

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

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**DIGITECH IMAGE TECHNOLOGIES, LLC,**  
*Plaintiff-Appellant,*

v.

**ELECTRONICS FOR IMAGING, INC.,  
SAKAR INTERNATIONAL, INC. (doing business as  
Vivitar), GENERAL IMAGING COMPANY,  
OVERSTOCK.COM, INC., NEWEGG, INC.,  
NEWEGG.COM, INC., XEROX CORPORATION,  
TOSHIBA CORPORATION, TOSHIBA AMERICA  
BUSINESS SOLUTIONS, INC., TOSHIBA AMERICA  
INFORMATION SYSTEMS, INC., AND TOSHIBA  
AMERICA, INC.,**  
*Defendants-Appellees,*

AND

**BUY.COM, INC.,**  
*Defendant-Appellee,*

AND

**B AND H FOTO AND ELECTRONICS CORP.,**  
*Defendant-Appellee,*

AND

**LEAF IMAGING, LTD.  
(doing business as Mamiyaleaf),  
AND MAMIYA AMERICA CORPORATION,**  
*Defendants-Appellees,*

AND

**LEICA CAMERA AG AND LEICA CAMERA, INC.,**  
*Defendants-Appellees,*

AND

**FUJIFILM CORPORATION, SIGMA  
CORPORATION, SIGMA CORPORATION OF  
AMERICA, MICRO ELECTRONICS, INC.  
(doing business as Micro Center), PENTAX RICOH  
IMAGING CO., LTD., PENTAX RICOH IMAGING  
AMERICAS CORPORATION, RICOH COMPANY,  
LTD., RICOH AMERICAS CORPORATION,  
AND KONICA MINOLTA BUSINESS SOLUTIONS  
USA, INC.,**  
*Defendants-Appellees,*

AND

**ASUS COMPUTER INTERNATIONAL,  
AND ASUSTEK COMPUTER, INC.,**  
*Defendants-Appellees,*

AND

**CDW LLC,**  
*Defendant-Appellee,*

AND

**VICTOR HASSELBLAD AB AND  
HASSELBLAD USA, INC.,**  
*Defendants-Appellees,*

AND

**MAMIYA DIGITAL IMAGING CO., LTD.,**  
*Defendant.*

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2013-1600, -1601, -1602, -1603, -1604, -1605, -1606, -1607,  
-1608, -1609, -1610, -1611, -1612, -1613, -1614, -1615,  
-1616, -1617, -1618

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Appeals from the United States District Court for the  
Central District of California in Nos. 12-CV-1324, 12-CV-  
1668, 12-CV-1671, 12-CV-1673, 12-CV-1675, 12-CV-1677,  
12-CV-1679, 12-CV-1680, 12-CV-1681, 12-CV-1686, 12-  
CV-1687, 12-CV-1688, 12-CV-1689, 12-CV-1693, 12-CV-  
1694, 12-CV-1695, 12-CV-1696, 12-CV-2122 and 12-CV-  
2127, Judge Otis D. Wright, II.

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Decided: July 11, 2014

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JOHN J. EDMONDS, Collins, Edmonds, Pogorzelski,  
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Before MOORE, REYNA, and HUGHES, *Circuit Judges*.

REYNA, *Circuit Judge*.

In this appeal, we address the subject matter eligibility of claims in U.S. Patent No. 6,128,415 (“the ’415 patent”) directed to a device profile and a method for creating a device profile within a digital image processing system. The district court concluded that the asserted claims were invalid under 35 U.S.C. § 101. For the reasons set forth below, we *affirm*.

## BACKGROUND

Digitech Image Technologies (“Digitech”) is the assignee of the ’415 patent, which is directed to the generation and use of an “improved device profile” that describes spatial and color properties of a device within a digital image processing system. In general, digital image processing involves electronically capturing an image of a scene with a “source device,” such as a digital camera, altering the image in a desired fashion, and transferring the altered image to an “output device,” such as a color printer.

According to the patent, all imaging devices impose some level of distortion on an image’s color and spatial properties. This distortion occurs because different devices (*i.e.*, digital cameras, monitors, TVs, printers, etc.) allow for slightly different ranges of colors and spatial information to be displayed or reproduced. Prior art methods attempted to correct these distortions using certain device dependent solutions and device independent paradigms. Device dependent solutions work to calibrate and modify the color and spatial properties of the devices themselves. For example, some devices may be designed with certain upstream or downstream devices in mind to ensure optimal transfer of image data to those devices. Device independent solutions, on the other hand, work to translate an image’s pixel data from a device dependent format into an independent color space, which can then be translated to any number of output devices at a reduced level of distortion.

