

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner

v.

ANONYMOUS MEDIA RESEARCH HOLDINGS, LLC,
Patent Owner

Patent No. 10,963,911

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,963,911**

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I. INTRODUCTION

Samsung Electronics Co., Ltd. (“Petitioner” or “Samsung”) requests *inter partes* review of claims 1-17 (“the challenged claims”) of U.S. Patent No. 10,963,911 (“the ’911 patent”) (Ex. 1001), which, according to PTO records, is assigned to Anonymous Media Research Holdings, LLC (“Patent Owner” or “PO”). For the reasons discussed below, the challenged claims should be found unpatentable and canceled.

II. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

A. Real Parties-in-Interest

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner identifies the following as the real parties-in-interest: Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.

B. Related Matters

1. Related Lawsuit

The ’911 patent is asserted in the following civil action: *Anonymous Media Research Holdings, LLC v. Samsung Electronics Co., Ltd. et al.*, Case No. 2:23-cv-00439-JRG (E.D. Tex.) (“the 439 action”). The following patents are also asserted in the 439 action: U.S. Patent Nos. 8,510,768 (“the ’768 patent”), 8,756,622 (“the ’622 patent”), 8,296,791 (“the ’791 patent”), 10,719,848 (“the ’848 patent”),

10,719,849 (“the ’849 patent”), 10,572,896 (“the ’896 patent”), and 8,677,389 (“the ’389 patent”).¹

Petitioner filed the following IPRs challenging some of the asserted patents in the 439 action:

IPR No. 2024-01348, which challenges claims of the ’896 patent;

IPR No. 2024-01349, which challenges claims of the ’849 patent; and

IPR No. 2024-01350, which challenges claims of the ’848 patent.

Several other asserted patents in the 439 action are also challenged by Roku, Inc. in the following IPRs:

IPR No. 2024-01053, which challenges claims of the ’791 patent;

IPR No. 2024-01054, which challenges claims of the ’768 patent;

IPR No. 2024-01055, which challenges claims of the ’622 patent;

IPR No. 2024-01056, which challenges claims of the ’896 patent;

IPR No. 2024-01057, which challenges claims of the ’848 patent; and

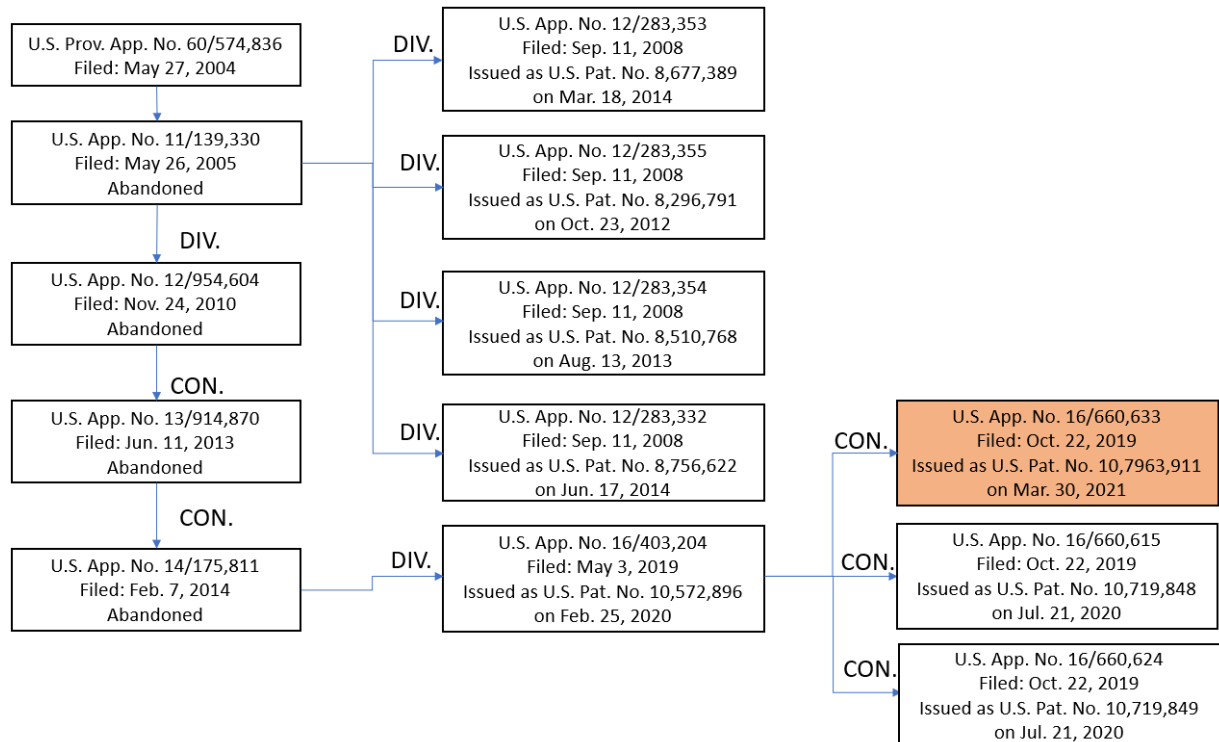
IPR No. 2024-01058, which challenges claims of the ’849 patent.

