UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/005,924	09/18/2013	Matthew C. Fellers	23156-0029US1	6500

143308 7590 03/19/2019
FISH & RICHARDSON P.C. (Dolby)
PO BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER
SAINT CYR, LEONARD

ART UNIT	PAPER NUMBER
2658	

NOTIFICATION DATE	DELIVERY MODE
03/19/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com
patents@dolby.com
mguo@dolby.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW C. FELLERS

Appeal 2017-004160
Application 14/005,924
Technology Center 2600

Before JEREMY J. CURCURI, JUSTIN BUSCH, and
KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

BUSCH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision to reject claims 1–6 and 8–16, which constitute all the claims pending in this application. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

Appellant's claimed invention relates to applying "filterbanks to limited bandwidth audio channels such as so called low-frequency-effects (LFE) channels using fewer computational resources." Spec. 1: 8–11. More specifically, Appellant contends known multichannel audio coding systems

implement filterbanks using transforms that "have many attractive properties" but require "significant processing or computational resources" to perform the needed calculations. Spec. 1:33–2:1. Appellant also contends the computational complexity of certain known more efficient transform techniques, which reduce the needed computational resources, varies with the length of the transform. Spec. 2:1–4. Appellant acknowledges it is known to reduce "computational complexity by using shorter transform lengths to process audio channels with narrower bandwidths" and, "[b]ecause the bandwidth of the LFE channel is narrower, known techniques can be used to perform a filterbank transform more efficiently for the LFE channel than can be performed for one of the full-bandwidth channels." Spec. 2:4–16.

Appellant contends their invention provides methods "to perform transforms that implement filterbanks for limited-bandwidth channel signals more efficiently than is possible using known techniques." Spec. 2:21–23. Appellant explains that "[t]he present invention is directed toward reducing the computational resources needed to perform the transform that implements the synthesis filterbank 231 or 232 in the receiver 200 used to generate narrower bandwidth output audio signals." Spec. 4:11–13; *see also* Spec. 4:16–19 (explaining that the invention also may be used to reduce computational resources used to implement the analysis filterbank(s) applied to narrower bandwidth audio signals at a transmitter). Appellant explains that the claimed "folding technique," which involves three stages, performs conventional direct transforms more efficiently. Spec. 4:26–27; Fig. 2; *see* Spec. 4:28–31 (explaining that the second of the three transforms, which has

a shorter length than the direct transform implemented in the folding technique, "is referred to as a 'folded transform'").

Claims 1, 6, and 12 are independent claims. Claim 1 is reproduced below:

> 1. A method performed by a device for processing a digital audio signal, wherein the method comprises:
>
> the device receiving a block of real-valued transform coefficients, wherein the block has a quantity K of real-valued transform coefficients of which only a number L of the real-valued transform coefficients represent spectral components of a limited-bandwidth audio signal, $\frac{1}{2}L < M < K$, and M is a power of two;
>
> the device applying a first-transform of length R to either the L real-valued transform coefficients representing spectral components of the limited-bandwidth audio signal, or complex-valued coefficients derived from the L real-valued transform coefficients representing spectral components of the limited-bandwidth audio signal, wherein $R = \frac{M}{P}$ and P is a power of two;
>
> the device applying a bank of Q second transforms of length P to outputs of the first transform; and
>
> the device deriving a sequence of N real-valued signal samples from outputs of the bank of second transforms, wherein $N = 2 \cdot K$ and the real-valued signal samples represent temporal components of the limited-bandwidth audio signal.

REJECTION

Claims 1–6 and 8–16 stand rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 3–4.

ANALYSIS

FRAMEWORK FOR JUDICIAL EXCEPTIONS UNDER 35 U.S.C. § 101

The Supreme Court's two-step framework guides our analysis of patent eligibility under 35 U.S.C. § 101. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014); *Mayo Collaborative Servs. v. Prometheus*

Labs., Inc., 566 U.S. 66, 70–71 (2012). In addition, the Office recently published revised guidance for evaluating subject matter eligibility under 35 U.S.C. § 101, specifically with respect to applying the *Alice* framework. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Guidance").

