United States District Court,
S.D. New York.

IMATEC, LTD. and Hanoch Shalit,
Plaintiffs.
v.
APPLE COMPUTER, INC,
Defendant.

No. 98 Civ. 1058(JGK)

Jan. 17, 2000.

Inventor and his current employer brought suit alleging infringement of patents covering uniformity in colors on computer output devices. Alleged infringer moved to dismiss for lack of standing and for summary judgment of noninfringement. The District Court, Koeltl, J., held that: (1) complainants lacked standing to bring infringement claim, as inventor had assigned rights in patent to prior employer; (2) there was no direct infringement, as patent in issue called for direct comparison of color values of monitor and printer, while accused devices involved comparisons with device-independent third standard; (3) prosecution history estoppel precluded claim of infringement based on doctrine of equivalents; and (4) assuming that patent was read broadly enough to cover accused device, patent would be invalid due to prior art.

Motions granted.

5,345,315. Not infringed.

Eliot S. Gerber, Wyatt, Gerber, Meller & O'Rourke, LLP, New York City, for plaintiffs.

Daniel Johnson, Jr., Fenwick & West, LLP, Palo Alto, CA, for defendant.

OPINION AND ORDER

KOELTL**, District Judge.**

The plaintiffs, Imatec, Ltd. ("Imatec") and Hanoch Shalit ("Dr.Shalit"), bring this action alleging that the defendant, Apple Computer, Inc. ("Apple"), has infringed a series of patents owned by Dr. Shalit and, for a period, exclusively licensed or assigned to Imatec. Now pending before the Court are two motions brought by the defendant: a motion to dismiss for lack of standing, and a motion for summary judgment.

I.

A.

The technologies at issue in this action concern "color matching ." Color matching technologies are intended to ensure that an image displayed by one electronic output device (such as a computer monitor) appears identically, or as close thereto as possible, when displayed by another electronic output device (such as a laser printer). Such technologies are necessary because different output devices have different color characteristics. Color characteristics vary across classes of output devices, and across particular devices within any given class. Laser printers, for example, produce colors differently than do computer monitors, and one laser printer may render a given source image differently from another laser printer. *See* Declaration of Maureen C. Stone, dated April 12, 1999 ("Stone Decl."), para.para. 7-9, 14; *see also* U.S. Patent No. 5,345,315, col. 3:5-25.

Perceived color is produced in two fundamentally different ways. "Additive color" is produced when a light source is caused to glow with a combination of the primary colors red, green, and blue. Devices that generate additive color, such as computer monitors, are referred to as "RGB" devices because they combine the primary colors red, green, and blue to produce a given color. "Subtractive color" is produced when light from a light source is reflected by a surface whose pigments absorb certain wavelengths but not others. Devices that generate subtractive color, such as laser printers, are referred to as "CMYK" devices because they combine the primary colors cyan, magenta, and yellow, as well as black, to produce a given color. *See* Stone Decl., para.para. 9-11.

Every electronically generated image comprises many "pixels," much as a pointillist painting comprises many discrete brush stokes. Each individual pixel is characterized by a particular combination of red, green and blue, or, depending on the output device, cyan, magenta, yellow and black. The relative amounts of red, green and blue or cyan, magenta, yellow and black describe the color of a given pixel as generated by a particular output device. Such descriptions, however, are "device-dependent," describing how the color is generated by a particular output device, not how the color is perceived by a viewer. Thus, a particular combination of red, green and blue values displayed on one monitor may appear differently when displayed on another monitor. *See* id., para.para. 10-12.

In contrast to device-dependent values, which describe how a color is generated by a particular device, "device-independent" values describe how a color is perceived by a standard, hypothetical viewer. Device-independent color values are expressed as points in a three-dimensional coordinate system known as a "color space." One such device-independent color space is called "CIE XYZ," where "CIE" refers to the Commission Internationale de l'Eclairage, the scientific organization that sponsored its development, and "XYZ" refers to the three axes of the coordinate system. *See* id., para.para. 15-17.

No electronic output device can generate all of the colors perceptible to the human eye. Moreover, the range of colors that an output device is capable of producing, known as the device's color "gamut," varies across devices. RGB devices, such as monitors, are incapable of generating all of the colors that CMYK devices can produce; conversely, CMYK devices, such as printers, are incapable of generating all of the colors that RGB devices can produce. Because of each device's inherent limitations, a given source image may not be fully reproducible on a given output device. As a result, certain colors in the source image may have to be approximated, through a process known as "gamut mapping," when displayed on certain output devices. *See* id., para. 13.

B.

The pending action involves three patents: U.S. Patents Nos. 4,939,581 (the " '581" patent), 5,115,229 (the "

'229" patent), and 5,345,315 (the " '315" patent). In each instance the plaintiff Hanoch Shalit is listed as the sole inventor. The '229 and '315 patents are each a continuation-in-part of the '581 patent. *See* U.S. Patents Nos. 4,939,581, 5,115,229, and 5,345,315.

The '581 patent, entitled "Method and System in Video Image Hard Copy Reproduction," was filed on November 23, 1988 and granted on July 3, 1990. According to the patent, an objective of the claimed invention is "to provide a more accurate black-white photographic image taken from the image on a video screen in which the photographic image more accurately maintains the relative and absolute (for luminance reproduction) tonal scale of gray tones." U . S. Patent No. 4,939,581, col. 3:61-66.

The '229 patent, entitled "Method and System in Video Image Reproduction," was filed on June 26, 1990 and granted on May 19, 1992. According to the patent, an objective of the claimed invention is "to provide a more accurate black-white video image on a second video monitor from the image on a first video screen in which the second image more accurately maintains the relative and absolute (for luminance reproduction) tonal scale of gray tones." U.S. Patent No. 5,115,229, col. 3:8-13.

The '315 patent, entitled "Method and System for Improved Tone and Color Reproduction of Electronic Image on Hard Copy Using a Closed Loop Control," was filed on March 20, 1992 and granted on September 6, 1994. According to the patent, an objective of the claimed invention is "to provide a more accurate black-white and color hard copy taken from the image on an original video monitor screen in which the hard copy reproduced image more accurately maintains the relative and absolute tonal scale of gray tones ... regardless of the distortions or inaccuracy of that original screen image as compared to an ideal image or the object from which the image is taken." Patent No. 5,345,315, col. 3:50-58.