2. Related Applications

The ’911 patent relates to several patents and/or patent applications, as shown

¹ The ’389 and ’911 patents were added to the 439 action in an amended complaint filed November 7, 2024. (EX1034, 1, 31, 51.)

in the table below:



As shown above, U.S. patent application no. 16/660,633 (“the ’633 application”) issued as the ’911 patent (highlighted). (*See also* EX1001, cover (Related U.S. application data section), 1:6-18.) The ’633 application is characterized as a continuation of U.S. patent application no. 16/403,204 (“the ’204 application”), which issued as the ’896 patent (asserted in the 439 action). The ’204 application is characterized as a divisional of U.S. patent application no. 14/175,811 (“the ’811 application”). The ’811 application is characterized as a continuation of U.S. patent application no. 13/914,870 (“the ’870 application”). The ’870 application is characterized as a continuation of U.S. patent application no. 12/954,604 (“the ’604 application”). The ’604 application is characterized as a

divisional of U.S. patent application no. 11/139,330 (“the ’330 application”). The ’330 application is characterized as a non-provisional application claiming priority to U.S. provisional application no. 60/574,836 (“the ’836 provisional application”). (See also EX1001, cover.)

The chart above also shows U.S. patent application nos. 16/660,615 (“the ’615 application”) and 16/660,624 (“the ’624 application”), also claiming priority to the ’204 application (like the ’633 application). The ’615 application issued as the ’848 patent and the ’624 application issued as the ’849 patent, both of which are asserted in the 439 action. The chart also shows four applications characterized as divisional applications, namely U.S. patent application nos. 12/283,353, 12/283,355, 12/283,354, and 12/283,332 that claim priority to the ’330 application—these divisional applications issued as the ’389 patent, ’791 patent, ’768 patent, and ’622 patent, respectively, which are asserted in the 439 action.²

² The chart above shows patent applications to which the ’911 patent claims priority and other related applications that issued as patents asserted in the 439 action. It does not show other patent applications that may be part of the ’911 patent family, e.g., those applications that also claim priority to the ’836 provisional but are not part of the priority chain of the ’911 patent.

C. Counsel and Service Information

Lead counsel: Naveen Modi (Reg. No. 46,224). Backup counsel: (1) Daniel Zeilberger (Reg. No. 65,349), (2) Quadeer Ahmed (Reg. No. 60,835), (3) Daniel J. Blake (*pro hac vice* admission to be requested).

Service information is Paul Hastings LLP, 2050 M Street NW, Washington, DC 20036, Tel.: 202.551.1700, Fax: 202.551.1705, email: PH-Samsung-AMRH-IPR@paulhastings.com. Petitioner consents to electronic service.

III. PAYMENT OF FEES

The PTO is authorized to charge any fees due to Deposit Account No. 50-2613.

IV. GROUNDS FOR STANDING

Petitioner certifies that the '911 patent is available for review, and Petitioner is not barred/estopped from requesting review on the grounds herein.

V. PRECISE RELIEF REQUESTED AND GROUNDS RAISED

Petitioner requests review, and cancellation, of claims 1-17 of the '911 patent.

A. Grounds

The challenged claims should be canceled as unpatentable on the following grounds:

Ground 1: Claims 1-17 are unpatentable under § 103 over U.S. Publication No. 2005/0267750 to Steuer *et al.* (“Steuer750”) (EX1005) in view of 2006/0195860 to Eldering *et al.* (“Eldering”) (EX1007); and

Ground 2: Claims 1-17 are unpatentable under § 103 over U.S. Patent No. 8,677,389 to Steuer *et al.* (“Steuer389”) (EX1006) in view of Eldering.

B. Possible Effective Filing Dates of the '911 Patent

The '911 patent issued from the '633 application filed October 22, 2019, which claims priority through a number of applications back to a provisional application filed May 27, 2004. (EX1001, 1:6-18.) As explained below, the challenged claims are not entitled to a priority date of May 27, 2004. (*See infra*, §IX.)