If a claim falls within one of the statutory categories of patent eligibility (i.e., a process, machine, manufacture, or composition of matter) then the first inquiry is whether the claim is directed to one of the judicially recognized exceptions (i.e., a law of nature, a natural phenomenon, or an abstract idea). *Alice*, 573 U.S. at 217. Per the Guidance, this first inquiry has two prongs of analysis: (i) does the claim recite a judicial exception (e.g., an abstract idea), including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes) and (ii) if so, is the judicial exception integrated into a practical application. 84 Fed. Reg. 50, 54. Under the Guidance, if the judicial exception is integrated into a practical application, *see infra*, the claim is eligible under § 101. 84 Fed. Reg. 50, 54–55; *see* Manual of Patent Examining Procedure (MPEP) § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018). The Guidance instructs us that, *only after* completing analysis under these two "prongs" do we move to step two of the *Alice* analysis. 84 Fed. Reg. 50, 51.

Although an abstract idea, itself, is patent ineligible, an application of the abstract idea may be patent eligible. *Alice*, 573 U.S. at 217. Thus, if the claim is directed to a judicial exception (i.e., recites a judicial exception and does not integrate the exception into a practical application), we must consider "the elements of each claim both individually and 'as an ordered

combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 79, 78); 84 Fed. Reg. 50, 56. In other words, this search for an inventive concept analyzes whether the claim contains "an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Alice*, 573 U.S. at 217–18 (quoting *Mayo*, 566 U.S. at 72–73 (brackets in original)). The Guidance instructs us that step two of *Alice* requires evaluating whether the claim adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field or merely appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. 84 Fed. Reg. 50, 56; *see* MPEP § 2106.05(d).

STEP ONE OF *ALICE* FRAMEWORK

In step one of the *Alice* analysis, we "determine whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Alice*, 573 U.S. at 217–18. The Examiner concludes claim 1[1] is directed to and "built around the behavior of mathematically defined of transforming-based filterbank concept," which is an abstract idea. Final Act. 2–4. The Examiner explains that "all [the claimed] steps are directed to mathematical calculations," not to processing audio signals. Ans. 3. The Examiner explains the claimed steps merely define mathematical relationships without

[1] Appellant argues claims 1–6 and 8–16 as a group. *See* Appeal Br. 4–16. We select independent claim 1 as representative of claims 1–6 and 8–16. *See* 37 C.F.R. § 41.37(c)(1)(iv).

improving "how one would solve any of the problems involved in getting a computer to actually apply the exception" rather than "a particular useful application." Ans. 4–5.

"The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). There is no definitive rule to determine what constitutes an "abstract idea." Rather, the Federal Circuit has explained that "both [it] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases." *Enfish*, 822 F.3d at 1334; *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that, in determining whether claims are patent-ineligible under § 101, "the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided").

Claim 1 recites a method in which a device performs four steps: (1) receiving transform coefficients (a subset of which represent spectral components of a limited-bandwidth audio signal); (2) applying a transform to the subset of coefficients (or derivations thereof); (3) applying a transform to the result of the first transform; and (4) deriving signal samples (which represent temporal components of the limited-bandwidth audio signal) from the output of the second transform. Both applying a transform steps and the

deriving signal samples step recite applying mathematical relationships. Specifically, Appellant identifies various mathematical formulas in the Specification in support of the claimed steps. *See* Amended Appeal Br. 2–3 (citing Spec. 6:6–19, 7:14–9:2).[2]

The portions of the Specification Appellant cites are the sections of the disclosure titled "2. Folding Technique" and "4. Transform Decomposition-Technique." Spec. 6:6–19, 7:14–9:2. The cited portions of Appellant's Specification simply describe mathematical relationships, using both formulas and prose. Spec. 6:6–19, 7:14–9:2.