Device independent solutions discussed in the patent were limited to color information and require creating “device profiles” that describe the color properties of both the source and output devices, thereby enabling a more accurate translation of the image’s pixel data into the independent color space and across the source and output devices. The ’415 patent expands this device independent

paradigm to capture both spatial properties and color properties of an imaging device. The '415 patent thus discloses an “improved device profile” that “includes both chromatic characteristic information and spatial characteristic information.” '415 patent, col. 2, ll. 16-18.

Digitech filed infringement suits against 32 defendants in the U.S. District Court for the Central District of California, asserting claims 1-6, 9, and 26-31 of the '415 patent directed to a “device profile,” and claims 10-15 of the '415 patent directed to methods for generating a “device profile.” On July 3, 2013, several defendants filed summary judgment motions seeking to invalidate the asserted claims of the '415 patent under 35 U.S.C. § 101. On July 31, 2013, the district court granted the defendants' motions and found that all of the asserted claims were subject matter ineligible. The district court found that the “device profile” claims are directed to a collection of numerical data that lacks a physical component or physical manifestation. The district court thus concluded that a “device profile” is nothing more than information and does not fall within one of the categories of eligible subject matter under section 101. The district court further concluded that the asserted method claims for generating a device profile encompass the abstract idea of organizing data through mathematical correlations. The district court thus concluded that the asserted method claims were also ineligible under section 101.

On appeal, Digitech asks us to reverse the district court's findings for two reasons. First, Digitech asserts that the district court erred in finding that the device profile claims are directed to a collection of data that lacks tangible or physical properties. Second, Digitech argues that the district court erred in finding that the asserted method claims encompass an abstract idea and are not tied to a specific machine or apparatus. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

## DISCUSSION

We review the grant of summary judgment under the law of the regional circuit. *Charles Mach. Works, Inc. v. Vermeer Mfg. Co.*, 723 F.3d 1376, 1378 (Fed. Cir. 2013). The Ninth Circuit reviews the grant or denial of summary judgment de novo. *Leever v. Carson City*, 360 F.3d 1014, 1017 (9th Cir. 2009). We also review de novo the question of whether a claim is valid under section 101. *In re Nuijten*, 500 F.3d 1346, 1352 (Fed. Cir. 2007).

### I. DEVICE PROFILE CLAIMS

Digitech argues on appeal that the “device profile” claimed in the ’415 patent is eligible subject matter under section 101 because it is a tangible object that is an “integral part of the design and calibration of a processor device within a digital image processing system.” Appellant Br. 20 (emphasis omitted). We disagree.

Pursuant to section 101, an inventor may obtain a patent for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. For all categories except process claims, the eligible subject matter must exist in some physical or tangible form. To qualify as a machine under section 101, the claimed invention must be a “concrete thing, consisting of parts, or of certain devices and combination of devices.” *Burr v. Duryee*, 68 U.S. 531, 570 (1863). To qualify as a manufacture, the invention must be a tangible article that is given a new form, quality, property, or combination through man-made or artificial means. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). Likewise, a composition of matter requires the combination of two or more substances and includes all composite articles. *Id.*

Here, the device profile described in the ’415 patent is not a tangible or physical thing and thus does not fall within any of the categories of eligible subject matter.

Independent claims 1 and 26 describe a device profile as a collection of information; specifically, a description of a device dependent transformation of spatial and color information:

1. A *device profile for describing* properties of a device in a digital image reproduction system to capture, transform or render an image, said device profile comprising:

*first data for describing* a device dependent transformation of color information content of the image to a device independent color space; and

*second data for describing* a device dependent transformation of spatial information content of the image in said device independent color space.

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26. A *device profile for describing* properties of a device in a digital image reproduction system to capture, transform or render an image, said device profile *comprising data for describing* a device dependent transformation of spatial information content of the image to a device independent color space, wherein through use of spatial stimuli and device response for said device, said data is represented by spatial characteristic functions.

'415 patent, col. 5, ll. 33-41 (emphasis added); '415 patent, col. 7, ll. 8-15 (emphasis added).<sup>1</sup> As noted in the above

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<sup>1</sup> The remaining claims 2-6 and 9 are dependent on independent claim 1, and claims 27-31 are dependent on independent claim 26.

claims, the device profile is comprised of two sets of data that describe a device dependent transformation—one set of data for color information and the other set of data for spatial information. The asserted claims are not directed to any tangible embodiment of this information (*i.e.*, in physical memory or other medium) or claim any tangible part of the digital processing system. The claims are instead directed to information in its non-tangible form. Hence, the device profile claimed in the '415 patent does not fall within any of the categories of eligible subject matter under section 101.

Digitech argues that a device profile is subject matter eligible because it is “hardware or software within a digital image processing system” and exists as a tag file appended to a digital image. Appellant Br. 26. Digitech’s position is not supported by the claim language, which does not describe the device profile as a tag or any other embodiment of hardware or software. The claims’ only description of the device profile is that it comprises “first data for describing” color information and “second data for describing” spatial information. The claims encompass all embodiments of the information contained in the device profile, regardless of the process through which this information is obtained or the physical medium in which it is stored. Data in its ethereal, non-physical form is simply information that does not fall under any of the categories of eligible subject matter under section 101.