Ground 1: The earliest effective filing date (“EFD”) of the challenged claims is **May 3, 2019** (“**2019 EFD**”), the filing date of the intervening '204 application that issued as the '896 patent (*see supra*, §II.B.2; *infra*, §IX.B) and no earlier than **November 24, 2010** (“**2010 EFD**”), the filing date of the intervening '604 application (*see supra*, §II.B.2; *infra*, §IX.C).

In response to Petitioner’s IPR challenges to related patents based on the **2010 EFD** and **2019 EFD**, PO is attempting to update its priority claims in the '633 application such that it claims priority to the related '353 application filed **September 11, 2008** (“**2008 EFD**”). (EX1026, 1-3; *see also* EX1025; *supra*,

§II.B.2). While the Office of Petitions denied PO's petition (EX1027, 2-4), even if PO is successful in claiming priority to the '353 application, the references relied upon in **Ground 1** (Steuer750 and Eldering) would qualify as prior art with respect to this **2008 EFD**.

Ground 2: Ground 2 is based on the challenged claims not having an EFD earlier than the **2019 EFD** (*see supra*, §II.B.2; *infra*, §IX.B).

Prior Art Status of References

Steuer750 published on December 1, 2005. Thus, Steuer750 qualifies as prior art at least under pre-AIA § 102(b) with respect to the **2010 EFD** (and to the extent applicable, the **2008 EFD**), and at least under AIA § 102(a)(1) with respect to the **2019 EFD**.

Eldering published on August 31, 2006 and was filed February 25, 2005. Thus, Eldering qualifies as prior art at least under pre-AIA §§ 102(b) and (e) with respect to the **2008 EFD** and **2010 EFD**, and at least under AIA § 102(a)(1) with respect to the **2019 EFD**.

Steuer389 issued on October 23, 2012. Thus, Steuer389 qualifies as prior art at least under AIA § 102(a)(1) with respect to the **2019 EFD**.

Petitioner notes that the Office of Petitions noted in its denial decision that PO's priority claim to the intervening '870 application (via the intervening '811 application), *see supra*, §II.B.2, is improper because the filing fee was not paid in

the '870 application during its pendency. (EX1027, 2-3.) Consequently, the decision notes that the priority claims from the '870 application to the earlier applications leading to the '836 provisional application are also improper. (*Id.*) PO filed a petition in the now-abandoned '870 application in an attempt to resolve this issue (EX1033, 1-3), which is currently pending. While PO has not met its burden to be granted relief, if PO is successful in resolving this issue, it would not disturb Petitioner's positions regarding the earliest effective filing dates discussed above with respect to **Grounds 1 and 2** because Petitioner's positions below in Section IX assume the priority claim to the '870 application is proper. If PO is unsuccessful in resolving the issue, and the challenged claims are found to have support in the priority non-provisional applications, the EFD of the '911 patent would still be no earlier than **February 7, 2014** ("**2014 EFD**"), the filing date of the '811 application.³ In that case, the references relied upon in **Grounds 1 and 2** (Steuer750, Steuer389, and Eldering) would qualify as prior art at least under AIA § 102(a)(1) or § 102(a)(2) with respect to this **2014 EFD**.

³ As discussed below, the challenged claims are not entitled to an EFD earlier than the **2019 EFD**.

