is substantially different from the "single user's one-time viewing hypothesized in *Sony*."[75] Additionally, the court found that the existence of the CCC avoided the argument that the use was fair due to the high transaction costs in entering into a license for a single copy.[76]

B. Every Parody is not Necessarily a Fair Use

Roy Orbison and William Dees wrote and recorded the copyrighted song "Oh, Pretty Woman" in 1964.[77] Recently, the musical group 2 Live Crew wrote and recorded a modern version of the song.[78] 2 Live Crew intended to create a parody of the Orbison-Dees version of "Oh, Pretty Woman".[79] Acuff-Rose Music Inc., the owner of the copyright to the original song, sued 2 Live Crew for copyright infringement.[80] The district court granted summary judgment for 2 Live Crew finding the parody to be a fair use.[81] On appeal, the Sixth Circuit reversed the summary judgment finding that "2 Live Crew's use of Acuff-Rose's copyrighted song was not a fair use."[82]

***127** In determining whether 2 Live Crew's parody qualified for the fair use exception, the court noted that not every parody is a fair use according to the popular definition of parody.[83] In common usage, a parody is "'when one artist, for comic effect or social commentary, closely imitates the style of another artist and in so doing creates a new artwork that makes ridiculous the style and expression of the original.'"[84] According to the *Acuff-Rose* court, not all such parody's will be protected under the fair use exception.

In determining whether 2 Live Crew's song qualified under the fair use exception, the circuit court did not directly overrule the district court's finding that 2 Live Crew's song was a parody.[85] Rather, the circuit court implicitly overruled the district court's finding by concluding that 2 Live Crew's parody was not a fair use. The court hesitated to extend fair use protection to this parody because,

the term parody cannot be allowed to assume too broad a definition, for if an "infringement of a copyrightable expression could be justified as a fair use solely on the basis on the infringer's claim to a higher or different artistic use . . . there would be no practicable boundary to the fair use defense."[86]

The key to the court's decision that this parody should not be protected as a fair use is that the parody was not a "direct comment" on the original work.[87] A direct comment "is expressly and unambiguously directed at the message of the original work."[88] 2 Live Crew claimed that its version of "Pretty Woman is a comment on the banality of white-centered popular

music."[89] The court, however, found that this comment was not "unambiguously directed at the message of the original work."[90] The remainder of the court's opinion is consistent with its implicit determination that 2 Live Crew's version of Oh Pretty Woman did not constitute a parody.

As to the purpose and character of the use, the court found that 2 Live Crew's version was presumptively an unfair exploitation of the original song because of the commercial nature of 2 Live Crew's song.[91] The court therefore shifted the burden of proof to 2 Live Crew to overcome this presumption.[92] Because 2 Live Crew failed to overcome the presumption, this factor supported a finding of no fair use.[93] As to the portion used, the court found that "taking the heart of the original and making it the heart of a new work was to purloin a substantial portion of the essence of the original"[94] even though parodies generally can use more of the original work and still constitute a fair use.[95] Finally, as to the effect on the potential market, the court found that 2 Live Crew had harmed the market for derivative works.[96] Based on these findings, the court concluded that 2 Live Crew's song was not a fair use.[97]

III. The Level of Creativity for Copyright Protection

***128** A number of years ago, Atari created a video game called BREAKOUT.[98] The object of the game Breakout is to use a "paddle" to hit a "ball" against a "wall" to cause the entire wall to vanish brick by brick.[99] In BREAKOUT, "[t]he ball's movement does not follow the laws of physics; instead, the angle of the ball's rebound depends solely on where it impacts the paddle."[100] The Copyright Office refused to register the game as an audiovisual work because "'the display screens both individually and as a whole, simply lack[ ] sufficient creativity to make them registrable as audiovisual works.'"[101] The Copyright Office based this decision on its finding that "the wall, ball, and paddle" are "'simple geometric shapes and coloring' which '*per se* are not copyrightable.'"[102] The district court granted summary judgment to the Copyright Office.[103]

In reversing the summary judgment in favor of the Register of Copyrights, the circuit court reaffirmed the Supreme Court's recent "instruction that 'the requisite level of creativity [for copyrightability] is extremely low.'"[104] In assessing whether an audiovisual work qualifies for copyright protection, the court held that "the interrelationship of the successive . . . screens is crucial."[105] To show that the game Breakout attained the modicum of creativity necessary for copyright protection, the court pointed to the fact that "[the ball's] trajectory does not follow from the laws of physics. Atari created this motion by selecting and arranging the graphic elements in individual screens and then selecting and arranging the sequence of these screens."[106]

This decision demonstrates that the Supreme Court's holding in *Feist Publications v. Rural Telephone Service Co.*[107] does not pose a serious threat to the registrability of the "vast majority of works."[108]