In *Nuijten*, we affirmed the U.S. Patent and Trademark Office’s rejection of the applicant’s attempt to claim a “signal” embedded with supplemental data. This claim reads:

A *signal* with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected

samples is different from the sample corresponding to the given encoding process.

*Nuijten*, 500 F.3d at 1351. Although we acknowledged that a signal had physical properties with “tangible causes and effects,” we nevertheless concluded that “such transitory embodiments are not directed to statutory subject matter.” *Id.* at 1353, 1357. We thus held that the physical embodiment of the supplemental data—the claimed “signal”—was not patent eligible.

The claims at issue here are even broader than the claim in *Nuijten*. While the claim in *Nuijten* requires supplemental data in the form of a transitory embodiment, the device profile claims of the ’415 patent do not require *any* physical embodiment, much less a non-transitory one. The device profile, as claimed, is a collection of intangible color and spatial information. We therefore hold that the device profile claims of the ’415 patent do not encompass eligible subject matter as required by section 101 and are therefore not patent eligible.

## II. METHOD CLAIMS

Digitech next argues that the asserted method claims of the ’415 patent are patent eligible because they describe a process for generating a device profile that is specifically tied to a digital image processing system and is integral to the transformation of a digital image. Again, we do not agree.

There is no dispute that the asserted method claims describe a process. Claims that fall within one of the four subject matter categories may nevertheless be ineligible if they encompass laws of nature, physical phenomena, or abstract ideas. *Chakrabarty*, 447 U.S. at 309. The Supreme Court recently reaffirmed that fundamental concepts, by themselves, are ineligible abstract ideas. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. \_\_\_, No. 13-298, slip op.

at 10 (June 19, 2014). In determining whether a process claim recites an abstract idea, we must examine the claim as a whole, keeping in mind that an invention is not ineligible just because it relies upon a law of nature or mathematical algorithm. As noted by the Supreme Court, “an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). A claim may be eligible if it includes additional inventive features such that the claim scope does not solely capture the abstract idea. *Alice Corp.*, 573 U.S. \_\_\_, slip op. at 6. But a claim reciting an abstract idea does not become eligible “merely by adding the words ‘apply it.’” *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1276 (Fed. Cir. 2012).

The method in the ’415 patent claims an abstract idea because it describes a process of organizing information through mathematical correlations and is not tied to a specific structure or machine. Claim 10 describes the process for generating the device profile:

10.A method of generating a device profile that describes properties of a device in a digital image reproduction system for capturing, transforming or rendering an image, said method comprising:

generating first data for describing a device dependent transformation of color information content of the image to a device independent color space through use of measured chromatic stimuli and device response characteristic functions;

generating second data for describing a device dependent transformation of spatial information content of the image in said device independent color space

through use of spatial stimuli and device response characteristic functions;  
and

combining said first and second data into the device profile.

'415 patent, col. 6, ll. 1-16.<sup>2</sup> The above claim recites a process of taking two data sets and combining them into a single data set, the device profile. The two data sets are generated by taking existing information—*i.e.*, measured chromatic stimuli, spatial stimuli, and device response characteristic functions—and organizing this information into a new form. The above claim thus recites an ineligible abstract process of gathering and combining data that does not require input from a physical device. As discussed above, the two data sets and the resulting device profile are ineligible subject matter. Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible. “If a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.” *Parker v. Flook*, 437 U.S. 584, 595 (1978) (internal quotations omitted).

Contrary to Digitech’s argument, nothing in the claim language expressly ties the method to an image processor. The claim generically recites a process of combining two data sets into a device profile; it does not claim the processor’s use of that profile in the capturing, transforming, or rendering of a digital image. The only mention of a “digital image reproduction system” lies in the claim’s

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<sup>2</sup> The remaining claims 11-15 are dependent on independent claim 10.

preamble, and we have routinely held that a preamble does not limit claim scope if it “merely states the purpose or intended use of an invention.” *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006). The method claimed in the ’415 patent is thus “so abstract and sweeping” as to cover any and all uses of a device profile. *See Gottschalk v. Benson*, 409 U.S. 63, 68 (1972). We therefore need not decide whether tying the method to an image processor would lead us to conclude that the claims are directed to patent eligible subject matter in accordance with the Supreme Court’s *Mayo* test. *Alice Corp.*, 573 U.S. \_\_\_, slip op. at 11. Accordingly, we hold that the process described in the asserted claims is directed to an abstract idea and is not patent eligible under section 101.

#### CONCLUSION

For the reasons set forth above, we affirm the decision of the district court.

**AFFIRMED**