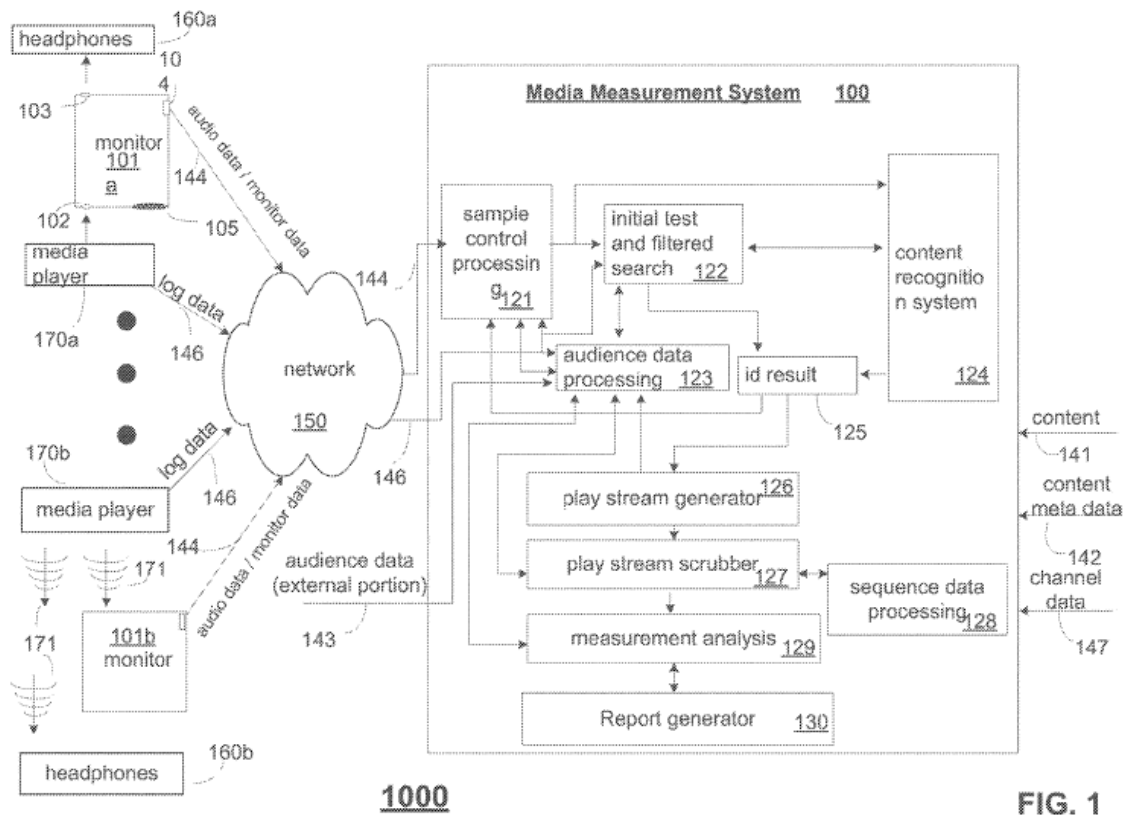
VI. LEVEL OF ORDINARY SKILL

A person of ordinary skill in the art at the time of the alleged invention of the '911 patent ("POSITA") would have had an undergraduate degree in electrical engineering, computer engineering, computer science or a related field along with at least four years of work experience in the field of media-related software development or in the alternative, equivalent experience, such as six years of work or research experience in the field of media-related software development. (EX1002, ¶¶ 22-27.)⁴ More education can supplement practical experience and vice versa. (*Id.*)

VII. THE '911 PATENT

The '911 patent is directed to systems/methods for media usage monitoring and measurement. (EX1001, Title, Abstract, 1:65-2:22, FIG. 1.)

⁴ Petitioner submits the declaration of Timothy Wahlers (EX1002), an expert in the field of the '911 patent. (EX1002, ¶¶ 3-17; *see also id.*, ¶¶ 18-21; EX1003.)



(EX1001, FIG. 1; EX1002, ¶¶ 28-29.)

Figure 2 below illustrates a media measurement method 200 carried out by media measurement system 100 of Figure 1 above. (EX1001, 7:1-6, FIG. 2.)