Claim 13 of the '315 patent, the only claim pressed in the briefs and at argument, is typical of the patent claims allegedly infringed by the defendant. FN1 *See* Plaintiffs' Memorandum in Opposition to Defendant's Motion for Summary Judgment, at 11. Claim 13 of the '315 patent claims a "method of producing a series of color hard copy images which are accurate reproductions of the colors of video images on a video monitor screen without affecting the video monitor screen images." Id., col. 17:58-61. Claim 13 of the '315 patent includes the steps of:

FN1. The plaintiffs acknowledge that the "date and place of the conception of the each of the patents-in-suit is the same." Plaintiffs' Hanoch Shalit and Imatec, Ltd.'s Supplemental Responses to Apple Computer's Interrogatory Nos. 21 et seq., at 3. The plaintiffs also acknowledge that "the actual reduction to practice of the '581 and '315 Patents was in November 1987." Plaintiffs' Supplemental Responses to Defendant's Interrogatory No. 79, at 1.

forming a test video image on the screen of the video monitor, measuring the colors of the test image on the monitor screen using an electronic meter to provide a set of monitor screen color values, and entering the set of monitor screen values into a computer;
forming a test image on the hard copy using a hard copy printing system, said printing system including electronic means to vary the control signals to control the color intensity printed by said printing system on a dot-by-dot basis, the hard copy test image having predetermined colored areas including defined areas differing color intensities; [and,]

printing said hard copy test image to produce a color printed image of said hard copy test image using the

same batch of hard copy color reproduction materials as will be thereafter used by the printing system to print the images from the video monitor; sensing the color differences on the hard copy test image using a photoelectric densitometer and entering the sensed color differences into the computer; comparing said entered hard copy color difference values with the set of monitor color values stored in computer memory; using the computer to calculate and generate a set of corrections to said control signals for each color value for each dot printed by said printing system based on the said comparison, and altering the colors printed by said printing system according to said set of computer produced corrections using the electronic means of said printing system.

Id., cols. 17:63-18:25.
Under the heading "Summary of the Invention," the '315 patent provides further description of the claimed invention. According to this description, after the hard copy test pattern is printed, the hard copy test pattern is measured by a densitometer. The densitometer's output is then

entered into the computer. The computer, using its look-up table memory, will determine the required compensation on a dot-by-dot basis.... The computer memory includes a 'standard' set of density values corresponding to the luminance values for each tone. That 'standard' set is obtained by measuring the luminances on the original monitor screen using a spot photometer, of a tonal test pattern.... Those standard values are compared to the actual values, from the densitometer, to provide the required compensation.

Id., cols. 4:55-5:15. The comparison used to generate the "required compensation" is, according to the specifications, a subtractive function. *See* id., cols. 9/10:40-64 (stating that corrected pixel value is "obtained from" "calc. col. 7 minus 5"). The specifications also disclose that when the claimed invention is used to correct a color (as opposed to black-and-white) image, the three primary color components-red, green, and blue-are "separately corrected." Id., col. 15:62-63; *see also* id., figs. 8A-C.

The '315 patent discloses subject matter not previously disclosed in either the parent '581 patent or the '229 patent. In particular, the specification of the '315 patent discloses in detail the method by which color, as opposed to black-and-white, images are to be matched. *See* id. cols. 14:61-16:6, figs. 8A-C, 9; *see also* Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para.para. 51-52; Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para.para. 51-52; *compare* U.S. Patent No. 5,345,315, cols. 14:61-16:6, figs. 8A-C, 9, *with* U.S. Patent No. 4,939,581, col. 11:15-35.

In order to obtain the patents-in-suit, Dr. Shalit was required by the United States Patent and Trademark Office ("PTO") to amend his claims and to distinguish his claimed invention from prior art. The PTO initially rejected what was to become the '581 patent on the grounds that the claimed invention was anticipated by U.S. Patent No. 4,757,334 (the "Volent" patent). *See* Rejection, Ser. No. 07/275,218 (Sept. 11, 1989), at 4-7. In response, Dr. Shalit amended his claim. Whereas his original application compared the density values of the hard copy test image with "predetermined numerical correction values," the amended application compared the density values of the hard copy test image with "monitor gray scale luminance values." Amendment, Ser. No. 07/275,218 (Dec. 5, 1989), at 3.

The PTO also initially rejected what was to become the '315 patent, citing among other grounds the prior art disclosed by U.S. Patent No. 4,794,460 (the "Shiota" patent). *See* Rejection, Ser. No. 07/855,619 (May 21, 1993), at 5. In response, Dr. Shalit distinguished his invention from the Shiota patent, noting that: (i) "Shiota compares his hard copy with a standard-not with the *monitor* gray scale luminance values"; (ii) "Shiota

points away from applicant's use of the monitor screen as the target-by using another standard for both the screen and the hard copy"; and, (iii) "applicant's system is completely objective, measurement alone determines the output of the system based on the absolute (not operator manipulated) constant image characteristics at the time of the monitor image (original) measurements." Amendment, Ser. No. 07/855,619 (Sept. 21, 1993), at 10, 14 (emphasis in original).

C.

Prior to applying for the patents-in-suit, Dr. Shalit was employed by FONAR Corporation ("FONAR"), a manufacturer of magnetic resonance imaging ("MRI") equipment. Dr. Shalit began working for FONAR on June 29, 1987 as head of FONAR's Photographic Physics Department. *See* Letter from Jeanne F. Riviezzo, dated August 1, 1988. Dr. Shalit was an employee of FONAR until November 14, 1988, when he became president of Fonar Photographic Services, a service entity legally distinct from FONAR. *See* Letter from Carin Andersen Perez, dated December 3, 1988. After leaving FONAR's direct employ, Dr. Shalit remained a consultant to FONAR until December 26, 1989. *See* Letter from Carin Andersen Perez, dated September 26, 1989; Deposition of Dr. Hanoch Shalit ("Shalit Depo."), at 24.

FONAR hired Dr. Shalit to help FONAR develop a system that would produce an accurate photographic reproduction of an MRI-generated image as that image appeared on a video monitor. *See* Deposition of Anthony Giambalo ("Giambalo Depo."), at 48:5-13; *see also* Deposition of Dr. Raymond Damadian ("Damadian Depo."), at 10:6-25. While employed at FONAR, Dr. Shalit developed the "Perfect Image System." *See* Shalit Depo., at 24:7-16; *see also* Declaration of Hanoch Shalit, dated February 11, 1999, para. 9. According to literature produced by FONAR, the Perfect Image System was "designed to produce film images identical in tone reproduction to images displayed on your display system." Perfect Image System User Guide Supplement, at 1.

As a condition of his employment by FONAR, Dr. Shalit was required to enter an "Agreement with Respect to Assignment of Inventions and Confidential Information" ("Inventions Agreement"). The Inventions Agreement signed by Dr. Shalit provides as follows:

I agree to assign, and hereby do assign, to FONAR ... all my rights to inventions which I have made or conceived or which I may hereafter make or conceive, either solely or jointly with others, in the course of [my] employment [by FONAR], or with the use of the time, material or facilities of FONAR, or relating to any product, method, substance, machine, article of [ ] manufacture or improvements therein within the scope of the business of said FONAR....

Agreement with Respect to Assignment of Inventions and Confidential Information, dated April 29, 1987, at 5-6. By its terms, the Inventions Agreement excludes certain inventions from its reach, thereby leaving to Dr. Shalit the rights to those inventions. In particular, the Inventions Agreement excludes patents issued prior to Dr. Shalit's employment by FONAR and such inventions as Dr. Shalit listed in a blank space provided for the purpose. *See* id., at 6. In the space provided for the listing of excluded inventions, Dr. Shalit wrote: "photographic video recording for keeping records of video tape content." FN2 Id.