The courts have long held that "[i]f 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); *see Gottschalk v. Benson*, 409 U.S. 63, 67, 69. The Federal Circuit has made clear that a claim may be directed to abstract mathematical relationships even if the claims do not recite a formula. *See Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350–51. In *Digitech*, the court determined claims reciting

---

[2] Appellant cites to paragraph numbers of the Specification throughout the Appeal Brief and Reply Brief. The Specification, however, has no paragraph numbers. Therefore, in response to a "Notification of Non-Compliant Appeal Brief," mailed on June 27, 2016, Appellant filed a second appeal brief ("Amended Appeal Brief") that included a "Summary of Claimed Subject Matter" section, which references the line and page numbers of the original Specification rather than paragraph numbers. Although we generally cite to the originally filed Appeal Brief in this opinion, when citing to the "Summary of Claimed Subject Matter," we cite to Appellant's Amended Appeal Brief. All of our citations to Appellant's Specification use page and line numbers, except when noting Appellant's citations to paragraph numbers of the Specification in the Briefs.

generating two sets of data based on existing information and combining the two sets into a single data set recited "an ineligible abstract process of gathering and combining data that does not require input from a physical device," notwithstanding the claims' failure to recite a particular mathematical formula. *Digitech*, 758 F.3d at 1351 ("Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible."). Therefore, we agree with the Examiner that Appellant's claims recite mathematical formulas, which fall under the Guidance's Mathematical concepts" category of abstract ideas. 84 Fed. Reg. 50, 52.

Because Appellant's claims recite a judicial exception, we next determine whether the claims integrate the judicial exception into a practical application. 84 Fed. Reg. 50, 54. To determine whether the judicial exception is integrated into a practical application, we identify whether there are "*any additional elements recited in the claim beyond the judicial exception(s)*" and evaluate those elements to determine whether they integrate the judicial exception into a recognized practical application. 84 Fed. Reg. 50, 54–55 (emphasis added); *see also* MPEP § 2106.05(a)–(c), (e)–(h). As discussed above, both the applying transform steps and the deriving signal samples step recite the concept of using mathematical formals or relationships to generate derived data from input data—i.e., the abstract idea of mathematical concepts, which the Guidance instructs us encompasses "mathematical relationships, mathematical formula, or mathematical calculations." 84 Fed. Reg. 50, 52. For purposes of this decision, we consider the receiving coefficients step and the "device" to be elements in addition to the recited mathematical concepts.

The receiving coefficients step recites receiving "a block of . . . coefficients, wherein the block" of coefficients has certain characteristics. Although this step identifies characteristics of the information received, the step still recites simply receiving information. This step does not integrate the abstract mathematical relationships into a practical application because this step merely is an insignificant pre-solution data gathering activity, which is necessary in order to perform the first transformation that is part of the mathematical concepts recited in the claims. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 ("We have held that mere '[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory.'" (citations omitted)); *see also* 84 Fed. Reg. 55 (court-identified "examples in which a judicial exception has not been integrated into a practical application" include when "an additional element adds insignificant extra-solution activity to the judicial exception"); MPEP § 2106.05(g) (describing "a step of obtaining information about credit card transactions, which is recited as part of a claimed process of analyzing and manipulating the gathered information by a series of steps in order to detect whether the transactions were fraudulent" as an exemplary pre-solution activity of data gathering).

Machine-or-Transformation

Appellant argues the claims recite "a method that is implemented by a particular machine (i.e., a device for processing a digital audio signal)." Appeal Br. 12. Appellant argues the recited device is not a generic computer because "[a] generic computer performs arbitrary operations on arbitrary data." Appeal Br. 12. Appellant further argues "[t]he particular machine

performs a specific function and transforms" the received coefficients into a different state. Appeal Br. 12.

Contrary to Appellant's arguments, the claims do not recite a particular machine or transformation for performing the claimed calculation methodology. *See* MPEP § 2106.05(b)–(c). The device is recited only at a high level of generality. The claim only limits the device in the preamble, stating that it is "a device for processing a digital audio signal." Neither the claim nor the Specification provide any details regarding particular components that must be in the device. *See* Spec. 3:16–17, 12:13–13:8 (notably disclosing that the "[d]evices . . . may be implemented in a variety of ways including software for execution by a computer *or* some other device that includes more specialized components" emphasis added), Fig. 5.

