UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte MANUEL BRIAND, and TOMAS JANSSON

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Appeal 2017-006158
Application 13/981,035
Technology Center 2600

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Before JOSEPH L. DIXON, JOHN A. EVANS and
CATHERINE SHIANG, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 19–25 and 28–34, which are all the claims pending and
rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF THE CASE

Introduction

According to the Specification, the present invention relates to audio signal processing. *See generally* Spec. 1. Claim 19 is exemplary:

> 19.   A method for determining an inter-channel time difference of a multi-channel audio signal having at least two channels, wherein said method comprises the steps of:
>
> determining a set of local maxima of a cross-correlation function involving at least two different channels of the multi-channel audio signal for positive and negative time-lags, where each local maximum is associated with a corresponding timelag;
>
> selecting, from the set of local maxima, a local maximum for positive time-lags as a positive time-lag inter-channel correlation candidate and a local maximum for negative time-lags is selected as a negative time-lag inter-channel correlation candidate;
>
> evaluating, when the absolute value of a difference in amplitude between the interchannel correlation candidates is smaller than a first threshold, whether there is an energy-dominant channel; and
>
> identifying, when there is an energy-dominant channel, the sign of the inter-channel time difference and extracting a current value of the inter-channel time difference based on either the time-lag corresponding to the positive time-lag inter-channel correlation candidate or the time-lag corresponding to the negative time-lag interchannel correlation candidate; and
>
> outputting an encoded audio signal based on encoding the multi-channel audio signal, said encoding including aligning channel signals of the multi-channel audio signal for down-mixing of the multi-channel audio signal, according to the extracted values of the inter-channel time difference.

Rejection

Claims 19–25 and 28–34 stand rejected under 35 U.S.C. § 101 because they are directed to patent ineligible subject matter.

ANALYSIS

We have reviewed the Examiner's rejection in light of Appellants' contentions and the evidence of record. We concur with Appellants' contention that the Examiner erred in finding claims 19–25 and 28–34 are directed to patent ineligible matter. *See* App. Br. 7–15; Reply Br. 2–5.

Section 101 of the Patent Act provides "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. That provision "'contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.'" *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). According to the Supreme Court:

> [W]e set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. . . . If so, we then ask, "[w]hat else is there in the claims before us?" . . . To answer that question, we 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. . . . We have described step two of this analysis as a search for an "'inventive

concept'"—*i.e.,* 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 Corp., 134 S. Ct. at 2355.

The Federal Circuit has described the *Alice* step-one inquiry as
looking at the "focus" of the claims, their "character as a whole," and
the *Alice* step-two inquiry as looking more precisely at what the claim
elements add—whether they identify an "inventive concept" in the
application of the ineligible matter to which the claim is directed. *See*
Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1353 (Fed. Cir.
2016); *Enfish, LLC v. Microsoft Corp.,* 822 F.3d 1327, 1335–36 (Fed.
Cir. 2016); *Internet Patents Corp. v. Active Network, Inc.,* 790 F.3d
1343, 1346 (Fed. Cir. 2015).

In *DDR Holdings, LLC v. Hotels.com, L.P.,* 773 F.3d 1245 (2014), the
Federal Circuit determines the claims satisfy *Alice* step two because "the
claimed solution is necessarily rooted in computer technology in order to
overcome a problem specifically arising in the realm of computer networks."
DDR Holdings, 773 F.3d at 1257. As a result, the *DDR* court holds the
claims are patent eligible regardless of whether the claims are characterized
as an abstract idea under *Alice* step one. *See DDR Holdings,* 773 F.3d at
1257.

Similar to the claims in *DDR*, the claims here are necessarily rooted in
audio signal processing technology in order to overcome a problem
specifically arising in the realm of signal processing. *See* claims 19–25 and
28–34; *see also* Spec. 1–2; *DDR Holdings,* 773 F.3d at 1257. As a result,

the claims are patent eligible regardless of whether they are characterized as
an abstract idea under *Alice* step one. *See DDR Holdings*, 773 F.3d at 1257.

In particular, the claims address the problem of inaccurately
determining an inter-channel time difference of a multi-channel audio signal
during audio signal processing. *See* claims 19–25 and 28–34; *see also* Spec.
1–2. To that end, the claims provide an improved method and system for
determining an inter-channel time difference of a multi-channel audio signal.
See claims 19–25 and 28–34. For example, independent claim 19 recites a
method comprising "determining a set of local maxima of a cross-correlation
function . . . ; selecting . . . a local maximum for positive time-lags . . . and a
local maximum for negative time-lags . . . ; evaluating . . . whether there is
an energy-dominant channel; identifying . . . the sign of the inter-channel
time difference and extracting a current value of the inter-channel time
difference . . . ; and . . . encoding the multi-channel audio signal . . .
including aligning channel signals of the multi-channel audio signal for
down-mixing of the multi-channel audio signal . . . ." Claim 19.
Independent claim 28 is a system claim reciting similar functions. *See* claim
28. Contrary to the detailed signal processing steps discussed above, the
Examiner incorrectly asserts that the claims constitute merely mathematical
calculations. (Ans. 5).

Instead of adhering to the conventional way of audio signal
processing, the claims provide an improved method and system of
determining an inter-channel time difference of a multi-channel audio signal.
See claims 19–25 and 28–34; *DDR Holdings*, 773 F.3d at 1258–59.
Therefore, similar to the claims of *DDR* and contrary to the Examiner's
assertion (Ans. 5), "[w]hen the limitations of [this invention] are taken

together[], the claims recite an invention that is not merely the routine or conventional use of" general-purpose electronic circuitry. *See* claims 19–25 and 28–34; *DDR Holdings*, 773 F.3d at 1259.

Finally, "[i]t is also clear that the claims at issue do not attempt to preempt every application of the idea of" determining an inter-channel time difference of a multi-channel audio signal. "Rather, they recite a specific way" based on detailed determining, selecting, evaluating, identifying, and encoding steps discussed above. *DDR Holdings*, 773 F.3d at 1259. As a result, the claims include "additional features" that ensure the claims are "more than a drafting effort designed to monopolize the [abstract idea]." *Id.* (citing *Alice,* 134 S.Ct. at 2357). In short, "the claimed solution amounts to an inventive concept for resolving this particular" audio signal processing problem, rendering the claims patent eligible. *Id.*

Accordingly, we reverse the Examiner's rejection of claims 19–25 and 28–34 under 35 U.S.C. § 101.

DECISION

We reverse the Examiner's decision rejecting claims 19–25 and 28–34 under 35 U.S.C. § 101.

REVERSED

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