FN2. Although the last word of the handwritten exclusion is difficult to decipher, the parties agree that it is "content." In the same space, Dr. Shalit also wrote "single step laser printing." The parties agree that the latter exclusion has no bearing on this case.

The plaintiffs admit that the inventions claimed in the '581 and '315 patents were reduced to practice in November 1987, while Dr. Shalit was employed by FONAR. *See* Plaintiff's Supplemental Responses to Defendant's Interrogatory No. 79 ("Pl.Supp.Resp.Def.Inter.79"), at 1. The plaintiffs further admit that the inventions claimed in the '581 patent, and some of those claimed in the '315 patent, were reduced to practice at FONAR. *See* Plaintiffs Imatec Ltd. and Hanoch Shalit's Responses to Defendant Apple Computer, Inc.'s Third Set of Requests for Admission to Plaintiffs ("Pl.Resp.Def.3d Req.Ad."), para.para. 64, 66.

While he was a FONAR employee, Dr. Shalit wrote a "Summary Description of Invention" entitled "Optimum Tone, Luminance and Color Reproduction of an Object," which Dr. Shalit describes as a description of the three patents-in-suit. *See* Summary Description of Invention, dated November 8, 1987; Shalit Depo., 261:9-22. Dr. Shalit admits that he was "involved in writing" the patent applications that culminated in the '581, '229, and '315 patents while employed at FONAR, but he denies that the patents were written on behalf of FONAR. *See* Shalit Depo., 64:24-65:15. The '581 patent was filed on November 23, 1988, which is nine days after Dr. Shalit left FONAR's direct employment. *See* U.S. Patent No. 4,939,581.

D.

Plaintiff Imatec, Ltd. is a Delaware corporation with its principal place of business in New York. Complaint para. 1. Dr. Shalit has been Imatec's president and chairman since Imatec's founding. *See* Shalit Depo., at 110. In 1994, Dr. Shalit assigned his rights in the '581 patent and in any continuation-in-part of the '581 patent to Imatec. *See* Assignment, dated February 16, 1994. In 1995, Imatec reassigned its rights in the '581, '229, and '315 patents back to Dr. Shalit in exchange for $1 and an exclusive licensing agreement. *See* Assignment, dated July 10, 1995; Exclusive License Agreement, made as of June 25, 1995.

E.

The defendant, Apple Computer, Inc., manufactures and sells the accused technology, ColorSync. ColorSync is software that is "used as part of a color management system to match color images on various peripheral devices (e.g., scanners, monitors, printers) connected to a computer." Declaration of Steve Swen, dated April 12, 1999 ("Swen Decl."), para. 5; *see also* Complaint, para. 10. ColorSync is incorporated into Apple's operating system, which is in turn sold separately or in conjunction with an Apple computer. *See* Swen Decl., para. 6.

ColorSync employs so-called "device profiles," which "are computer files of data that contain information about a device's color capability." Id., para. 9. These device profiles "correlate device-dependent control levels of an imaging device to an objective, three-dimensional, device-independent color space." Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 15; *see also* id., para.para. 11-14; Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para.para. 11-14, 15; Stone Decl., para.para. 72-73; Swen Decl. para.para. 16-19. That is to say, device profiles enable the translation of the device-dependent RGB or CYMK values associated with a given electronic output device to and from device-independent values such as those defined by the CIE XYZ color space.

ColorSync is shipped with "default" device profiles. Swen Decl., para. 12. A default device profile "provides color information for a device *model,* not for a particular device." Id. (emphasis in original). Default device profiles, at least those for computer monitors, are usually generated from "the manufacturer's specification,

not from measurement." Id., para. 25. However, a ColorSync user can also create device profiles using third party measurement instruments. Id., para.para. 13-14. When a user creates a device profile for a monitor by making actual measurements of a particular device, the "measurements are not input into a monitor profile directly but instead are subject to transformations and normalizations." Id., para. 26.

Although device profiles enable the translation of device-dependent values into and out of device-independent color space, the actual translation is performed by a so-called Color Matching Module ("CMM") that is embedded within ColorSync. *See* id., para.para. 8-9, 28. Using the information that is contained within the device profile of the output device displaying the source image, the CMM translates that device's device-dependent representation of the image into a device-independent representation of the image. Then, using the information that is contained within the device profile of the destination output device, the CMM translates the device-independent representation of the image into a representation expressed in terms of the device-dependent values of the destination output device. *See* id., para. 28.

ColorSync is designed such that "all components of a color in a picture (e.g., RGB, CMYK)" are transformed simultaneously, not separately. Id., para. 24; *see also* Stone Decl., para. 69. By allowing users to select from among alternative "rendering intents," ColorSync permits a user to subjectively control how a given source image will ultimately appear when displayed on an electronic output device. *See* Swen Decl., para. 29.

II.

A.

The defendant, Apple, moves to dismiss the action on the grounds that the plaintiffs lack standing. As the United States Court of Appeals for the Federal Circuit has stated, "[t]he question of standing to sue is a jurisdictional one." Rite-Hite Corp. v. Kelley Co., 56 F.3d 1538, 1551 (Fed.Cir.1995). *See also* In re Gucci, 126 F.3d 380, 387-88 (2d Cir.1997) ("Whether a claimant has standing is 'the threshold question in every federal case, determining the power of the court to entertain the suit.' ") (quoting Warth v. Seldin, 422 U.S. 490, 498, 95 S.Ct. 2197, 45 L.Ed.2d 343 (1975)). Because it is they who seek to invoke federal jurisdiction, the plaintiffs bear the burden of establishing standing. *See* Lujan v. Defenders of Wildlife, 504 U.S. 555, 561, 112 S.Ct. 2130, 119 L.Ed.2d 351 (1992); *see also* Jaghory v. New York State Dept. of Educ., 131 F.3d 326, 329 (2nd Cir.1997) ("The party seeking to invoke the jurisdiction of the court bears the burden of establishing that he has met the requirements of standing."); Ortho Pharmaceutical Corp. v. Genetics Institute, Inc., 52 F.3d 1026, 1032-33 (Fed.Cir.1995).

[1] In general, the district court must accept the allegations contained in the complaint as true for purposes of deciding a motion to dismiss. *See* Cohen v. Koenig, 25 F.3d 1168, 1172-73 (2d Cir.1994). When a motion to dismiss challenges the court's jurisdiction, however, the district court may look beyond the allegations of the complaint. "Fact-finding is proper when considering a motion to dismiss where the jurisdictional facts in the complaint ... are challenged." Moyer v. United States, 190 F.3d 1314, 1318 (Fed.Cir.1999). *See also* Reynolds v. Army and Air Force Exch. Serv., 846 F.2d 746, 747 (Fed.Cir.1988) ("If a motion to dismiss for lack of subject matter jurisdiction ... challenges the truth of the jurisdictional facts alleged in the complaint, the district court may consider relevant evidence in order to resolve the factual dispute."). Indeed, the district court may be required to consider evidence outside the complaint when a party challenges the court's jurisdiction. The Court of Appeals for the Second Circuit has recently stated that "[w]here jurisdictional facts are placed in dispute, the court has the power and obligation to decide issues of fact by reference to evidence outside the pleadings, such as affidavits." LeBlanc v.