In light of the generically recited device and Appellant's Specification, Appellant's arguments do not persuade us the device to be a particular machine. *Contra* 84 Fed. Reg. 50, 55 (explaining that, if "an additional element implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine," the additional element(s) may integrate the abstract idea into a practical application); 84 Fed. Reg. 50, 55 n.27 (citing MPEP § 2016.05(b). Instead, with respect to the device, Appellant's claims merely recite "'apply it' (or an equivalent) with the judicial exception, or merely includes instructions to implement an abstract idea on a [device], or merely uses a [device] as a tool to perform an abstract idea." 84 Fed. Reg. 50, 55. Thus, the "device" recited in the claims also fails to integrate the abstract mathematical concepts into a practical application.

We disagree with Appellant that the additional elements in claim 1 effect a transformation of a particular article into a different state or thing, as set forth in MPEP § 2106.05(c). The recited mathematical transformation of values is a different concept than the transformation of an article into a different state, which the courts have found relevant to analyzing patent eligibility. Merely manipulating or reorganizing data, as recited in Appellant's claimed mathematical concepts, is not enough to satisfy the transformation test. *Cf. CyberSource Corp. v. Retail Decisions, Inc.*, 654 F3.d 1366, 1375 (Fed. Cir. 2011). Moreover, we look to the *additional* elements, beyond the abstract ideas themselves, to determine whether these elements integrate the abstract ideas into a practical application, such as by recited a particular machine or transformation. *See* 84 Fed. Reg. 50, 55. Therefore, we disagree with Appellant that the claims recite a particular machine or transformation sufficient to integrate the abstract mathematical concepts into a practical application.

Improvement to a Computer or Other Technology

Appellant argues the claims are directed to applying filterbanks to LFE channels using fewer computational resources. Appeal Br. 4 (citing Spec. ¶ 2). Appellant explains that the claimed "folding technique" involves three stages, the second of which is a "folded transform." Appeal Br. 4 (citing Spec. ¶¶ 6, 22). Appellant contends "[t]he folded transform 'improves efficiency because the computational resources needed to perform the direct transform as opposed to the folded transform in the stage 402 is greater than the computational resources needed to implement the processes performed in the pre-processor stage 401 and the post-processor stage 403.'" Appeal Br. 4 (citing Spec. ¶ 22).

Appellant summarizes various Federal Circuit and Supreme Court cases determining the eligibility of claims under 35 U.S.C. § 101 and assert the "concept of a filterbank . . . is not even remotely related to fundamental economic practices, or conventional business practices, or methods of organizing human activates." Appeal Br. 6–8. Notably, the Examiner's rejection does not rely on any of these bases in rejecting the claims as directed to abstract ideas; rather, the Examiner determines the claims recite mathematical concepts. Ans. 3 ("the claimed steps are not directed to processing audio signals as argued by the appellant; all steps are directed to mathematical calculations"); *see* Final Act. 2.

Appellants argue their claims improve "the functioning of the computer itself by allowing the computer to process such digital audio signals more efficiently and using less resources that is possible using conventional resources." Appeal Br. 11 (emphasis omitted) (citing Spec. ¶¶ 22, 28); *see* Appeal Br. 8–11 (citing *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010)). Appellant also argues the claims focus "on applying the mathematical algorithm to derive 'temporal components of the limited-bandwidth audio signal' from 'spectral components of a limited bandwidth audio signal' for a[n] LFE channel." Appeal Br. 8. Appellant further argues "[t]he application of the claim is specific," and "[t]he improvements to technologies in the marketplace by using the recited features are clear." Appeal Br. 8–9.

As noted above, the majority of Appellant's claims recite abstract ideas—i.e., the two applying a transform steps and the deriving step recite mathematical concepts. Thus, we look to the *additional* elements recited to determine whether they integrate the abstract idea into a practical

application. Here, as already explained, the device is recited at a high level of generality and amounts to no more than applying the abstract mathematical concepts on the device. Even to the extent we consider the fact that the coefficients on which the abstract mathematical concepts are performed represent certain components of an audio signal or that the results derived from the abstract mathematical concepts represent other components of an audio signal to be elements in addition to the abstract idea, we disagree that these aspects are sufficient to integrate the abstract mathematical concepts into a practical application.