IV. Infringement Under the Semiconductor Chip Protection Act to be Governed by the Substantial Similarity

In a case of first impression, the Federal Circuit adopted the substantial similarity test from copyright infringement for infringement under the Semiconductor Chip Protection Act.[109] In the case of *Brooktree Corp. v. Advanced Micro Devices,* Brooktree registered two mask works with the Copyright Office.[110] Brooktree's semiconductor chips act as a "'color palette' [for] producing the colors in [a] color video display[ ] having high speed and enhanced picture resolution."[111] The Brooktree semiconductor chips contain a static random access memory (SRAM).[112] The SRAM consists of a "core cell . . . which is repeated over six thousand times in an array covering about eighty percent of the chip area."[113] Brooktree alleged that Advanced Micro Device's (AMD's) chip infringed Brooktree's mask registrations by copying this core cell.[114] The district court found that AMD infringed Brooktree's mask work registrations.[115] On appeal, the Federal Circuit affirmed the lower court ***129** decision.[116] In analyzing the infringement issue, the Federal Circuit held that infringement under the Semiconductor Chip Protection Act is to be determined according to the same test applied with respect to copyright infringement.[117] The court reasoned that "although the Semiconductor Chip Protection Act does not use the word 'copy' to describe infringement, the parallel language reflects the incorporation of the well-explicated copyright principle of substantial similarity into the Semiconductor Chip Protection Act."[118] The court also elaborated on the interplay between the infringement provision and the reverse engineering defense of the Semiconductor Chip Protection Act.[119]

The Semiconductor Chip Protection Act specifically provides for "reverse engineering" as a statutory defense because "reverse engineering seeks to understand the design of the original chip with the object of improving the circuitry, the chip layout, or both."[120] The legislative history behind the Semiconductor Chip Protection Act indicates that one factor supporting a finding of reverse engineering is that "reverse engineering generally produces a 'paper trail'".[121]

In *Brooktree,* AMD asserted the reverse engineering defense relying on a "paper trail" that documented two and half years of effort at a cost of more than three million dollars.[122] AMD was unsuccessful in asserting the reverse engineering defense because the "paper trail" ended shortly after AMD discovered that it had mistakenly interpreted Brooktree's mask works.[123]

Once AMD realized its mistake, "AMD immediately [began] producing, without further experimentation, a substantially identical SRAM cell" indicating that AMD's work did not "seek to understand" or "improve" the Brooktree chips.[124] The court therefore found that "there was a legally sufficient evidentiary basis whereby a reasonable jury could have found infringement of the mask work registrations" and that AMD's chip was not the result of reverse engineering.[125]

V. Summary

Recent decisions in copyright law have elaborated on the protectability of computer software, the fair use of a copyright work, and the requisite level of creativity necessary for copyright protection. In the area of computer software, the trend in the case law is to substantially narrow the scope of protection afforded both the literal and non-literal elements of a computer program. The courts have also limited the protective confines of the fair use defense, especially with respect to parodies and copies of entire articles from journals. Additionally, the courts have reaffirmed the low level of creativity required for copyright protection. Finally, in a case of first impression, the infringement provision of the Semiconductor Chip Protection Act has been interpreted to provide the broad protection afforded by the "substantial similarity" test borrowed from copyright law.

Footnotes

a1 Baker & Botts, L.L.P., Dallas, TX.

1 Atari Games v. Nintendo of America, 975 F.2d 832, 843 (Fed. Cir. 1992); Sega Enters. v. Accolade, Inc., 977 F.2d 1510, 1520 (9th Cir. 1992).

2 "Non-literal" elements of computer software comprise the structure of the program itself whereas the "literal" elements of computer software comprise the actual code.

3 Computer Assocs. Int'l v. Altai, Inc., 23 U.S.P.Q.2d 1241, 1252-58 (2d Cir. 1992); Apple Computer v. Microsoft, 24 U.S.P.Q. 2d. 1081, 1086-92 (N.D. Cal. 1992).

4 *Computer Assocs.,* 23 U.S.P.Q.2d at 1252-57.

5 *Id.* at 1246.

6 *Id.* at 1246-47.

7 *Id.*

8 *Id.*

9 *Id.*

10 *Id.*

11 *Id.*

12 *Id.* at 1248.

[13] *Id.*

[14] *Id.*

[15] *Id.* at 1252-58. In a recent decision in California, the District Court applied a similar test to limit the protectability of a "graphical user interface" of a computer program. Apple Computer v. Microsoft, 24 U.S.P.Q. 2d 1081, 1086-92 (N.D. Cal. 1992) (the court specifically refused to apply the "look and feel" doctrine espoused by Apple).

[16] *Id.* at 1253.

[17] *Id.*

[18] *Id.* at 1256.

[19] *Id.* at 1253-56.

[20] *Id.* at 1254-55.

[21] *Id.*

[22] U.S. Const. art. 1, § 8, cl. 8.

[23] *Computer Assocs.,* 23 U.S.P.Q.2d at 1255.