Cleveland, 198 F.3d 353, 355 (2d Cir.1999). *See also* Filetech S.A. v. France Telecom S.A., 157 F.3d 922, 932 (2d Cir.1998) ("In view of the foregoing factual disputes, it was error for the district court to accept the mere allegations of the complaint as a basis for finding subject matter jurisdiction.").

[2] Regardless of whether such fact-finding is obligatory or merely permissible, it is clear that the district court "may dismiss a facially sufficient complaint for lack of subject-matter jurisdiction if the court finds, based on affidavits or other evidence outside the complaint, that the asserted basis for federal jurisdiction is not sufficient." RAD Data Communications, Inc. v. Patton Electronics Co., 882 F.Supp. 351, 352 (S.D.N.Y.1995) (dismissing patent infringement action on grounds that plaintiff did not have legal title to patent-in-suit at time of alleged infringement).

[3] Under certain limited circumstances, not alleged to be present here, the exclusive licensee of a patent may have standing to bring an infringement action. *See* Textile Productions, Inc. v. Mead Corp., 134 F.3d 1481, 1483 (Fed.Cir.1998). In general, however, only the owner of a patent has standing to sue for infringement of the patent. *See* Rite-Hite, 56 F.3d at 1551 ("Generally, one seeking money damages for patent infringement must have held legal title to the patent at the time of the infringement."); *see also* Arachnid, Inc. v. Merit Industries, Inc., 939 F.2d 1574, 1579 (Fed.Cir.1991). Thus, to establish standing, the plaintiffs must demonstrate that Dr. Shalit or Imatec hold title to the patents-in-suit.

[4] The present assignment of a future invention divests the inventor-assignor of ownership of the invention and automatically vests ownership of the invention, when invented, in the assignee. *See* FilmTec Corp. v. Allied-Signal, Inc., 939 F.2d 1568, 1573 (Fed.Cir.1991) (where contract grants rights in any future inventions to assignee, "[o]rdinarily, no further act would be required once an invention came into being" because "the transfer of title would occur by operation of law"); *cf.* Arachnid, 939 F.2d at 1580-81 (distinguishing between present assignment of expectant interest in future invention and mere promise to assign rights in future invention).

[5] Once an inventor has assigned the rights in a future invention, neither the inventor nor a subsequent assignee of the inventor has standing to sue for infringement of a patent arising from the assigned invention. In *FilmTec,* the plaintiff, who was suing for patent infringement, had been assigned the rights in the patent by the inventor. The inventor had, however, been employed by a third party at or near the time of the invention. It was, on the record before the court, unclear whether the inventor had, prior to his invention (and prior to his assignment of his rights therein to the plaintiff), already assigned the rights in his invention to his employer. Although the case was remanded for further fact-finding, the court held that "if [the employee-inventor] granted [the employer] rights in inventions made during his employ, and if the subject matter of the [patent-in-suit] was invented by [the employee-inventor] during his employ with [the employer], then [the employee-inventor] had nothing to give to [the plaintiff] and his purported assignment to [the plaintiff] is a nullity." *See* FilmTec, 939 F.2d at 1572. Were that the case, the court concluded, the plaintiff "would lack both title to the [patent-in-suit] and standing to bring the present action." FN3 *Id.*

FN3. The plaintiffs attempt to distinguish *FilmTec* on the grounds that there was an allegation that the inventor's employer had granted to the Government rights in any future invention. However, that was not the determinative issue in the case. As the Court of Appeals explained: "[T]he issue here is not whether title lies in the Government or some other third party; it is rather whether [the plaintiff] has made a sufficient showing to establish reasonable likelihood of success on the merits, which includes a showing that title to the patent and the rights thereunder are in [the plaintiff]." FilmTec, 939 F.2d at 1573.

The plaintiffs' effort to distinguish *FilmTec* on the basis of FilmTec Corp. v. Hydranautics, 982 F.2d 1546 (Fed.Cir.1992) ("*Hydranautics*"), is also misplaced. The *Hydranautics* Court held that the plaintiff could not maintain its infringement action because, on the facts of the case, ownership of the claimed invention rested with the United States Government, not the plaintiff. The court found that the claimed invention had been conceived while the inventor was employed by an entity under contract to the Government. The contract, governed by particular federal statutes, assigned all rights to inventions conceived in the course of the contract to the Government. The inventor's subsequent assignment of the invention to the plaintiff was therefore ineffective. *Hydranautics* neither calls the *FilmTec* rule into question nor limits its application to situations involving assignments to the Government.

Similarly, the history of *FilmTec* after remand and another appeal does not change the law as explained in the original *FilmTec* decision. The subsequent opinion by the Court of Appeals has been designated as not citable as precedent.

B.

[6] Apple contends that title to the patents-in-suit rests with FONAR, and that the plaintiffs therefore lack standing to bring this action. There can be no doubt that the Inventions Agreement between Dr. Shalit and FONAR constituted a present assignment by Dr. Shalit to FONAR of future inventions. The agreement states: "I agree to assign, and hereby do assign, to FONAR ... all my rights to inventions which I have made or conceived or which I may hereafter make or conceive...." Inventions Agreement, at 5. This language is that of a present assignment, not of a mere promise to assign. The rights to any invention covered by the Inventions Agreement therefore vested in FONAR rather than Dr. Shalit, and neither Dr. Shalit nor Imatec, as a subsequent assignee, has standing to enforce a patent that arises from a covered invention. *See* FilmTec, 939 F.2d at 1572-73. Thus, whether the plaintiffs have standing depends upon whether the patents-in-suit are subject to the Inventions Agreement.

[7] The Inventions Agreement covers: all inventions "made or conceived or which [Shalit] may hereafter make or conceive ... in the course of [Shalit's] employment [by FONAR];" all inventions made or conceived "with the use of the time, material or facilities of FONAR;" and all inventions "relating to any product, method, substance, machine, article of [ ] manufacture or improvements therein within the scope of the business of said FONAR." Inventions Agreement, at 5-6. There is no dispute that the '581 patent relates precisely to the work for which Dr. Shalit was hired by FONAR. *See* Damadian Depo., 34:14-16; Giambalvo Depo., 48:5-13; Shalit Depo., 47:22-49:10, 247:20-25, 256:12-18; *Imatec, Ltd. v. Apple Computer, Inc.,* No. 98 Civ. 1058, Hearing, at 8 (S.D.N.Y. December 16, 1999). Nor is there any dispute that the '581 and '315 patents were reduced to practice while Dr. Shalit was a FONAR employee. *See* Pl. Supp. Resp. Def. Inter. 79, at 1. Moreover, Dr. Shalit acknowledges that the invention protected by the '581 patent was reduced to practice at FONAR with the assistance of another FONAR employee. *See* Pl. Resp. Def.3d Req. Ad., para. 64; Shalit Depo., 24:7-20, 47:7-48:22. Thus, because it was made in the course of Dr. Shalit's employment by FONAR, at FONAR, and with the assistance of another FONAR employee, and because it is within the scope of FONAR's business, there can be no doubt that the invention described in the '581 patent is covered by the Inventions Agreement. Similarly, it is clear that the invention described in the '315 patent is also covered by the Inventions Agreement: The invention described in the '315 patent, which is a continuation-in-part of the '581 patent, was reduced to practice while Dr. Shalit was employed at FONAR and relates to improvements in a product within the scope of FONAR's business. The '229 patent, which is also a continuation-in-part of the '581 patent and also relates to improvements in the products and methods that were within the scope of FONAR's business, is likewise covered by the Inventions Agreement.