First, as stated above, the receiving coefficients step is simply insignificant pre-solution data gathering activity. Second, to the extent the output is distinct from the mathematical concept of deriving those values, it is no more than insignificant post-solution activity—i.e., simply outputting the results of the abstract idea does not integrate the abstract idea into a practical application. Third, and finally, "generally link[ing] the use of [the abstract mathematical concepts] to a particular technological environment or field of use" is not sufficient to integrate the abstract mathematical concepts into a practical application. 84 Fed. Reg. 50, 55; 84 Fed. Reg. 50, 55 n.31 (citing MPEP § 2106.05(g)).

The combination of the additional elements merely applies the abstract idea on generic computing components without improving the underlying computer or technology or imposing any other meaningful limits on the abstract idea, adding only insignificant pre-solution data gathering. *See* MPEP § 2106.05(a), (e)–(g). In other words, claim 1's recitation of computing components merely links the abstract idea to a particular technological environment or field of use. *See* MPEP § 2106.05(h).

At first blush, Appellant's claims appear somewhat similar to the claims determined eligible in *Research Corp.* *See* Appeal Br. 8 (citing *Research Corp.*, 627 F.3d 859). However, in that case, the Federal Circuit noted that "[c]ompared to prior art blue noise masks, . . . [the] inventive mask produces higher quality halftone images while using less processor power and memory space." *Research Corp.*, 627 F.3d at 865. In fact, Appellant argues only that the recited folded transform method is "more efficient" than prior methods. Appeal Br. 8–9 (quoting Spec. ¶ 38). This is consistent with the Specification, which explicitly discloses that the folded transform technique provides identical results to the prior techniques, "[e]xcept for any errors that might occur from finite-precision arithmetic operations." Spec. 5:4–8; *see* Spec. 2:21–23 ("It is an object of the present invention to provide ways that can be used to perform transforms that implement filterbanks for limited-bandwidth channel signals more efficiently than is possible using known techniques."), 4:26–27 ("One technique referred to herein as a 'folding technique' can be used to perform these direct transforms more efficiently."), 5:8–12 ("This technique improves efficiency because the additional computational resources needed to perform the direct transform as opposed to the folded transform in the stage 402 is greater than the computational resources needed to implement the processes performed in the pre-processor stage 401 and the postprocessor stage 403."), 7:15–18 ("A transform decomposition technique may be used to derive a more efficient method for performing the folded transform for limited bandwidth signals in which some of the transform coefficients in a block of frequency-domain transform coefficients are known to be equal to zero.").

Appellant's arguments and Specification demonstrate that the improvements in computational efficiency are a result of choosing different mathematical relationships than previously used. Thus, we are not persuaded that Appellant's claims improve a computer or other technology because the arguments and evidence presented demonstrate that the improvement is in the abstract idea itself—i.e., the particular calculations performed. *Contra* 84 Fed. Reg. 50, 55 (explaining that *additional* elements may integrate the abstract idea into a practical application if those elements "reflect[] an improvement in the functioning of a computer, or an improvement to other technology or technical field"). We see nothing in the additional elements, *beyond the abstract idea*, that constitute an improvement to a computer or other technology. Nor does Appellant identify a particular element or combination of elements that improves a computer or other technology; rather, Appellant merely argues the recited abstract mathematical concepts improve the computer. *See* Appeal Br. 8–11.

For the reasons above, we conclude Appellant's claims recite an abstract idea and fail to integrate the abstract idea into a practical application. Because we agree with the Examiner that Appellant's claims are directed to an abstract idea, we turn to step 2 of the *Alice* analysis.

STEP TWO OF *ALICE* FRAMEWORK

In step two of our *Alice* analysis, we analyze the claims to determine if there are *additional* limitations that individually, or as an ordered combination, ensure the claims amount to "significantly more" than the abstract idea. *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 72–73, 77–79). As stated in the Guidance, many of the considerations to determine whether the claims amount to "significantly more" under step two of the

Alice framework are already considered as part of determining whether the judicial exception has been integrated into a practical application. 84 Fed. Reg. 50, 56. Thus, at this point of our analysis, we determine whether the claims (1) add a specific limitation or combination of limitations that are more than well-understood, routine, conventional activity in the field, or (2) simply append well-understood, routine, conventional activities at a high level of generality. 84 Fed. Reg. 50, 56.