[24] *Id.*

[25] *Id.* at 1256.

[26] *Id.* at 1257.

[27] *Id.* at 1256-57.

[28] *Id.* (emphasis added).

[29] *Id.* at 1256.

[30] *Id.*

[31] *Id.* at 1256-57.

[32] U.S. Const. art. 1, § 8, cl. 8.

[33] Sega Enters. v. Accolade, Inc., 977 F.2d 1510, 1514 (9th Cir. 1992).

[34] *Id.*

[35] *Id.*

[36] *Id.*

[37] *Id.* at 1515.

[38] *Id.*

[39] *Id.*

[40] *Id.* After Sega modified its video game system, Accolade added a "header file" copied from Sega's code to its games. However, Sega did not claim copyright infringement as to this code. *Id.* at 1516.

[41] *Id.* at 1517.

[42] *Id.*

[43] *Id.* at 1519.

[44] *Id.* at 1520.

[45] *Id.* at 1521-27.

[46] *Id.* at 1522.

[47] *Id.* at 1523.

[48] *Id.*

[49] *Id.* The court intimated that a finding of fair use is less likely if the product resulting from the reverse engineering is a "direct" competitor to the copied product.

[50] *Id.* at 1524-25. The court relied on the recent decision of *Computer Associates* discussed *supra.*

[51] *Id.* at 1525.

[52] *Id.* at 1526.

[53] *Id.* at 1520. *See also,* Atari Games v. Nintendo of America, 975 F.2d 832, 843 (Fed. Cir. 1992).

[54] The courts may not be willing to stretch the theoretical limits of *Sega* this far. *See supra* note 49 and accompanying text. However, the possibility that the courts will continue to decrease the scope of copyright protection for computer software is very strong based on the policy arguments relied on in these cases.

[55] U.S. Const. art. 1, § 8, cl. 8.

[56] 23 U.S.P.Q.2d 1561 (S.D.N.Y. 1992).

[57] *Id.* at 1563.

[58] *Id.*

[59] *Id.* at 1583.

[60] *Id.* at 1562.

[61] *Id.*

[62] *Id.*

[63] *Id.*

[64] *Id.* at 1564.

[65] *Id.* at 1564-65.

[66] *Id.* at 1565.

[67] *Id.* at 1569.

[68] *Id.* at 1570.

[69] *Id.* at 1571.

[70] *Id.* at 1572.

[71] *Id.* at 1573.

[72] *Id.*

[73] *Id.* at 1574.

[74] *Id.* at 1577.

[75] *Id.* at 1578.

[76] *Id.* at 1578-80.

[77] Acuff-Rose Music v. Campbell, 972 F.2d 1429, 1432 (6th Cir. 1992).

[78] *Id.*

[79] *Id.*

[80] *Id.*

[81] *Id.* at 1433.

[82] *Id.* at 1439.

[83] *Id.* at 1435.

[84] *Id.* (quoting Rogers v. Koons, 960 F.2d 301, 309-10 (2d Cir. 1992).).

[85] *Id.*

[86] *Id.* at 1436 n.8 (quoting *Rogers,* 960 F.2d at 310).

[87] *Id.* at 1436 n.8.

[88] *Id.*

[89] *Id.*

[90] *Id.*

[91] *Id.* at 1437.

[92] *Id.*

[93] *Id.*

[94] *Id.* at 1438.

[95] *Id.* at 1437.

[96] *Id.* at 1439.

[97] *Id.* Judge Nelson filed a detailed dissent asserting that the 2 Live crew song should qualify as a fair use. *Id.* at 1439-46.

[98] Atari Games Corp. v Oman, 979 F.2d 242, 243 (D.C. Cir. 1992).

[99] *Id.*

[100] *Id.*

[101] *Id.*

[102] *Id.*

[103] *Id.* at 247.

[104] *Id.* at 243 (quoting Feist Publications v. Rural Tel. Serv., 11 S.Ct. 1282, 1287 (1991).

[105] *Id.* at 244. Although the court accepted that in this case "the individual graphic elements of each screen are not copyrightable" the court also noted that arrangement of graphic elements may be "indicative of authorship" *Id.* at 243 n.1.

[106] *Id.* at 246.

[107] 111 S. Ct. 1282 (1991).

[108] *Atari Games,* 979 F.2d at 247.

[109] Brooktree Corp. v Advanced Micro Devices, 977 F.2d 1555, 1564 (Fed. Cir. 1992)

[110] *Id.* at 1563.

[111] *Id.*

[112] *Id.*

[113] *Id.*

[114] *Id.*

[115] *Id.* at 1561.

[116] *Id.* at 1583.

[117] *Id.* at 1564.

[118] *Id.*

[119] *Id.* at 1565-67.

[120] *Id.* at 1566.

[121] *Id.*

[122] *Id.* at 1567.

[123] *Id.* at 1567-68.

[124] *Id.*

[125] *Id.* at 1570.