[8] The inventions described in the patents-in-suit are thus plainly within the scope of the terms of the Inventions Agreement. The plaintiffs argue, however, that the inventions are in fact exempt from the Inventions Agreement by virtue of the handwritten exclusion of "photographic video recording for keeping records of video tape content." Inventions Agreement, at 6. This exclusion, however, does not describe the inventions covered by the patents-in-suit. On its face, the exclusion applies to keeping records of video tape content. The patents-in-suit are neither about record keeping nor about video tape content. Rather, the patents make clear that they concern a method and system for the accurate reproduction of the tone and luminance of a monitor display. Dr. Shalit's employer testified that he would not have excluded from the Inventions Agreement the very work that Dr. Shalit was hired to perform, which is in fact the subject of the patents-in-suit. *See* Damedian Depo., 11:2-9, 14:13-24. It is, however, unnecessary to rely on this testimony because the plain language of the exclusion does not cover the patents-in-suit.

The patents-in-suit make only passing reference to video tape content. The inventions described by the patents-in-suit match a hard copy reproduction ('581 and '315) or a secondary monitor image ('229) to an image on a primary monitor. The source of the primary image may or may not be video tape. FN4 *See* U.S. Patent No. 4,939,581, col. 4:47-49 ("The system, in one embodiment, uses a video source, such as a computer graphics output, VCR or video camera to produce an image on a CRT monitor."); *see also* U.S. Patent No. 5,115,229, col. 3:63-66; U.S. Patent No. 5,345,315, col. 4:48-50. But even where video tape is the source of the video image on the primary monitor, each patent-in-suit is concerned with matching a hard copy reproduction or secondary monitor image to the image on the primary monitor, not to the underlying source of the primary monitor image. Thus, in substantially the same language, every asserted claim involves a system for producing either "accurate tone reproductions of the luminance ratios of the video images on a video monitor" or "accurate reproductions of the colors of video images on a video monitor screen." *See, e.g.,* U .S. Patent Nos. 4,939,581, col. 13:3-6; 5,345,315, col. 17:58-61.

FN4. Indeed, although each patent-in-suit describes (under the heading "Background of Invention") various situations in which the claimed invention is applicable, none mentions record keeping of video tape content as such a situation. *See* U.S. Patent Nos. 4,939,581, col. 1:12-44; 5,115,229, col. 1:19-40; 5,345,315, col. 1:22-56. That the nature of the video source is irrelevant to the claimed inventions is underscored by the fact that: (i) the diagrams accompanying the patents refer only to a generic "video source," without specifying the nature of that video source; and, (ii) the detailed descriptions of the inventions make no reference to the video source at all. *See* U.S. Patent Nos. 4,939,581, figs. 1, 3, col. 5:64-9:47; 5,115,229, figs. 1A-B, col. 5:19-8:38; 5,345,315, figs. 1, 3, 9, col. 6:34-11:28.

Under the heading "Objectives and Features of the Invention," the '315 patent states:

It is an objective of the present invention to provide a more accurate black-white and color hard copy taken from the image on an original video monitor screen in which the hard copy reproduced image more accurately maintains the relative and absolute tonal scale of gray tones as in the original video screen [ ] *regardless of the distortions or inaccuracy of that original screen image as compared to an ideal image or the object from which the image is taken.*

U.S. Patent No. 5,345,315, col. 3:50-58 (emphasis added). The italicized passage makes clear that the patented invention matches an output image to the image displayed on a monitor rather than to the underlying source of the monitor display. The inventions described in the patents-in-suit, to the extent they

involve record keeping at all, involve keeping records of monitor displays, not of video tape content.

[9] [10] Because the inventions described in the patents-in-suit do not involve "keeping records of video tape content," they do not fall under the exclusion to the Inventions Agreement between Dr. Shalit and FONAR. The inventions described in the patents-in-suit, therefore, fall under the Inventions Agreement and are not excluded from it, and all rights in the inventions were assigned by Dr. Shalit to FONAR in the Inventions Agreement. Because Dr. Shalit assigned his rights in the inventions to FONAR, neither he nor Imatec, which claims its rights through Dr. Shalit, have standing to maintain the current infringement action. *See* FilmTec, 939 F.2d at 1572-73.FN5

FN5. The plaintiffs also assert that the defense of lack of standing is barred by the statute of limitations. That argument has no merit. First, the defendant asserts a defense of lack of standing because the plaintiffs have no legal title to the patents-in-suit. The plaintiffs cite no viable authority for the proposition that such a defense is limited by any statute of limitations; a statute of limitations generally applies to claims and counterclaims, not to a defense of lack of standing. The issue of any limitations on FONAR's rights to the patents should be decided in a suit in which FONAR sought to assert its rights to any inventions that Dr. Shalit assigned to it. Second, FONAR's rights have not in fact lapsed since there is no allegation that FONAR has exercised its rights to require Dr. Shalit to execute the necessary documents to obtain the patents. The statute of limitations on FONAR's rights would only begin to run at that point if Dr. Shalit refused to assign the patents. *See* Goldwasser v. Smith Corona Corp., 817 F.Supp. 263, 271-72 (D.Conn.1993), *aff'd* 26 F.3d 137 (Fed.Cir.1994).

III.

A.

[11] Even if the plaintiffs had standing, the defendant is still entitled to summary judgment dismissing the action on the ground that the defendant's system does not infringe the asserted claims. Infringement analysis is a two-step process: "The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly construed claims to the device accused of infringing." Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc) (citation omitted), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

[12] [13] [14] [15] Claim construction, the first step in infringement analysis, is a matter of law. "The interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." Id., at 970-71. When the court interprets a patent, "[c]laims are to be read and construed in light of the specification and the prosecution history of the patent." ACS Hosp. Systems, Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577 (Fed.Cir.1984). *See also* Markman, 52 F.3d at 980. When possible, claims should be construed in a manner that sustains their validity. *See* ACS Hosp. Systems, 732 F.2d at 1577. In particular, "claims should be read in a way that avoids ensnaring prior art if it is possible to do so." Harris Corp. v. IXYS Corp., 114 F.3d 1149, 1153 (Fed.Cir.1997). When construing a patent claim, a court may consider extrinsic evidence, including "expert and inventor testimony, dictionaries, and learned treatises," so that the court may come " 'to a correct conclusion' as to the 'true meaning of the language employed' in the patent." Markman, 52 F.3d at 980 (quoting Seymour v. Osborne, 78 U.S. (11 Wall.) 516, 546, 20 L.Ed. 33 (1870)).