Appellant argues "the recited features are not well-understood, routine, [and] conventional" because "there [are] currently no pending prior art-based rejections." Appeal Br. 10. Appellant also argues "claim 1 adds unconventional steps that confine the claim to a particular useful application." Appeal Br. 14. Appellant explains the particular order of mathematical steps performed and the characteristics of those mathematical transformations and conclude "[t]hese limitations are not conventional." Appeal Br. 15. Appellant argues the Examiner failed to address these arguments and "[e]ven if assuming, *arguendo*, that all the claimed steps are mathematical calculations as transforming coefficients representing spectral components of a limited-bandwidth signal, the Examiner did not explain why these steps, alone or in an ordered combination, do not recite unconventional limitations." Reply Br. 9.

Notably, an inventive concept "cannot be furnished by the unpatentable law of nature (or natural phenomenon or abstract idea) itself." *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016); *see also Alice*, 134 S. Ct. at 2355 (explaining that, after determining a claim is directed to a judicial exception, "we then ask, '*[w]hat else* is there in the claims before us?'" (emphasis added, brackets in original)

(quoting *Mayo*, 566 U.S. at 78)). Instead, an "inventive concept" is furnished by an element or combination of elements that is recited in the claim *in addition to* the judicial exception and sufficient to ensure the claim as a whole amounts to significantly more than the judicial exception itself. *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 72–73); *see BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) (explaining that the Supreme Court in *Alice* "only assessed whether the claim limitations *other than the invention's use of the ineligible concept* to which it was directed were well-understood, routine and conventional" (emphasis added)).

On the other hand, "[i]f a claim's only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea." *BSG Tech*, 899 F.3d at 1290–91 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1370 (Fed. Cir. 2018)). "[I]t is irrelevant whether [the claimed abstract idea] may have been non-routine or unconventional as a factual matter . . . narrowing or reformulating an abstract idea does not add 'significantly more' to it." *BSG Tech*, 899 F.3d at 1291.

As discussed above, the only limitations recited in *addition* to the judicial exception are the device and the receiving coefficients step. For purposes of addressing Appellant's arguments in this decision, we also consider the fact that the particular input and output data represent components of audio to be elements beyond the abstract idea. However, Appellant does not present persuasive arguments that these *additional* components (or combination of components) are more than well-understood,

routine, and conventional. For example, as discussed above, the claims recite a generic device at a high level of generality and the generic computer function of "receiving" data. These generically recited components performing generic receiving steps are merely well-understood, routine, and conventional components performing well-understood, routine, and conventional activities. *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) ("That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive."); *Cf. Alice*, 573 U.S. at 226 ("Nearly every computer will include a [computer components] . . . capable of performing the basic calculation, storage, and transmission functions required by the method claims.").

Appellant's argument focuses on the arrangement of the mathematical concepts as being more than well-understood, routine, and conventional and, thus, providing the inventive concept. Appellants, however, have not pointed to anything that would raise a genuine issue of material fact that the generically recited device, the steps of receiving data, or receiving and performing transforms on data representing audio signals constitute steps or elements beyond what was well-understood, routine, and conventional. Contrary to Appellant's argument, Reply Br. 9, an unconventional arrangement of steps that constitute the abstract idea is not sufficient to confer eligibility. Even assuming the particular mathematical relationships claimed are novel and nonobvious, the relationships still constitute an abstract idea which, without more, is ineligible. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 ("But, a claim for a *new* abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty").

Thus, the claimed limitations, considered both individually and together, do not add significantly more to the abstract idea and, therefore, do not render the subject matter patent eligible.

SUMMARY

For these reasons, we conclude Appellant's claims are directed to merely an abstract idea without an inventive concept and, therefore, Appellant's claims fail to recite eligible subject matter under 35 U.S.C. § 101.

DECISION

We affirm the Examiner's decision to reject claims 1–6 and 8–16 under 35 U.S.C. § 101.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(l)(iv).

AFFIRMED