[16] The plaintiffs allege that the defendant is liable for patent infringement under several theories. First, the

plaintiffs allege that the defendant has directly infringed the patents at issue. Direct infringement is barred by 35 U.S.C. s. 271(a), which provides that "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States ... during the term of the patent therefor, infringes the patent." To be liable for literal, direct infringement, a defendant must duplicate each element of a patent claim exactly. "Literal infringement requires that the accused device contain each limitation of the claim exactly; any deviation from the claim precludes a finding of literal infringement." Litton Systems, Inc. v. Honeywell, Inc., 140 F.3d 1449, 1454 (Fed.Cir.1998). *See also* Johnston v. IVAC Corp., 885 F.2d 1574, 1580 (Fed.Cir.1989) ("Where a claim does not read on an accused device exactly, there can be no literal infringement.").

[17] [18] [19] In the alternative, the plaintiffs rely on the judicially created "doctrine of equivalents." "A device that does not literally infringe a claim may nonetheless infringe under the doctrine of equivalents if every element in the claim is literally or equivalently present in the accused device." Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 1423 (Fed.Cir.1997) (citing Pennwalt Corp. v. Durand-Wayland,,,,,,, Inc., 833 F.2d 931, 934-35 (Fed.Cir.1987) (en banc)). To infringe under the doctrine of equivalents, the accused device must "contain each limitation of the claim or its equivalent." Overhead Door Corp. v. Chamberlain Group, Inc., 194 F.3d 1261, 1269 (Fed.Cir.1999) (citing Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 40, 117 S.Ct. 1040, 137 L.Ed.2d 146 (1997)). "An element in the accused product is equivalent to a claim element if the differences between the two are 'insubstantial' to one of ordinary skill in the art." Id., 194 F.3d at 1269 (quoting Warner-Jenkinson, 520 U.S. at 39-40, 117 S.Ct. 1040).

[20] [21] In order that patents retain their public notice function, certain limits have been placed on the doctrine of equivalents. *See* K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1366-67 (Fed.Cir.1999); Sextant Avionique, S.A. v. Analog Devices, Inc., 172 F.3d 817, 831 (Fed.Cir.1999); Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1316 (Fed.Cir.1998). Thus, under the so-called "all-elements" rule, "the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole." Warner-Jenkinson, 520 U.S. at 29, 117 S.Ct. 1040. Similarly, the concept of prosecution history estoppel limits the range of possible equivalents. "Prosecution history estoppel prevents operation of the doctrine of equivalents from expanding a claim limitation to include subject matter surrendered during the patent's prosecution." Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 981 (Fed.Cir.1999).

[22] By force of prosecution history estoppel, "a patentee is estopped from recovering through equivalency that which was deemed unpatentable in view of the prior art." Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1219 (Fed.Cir.1995). "In other words," the Court of Appeals has explained,

when an applicant, in response to an examiner's prior art rejection, amends a claim by substituting one limitation for another, the applicant cannot later assert that the original limitation is an equivalent of the substituted limitation. Thus, the doctrine prevents the applicant from completely recapturing the subject matter rejected by the examiner. In addition, when an applicant narrows a claim element in the face of an examiner's rejection based on the prior art, the doctrine estops the applicant from later asserting that the claim covers, through the doctrine of equivalents, features that the applicant amended his claim to avoid.... In addition, ... an applicant's arguments may constitute a clear and unmistakable surrender of subject matter. Such arguments preclude recapture of that subject matter.

Litton Systems, 140 F.3d at 1462. "Whether estoppel applies is a question of law." Wang Laboratories, Inc. v. Mitsubishi Electronics America, Inc., 103 F.3d 1571, 1578 (Fed.Cir.1997).

[23] The plaintiffs also allege contributory infringement. *See* 35 U.S.C. s. 271(c). But, direct infringement, whether literal or by equivalence, must be proven before a defendant can be held liable for contributory infringement or inducement to infringe. "Absent direct infringement of the patent claims, there can be neither contributory infringement, nor inducement of infringement." Met-Coil Systems Corp. v. Korners Unlimited, Inc., 803 F.2d 684, 687 (Fed.Cir.1986) (citations omitted). *See also* Carborundum Co. v. Molten Metal Equipment Innovations, Inc., 72 F.3d 872, 876 n. 4 (Fed.Cir.1995).

[24] [25] [26] Because prior art can invalidate a patent, *see* 35 U.S.C. s. 102, the date on which a patent application is filed can be a significant fact in determining the validity of a patent. Where an application is a continuation-in-part ("CIP") of an earlier application, some claims in the CIP application may receive different effective filing dates than other claims therein because the CIP application may contain additional matter not disclosed in the prior application. *See* Augustine Medical, Inc. v. Gaymar Industries, Inc., 181 F.3d 1291, 1302 (Fed.Cir.1999). "Subject matter that arises for the first time in the CIP application does not receive the benefit of the filing date of the parent application ." *Id*. When judging whether subject matter was sufficiently disclosed in the parent application such that a claim contained in an CIP application is entitled to the filing date of the parent application, "[t]he fact finder must determine if one skilled in the art, reading the original specification, would immediately discern the limitation at issue in the parent" application. Waldemar Link v. Osteonics Corp., 32 F.3d 556, 558 (Fed.Cir.1994).

Summary judgment may not be granted unless "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed.R.Civ.P. 56(c); *see also* Celotex Corp. v. Catrett, 477 U.S. 317, 322, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986); University of Colorado Foundation, Inc. v. American Cyanamid Co., 196 F.3d 1366 (Fed.Cir.1999); Gallo v. Prudential Residential Servs., Ltd. Partnership, 22 F.3d 1219, 1223 (2d Cir.1994). In determining whether summary judgment is appropriate, a court must resolve all ambiguities and draw all reasonable inferences against the moving party. *See* Matsushita Elec. Indus. Co., Ltd. v. Zenith Radio Corp., 475 U.S. 574, 587, 106 S.Ct. 1348, 89 L.Ed.2d 538 (1986) (citing United States v. Diebold, Inc., 369 U.S. 654, 655, 82 S.Ct. 993, 8 L.Ed.2d 176 (1962)); *see also* University of Colorado Foundation, 196 F.3d 1366, 1370; Gallo, 22 F.3d at 1223. Summary judgment is improper if there is any evidence in the record from any source from which a reasonable inference could be drawn in favor of the nonmoving party. *See* Chambers v. TRM Copy Ctrs. Corp., 43 F.3d 29, 37 (2d Cir.1994). "In considering the motion, the court's responsibility is not to resolve disputed issues of fact but to assess whether there are factual issues to be tried." Knight v. U.S. Fire Ins. Co., 804 F.2d 9, 11 (2d Cir.1986).

On a motion for summary judgment, once the moving party meets its initial burden of demonstrating the absence of a genuine issue of material fact, the nonmoving party must come forward with specific facts to show there is a factual question that must be resolved at trial. *See* Fed.R.Civ.P. 56(e); *see also* Cornett v. Sheldon, 894 F.Supp. 715, 724 (S.D.N.Y.1995) ("[T]he plaintiff, to avoid summary judgment, must show a genuine issue by presenting evidence that would be sufficient, if all reasonable inferences were drawn in his favor, to establish the existence of that element at trial.") (citing Celotex, 477 U.S. at 322-23, 106 S.Ct. 2548). The non-moving party must produce evidence in the record and "may not rely simply on conclusory statements or on contentions that the affidavits supporting the motion are not credible." Ying Jing Gan v. City of New York, 996 F.2d 522, 532 (2d Cir.1993). *See also* Applied Companies v. United States, 144 F.3d 1470, 1475 (Fed.Cir.1998) ("It is well settled that 'a conclusory statement on the ultimate issue does not create a genuine issue of fact.' ") (quoting Imperial Tobacco Ltd. v. Philip Morris, Inc., 899 F.2d 1575, 1581

(Fed.Cir.1990)); Scotto v. Almenas, 143 F.3d 105, 114-15 (2d Cir.1998) (collecting cases).

B.

[27] Claim 13 of the '315 patent is the only asserted claim that has been pressed in the briefs and at argument. Claim 13 of the '315 patent requires "measuring the colors of the test image on the monitor screen using an electronic meter to provide a set of monitor screen color values, and entering the set of monitor screen values into a computer." U.S. Patent No. 5,345,315, col. 17:64-69. Claim 13 of the '315 patent also requires "forming a test image on the hard copy using a hard copy printing system" and then "sensing the color differences on the hard copy test image using a photoelectric densitometer and entering the sensed color differences values into the computer." Id., col. 18:1-16. Claim 13 of the '315 patent further requires "comparing said entered hard copy color difference values with the set of monitor color values stored in computer memory" and then using the computer "to calculate and generate a set of corrections ... for each color value for each dot printed by said printing system based on the said comparison." U.S. Patent No. 5,345,315, col. 18:16-22.

These elements are to be construed in light of their language, the specification, and the prosecution history. Markman, 52 F.3d at 980. By its terms, the claim instructs a person practicing the invention to enter measured values into a computer. The specification does not disclose any transformation that is to be performed on the measured values.FN6 The patent's prosecution history underscores the importance of actual measurement in the claimed method: Before obtaining the '315 patent, Dr. Shalit was required by the PTO to distinguish his claimed invention from the prior art disclosed in the Shiota patent. *See* Rejection, Ser. No. 07/855,619 (May 21, 1993), at 5. In so doing, Dr. Shalit emphasized that actual measurements rather than transformed values lay at the heart of his claimed method. Thus, Dr. Shalit noted that "Shiota compares his hard copy with a standard-not with the *monitor* gray scale luminance values" and that "applicant's system is completely objective, measurement alone determines the output of the system based on the absolute (not operator manipulated) constant image characteristics at the time of the monitor image (original) measurements." Amendment, Ser. No. 07/855,619 (Sept. 21, 1993), at 10, 14 (emphasis in original). Given the clear language of the claim, the prosecution history, and the fact that the specification does not disclose any transformation that is to be performed on the measured values prior to their comparison, the "values" that are compared in the '315 method are, as a matter of law, actual measurement values.

FN6. The specification does teach that the measurement results should be expressed in terms of a log function:
An accurate reproduction of the ratio of luminance values (gray scale) would occur when the density units on the hard copy directly correspond (linear relationship) to the gray scale on the monitor screen. The density units on the hard copy is a measure of the blackness of the printing (toner) on the hard copy. Density is defined as the log 1/reflectance of an opaque substrate, in this case the xerographic paper copy. The "screen luminance" is the brightness of the CRT screen ... and is measured in terms of "log screen luminance" to directly correspond to density which is also a log function.

U.S. Patent No. 5,345,315, col. 6:53-64.
[28] Furthermore, the specification of the '315 patent reveals that the claimed comparison of the "hard copy color difference values with the set of monitor color values" is performed by subtracting the first set of color values from the second. *See* U.S. Patent No. 5,345,315, cols. 9/10:40-64 (stating that corrected pixel value is

"obtained from" "calc. col. 7 minus 5"). Thus, as a matter of law, "comparing" in the asserted claim means subtracting.

[29] ColorSync, the accused product, does not compare by subtraction or otherwise. Rather, ColorSync employs "device profiles" to translate the representation of an image from the device-dependent values associated with one electronic output device into device-independent values defined by CIE XYZ color space, and then again to translate the device-independent representation of the image into the device-dependent values associated with another electronic output device. *See* Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 15; *see also* id., para.para. 11-14; Plaintiffs' Response to DefendantApple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para.para. 11-14, 15; Stone Decl., para.para. 72-73; Swen Decl. para.para. 16-19, 28. The device-dependent values of the second output device, which may well be expressed in CMYK terms, are never subtracted from or otherwise directly related to the device-dependent values of the first output device, which may be expressed in RGB terms. Thus, the method of subtractive comparison between the original source and the destination device that is disclosed in the '315 patent is not used by ColorSync.

Moreover, unlike the method disclosed in the '315 patent, ColorSync does not use actual measurement values without transformation. The default device profiles that are shipped with ColorSync, at least those for computer monitors, are usually generated from manufacturers' specifications rather than from actual measurement. *See* Swen Decl., para. 25. Even when a user creates a device profile by making actual measurements, the "measurements are not input into a monitor profile directly but instead are subject to transformations and normalizations." Id., para. 26.

As noted above, Claim 13 of the '315 patent involves "using the computer to calculate and generate a set of corrections ... for each color value for each dot printed." U.S. Patent No. 5,345,315, col. 18:19-22. The specifications reveal that "[e]ach color"-red, green, and blue-"is separately corrected." Id., col. 15:62. *See also* id., figs. 8A-C. Thus, as a matter of law, "corrections ... for each color value" means the separate correction of each primary color. Unlike the method of separate correction disclosed in the '315 patent, ColorSync transforms all of the colors in a source image simultaneously, and not separately. *See* Swen Decl., para. 24; *see also* Stone Decl., para. 69.

Notwithstanding a few immaterial disagreements,FN7 there is no genuine dispute as to any of these material facts. In light of the undisputed differences between the claims in the '315 patent and the ColorSync system, the asserted claim "does not read on [the] accused device exactly" and therefore "there can be no literal infringement." Johnston, 885 F.2d at 1580.

FN7. For example, in its 56.1 Statement, Apple states: "Color management systems that use ColorSync perform a multidimensional transformation between a source's device-dependent control levels and a destination's device-dependent control levels." Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 12. The plaintiffs do not agree with this statement on the grounds that there is "no agreed definition of 'multidimensional transformation.' " Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 12. The plaintiffs do agree that color management systems like ColorSync use an intermediate device-independent color space such as CIE XYZ or CIE LAB. *See* Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 11; Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 11.

[30] There also is no infringement by equivalence. To overcome the PTO's initial rejection of what ultimately became the '315 patent, Dr. Shalit distinguished his invention from that claimed in the Shiota patent.FN8 *See* Rejection, Ser. No. 07/855,619 (May 21, 1993), at 5; Amendment, Ser. No. 07/855,619 (Sept. 21, 1993), at 10-14. In particular, Dr. Shalit emphasized that "Shiota points away from applicant's use of the monitor screen as the target-by using another standard for both the screen and the hard copy." Amendment, Ser. No. 07/855,619 (Sept. 21, 1993), at 10. This distinction underscores the fact that the asserted claim involves the direct comparison of destination and source images without the mediation of device-independent color space.FN9 In light of this prosecution history, the plaintiffs are, as a matter of law, now estopped from claiming that ColorSync's transformation of an image through device-independent color space FN10 is equivalent to the subtractive comparison method disclosed in the '315 patent. *See* Elkay Mfg., 192 F.3d at 981; Pall Corp., 66 F.3d at 1219.

FN8. Dr. Shalit similarly amended what became the '581 patent in response to the PTO's initial rejection of that application. *See* Rejection, Ser. No. 07/275,218 (Sept. 11, 1989), at 4-7; Amendment, Ser. No. 07/275,218 (Dec. 5, 1989), at 3.

FN9. In response to this motion, the plaintiffs argued that the patents-in-suit, without using the exact term, disclose the use of device profiles for the transformation of device-dependent values into device-independent color space. But they fail to show where in the patents this is described or how it could be derived from the patents. *See Imatec, Ltd. v. Apple Computer, Inc.,* No. 98 Civ. 1058, Hearing, at 34-39 (S.D.N.Y. December 16, 1999).

FN10. In their 56.1 Statement, the plaintiffs concede that "[c]olor management systems that use ColorSync use an intermediate device-independent color space." *See* Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 11; Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 11. Similarly, at argument, plaintiffs' counsel acknowledged that ColorSync uses CIE XYZ color space. *See Imatec, Ltd. v. Apple Computer, Inc.,* No. 98 Civ. 1058, Hearing, at 39 (S.D.N.Y. December 16, 1999) ("they are using XYZ"). However, in their brief, at another point at oral argument, and in a letter dated January 11, 2000, the plaintiffs assert the opposite, stating, for example, that "[i]n ColorSync, the CIE XYZ space *is not used in the processing of the image pixel values*." Letter from Joseph Diamante and Eliot S. Gerber, dated January 11, 2000, at 7 (emphasis in original). *See also* Plaintiffs' Memorandum in Opposition to Defendant's Motion for Summary Judgment, at 13 ("In both Shalit and ColorSync, the image pixel values pass from the device-dependent monitor color space directly to the device-dependent printer color space without going through a device-independent color space."); *Imatec, Ltd. v. Apple Computer, Inc.,* No. 98 Civ. 1058, Hearing, at 33-34 (S.D.N.Y. December 16, 1999) ("ColorSync is like the Shalit patents. There is no transformation of the image pixels into XYZ space and then a second transformation out of that space...."). One party's assertion of inconsistent positions does not create a genuine issue of fact that would preclude summary judgment, particularly when the 56.1 Statements and other evidentiary submissions show that there is no such issue.

[31] Were the '315 patent construed so as to claim the transformation of images through device-independent color space, it would be rendered invalid by prior art. *See, e.g.,* U.S. Patent No. 4,941,038, cols. 2:9-31, 7:15-8:18 (the "Walowit" patent). The Walowit patent, entitled "Method for Color Image Processing,"

describes "a method for forming a full color image such that input data relating to an original color image is processed so that an observer of the output image will perceive close color correspondence between the two images." Id., col. 1:11-15. In one embodiment, the Walowit patent discloses a method

of converting input, preferably RGB, color data to output, preferably CMY, color data, wherein an input device is calibrated in a first calibration to an intermediate and preferably uniform color space. An output device is calibrated in a second calibration to the same uniform color space. The input RGB color data from the input device is collected, and is converted to uniform color space data in accordance with the first calibration. The uniform color space data is then converted to output CMY color data in accordance with the second calibration. Finally, the output CMY color data is outputted to the output device.

Id., col. 2:19-31. In light of the prior art,FN11 an interpretation of the '315 patent that was so expansive as to include the transformation of images through device-independent color space would violate the principle that patents are to be construed, if possible, in a way that sustains their validity. *See* ACS Hosp. Systems, 732 F.2d at 1577; *see also* Marquip, Inc. v. Fosber America, Inc., 198 F.3d 1363 (Fed.Cir.1999) ("Based on the fundamental principle that no one deserves an exclusive right to technology already in the public domain, this court has consistently limited the doctrine of equivalents to prevent its application to ensnare prior art.").

FN11. The application for the Walowit patent was filed on January 13, 1989 as a continuation-in-part of a patent application filed on May 11, 1987. The application for the '581 patent was filed on November 23, 1988. The application for the '315 patent, which is a continuation-in-part of the '581 patent, was filed on March 20, 1992. Thus, the application for the Walowit patent was filed after the application for the '581 patent but before the application for the '315 patent.

It is not possible from the submission to the Court to determine what portion of the Walowit patent should receive the benefit of the filing date of May 11, 1987 for the parent patent. However, it is undisputed that the '315 patent discloses matter not previously disclosed in the '581 patent. In particular, the '315 patent "adds new disclosure about how color values are measured, compared and corrected." Defendant Apple Computer, Inc.'s Revised Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 52. *See also* Plaintiffs' Response to Defendant Apple Computer, Inc.'s Supplemental Statement Pursuant to S.D.N.Y. Civ. R. 56.1(a), para. 52. The new material discloses, among other things, the use of color filters and the separate correction of each primary color. This additional disclosure is not discernable from the '581 patent. *See* Waldemar Link, 32 F.3d at 558. Because Claim 13 of the '315 patent relies on the matter that is newly disclosed in the '315 application, the effective filing date for Claim 13 of the '315 patent is therefore March 20, 1992, the date on which the application for the '315 patent was filed. Because this is after the date on which the application for the Walowit patent was filed, the Walowit patent constitutes prior art with respect to Claim 13 of the '315 patent.

However, even if Claim 13 of the '315 patent were entitled to the November 23, 1988 filing date of the parent '581 patent, prior art would still preclude an interpretation of Claim 13 that was so expansive as to include the transformation of images through device-dependent color space. *See, e.g.,* U.S. Patent No. 4,500,919; Maureen C. Stone et al., Color Gamut Mapping and the Printing of Digital Color Images, 7 ACM Transactions on Graphics 249-92 (October 1988).
Thus, the undisputed facts make clear that no reasonable fact-finder could find either literal infringement or infringement by equivalence. Because there is no direct infringement, there can be no contributory

infringement or inducement to infringe. *See* Met-Coil Systems, 803 F.2d at 687. The defendant is therefore entitled to summary judgment.FN12 *See* University of Colorado Foundation, 196 F.3d 1366, 1370; Sage Products, 126 F.3d at 1423.

FN12. All of the plaintiffs' arguments have been considered, including those raised in the plaintiffs' letter of January 11, 2000. Those arguments not expressly addressed above are without merit.

CONCLUSION

For the foregoing reasons, the defendant's motion to dismiss for lack of standing is granted. In the alternative, the defendant's motion for summary judgment is granted. The Clerk is directed to enter judgment dismissing the action and closing the case.

SO ORDERED.