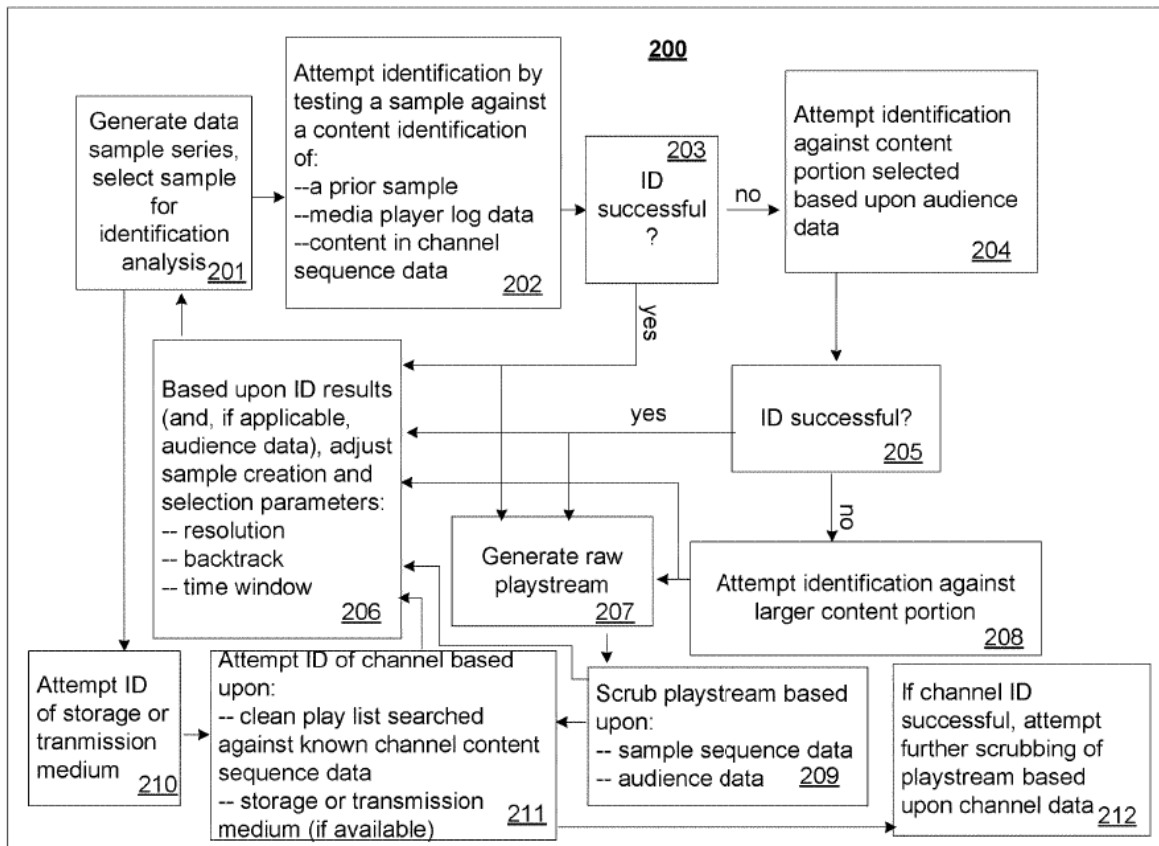
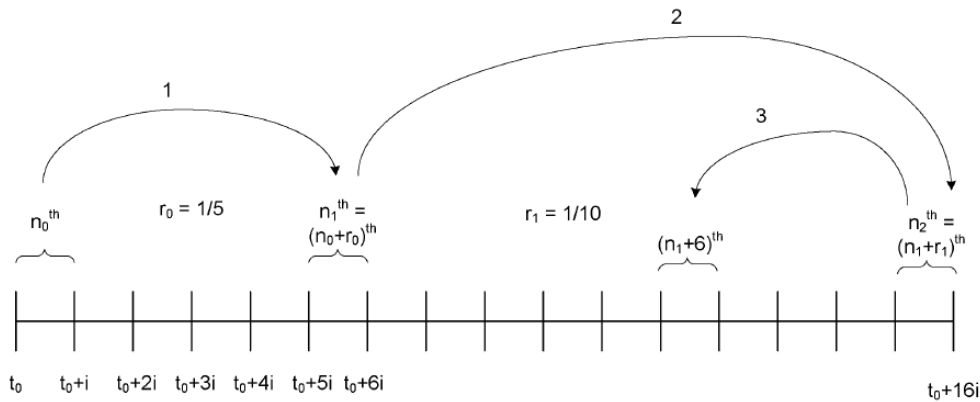


FIG. 2

(EX1001, FIG. 2; EX1002, ¶ 30.)

For example, Figure 2 describes using prior content identification results in audio content recognition processes to “adjust sampling control and selection parameters for one or more subsequent samples”—the parameters including audio sample length (referred to as “time window” of each audio sample) or selection of a previously unanalyzed intervening audio sample for audio content identification (referred to as “backtracking analysis”). (EX1001, 7:5-13, 7:49-51; *see also id.*,

7:51-54, 59-64, 8:1-10, 13:46-14:16 (Figure 6 description explaining similar features); EX1002, ¶ 31.).



600

FIG. 6

(EX1001, FIG. 6; EX1002, ¶¶ 31-32.)

The challenged claims are directed to the adjustment of a time length window of a sample (e.g., claim 1) or backtracking analysis (e.g., claim 11) **during the content recognition process**, but in the context of identifying video content and using video data samples. (EX1001, 15:12-34 (claim 1), 16:8-32 (claim 11); EX1002, ¶¶ 33-35.)

All the challenged claims, however, are rendered obvious over the prior art. (*See infra*, §§IX-X.) Indeed, while the claims appear to be directed to an alleged improvement in content recognition processes, PO acknowledged in related

proceedings that its alleged technical innovations do not lie in “existing content recognition technologies” but instead “the innovation lies in what happens next,” like the post-content recognition processes related to channel identification, scrubbing, or deducing play-altering activities. (EX1035, 32, 36-37, 39, 45, 52, 53.)

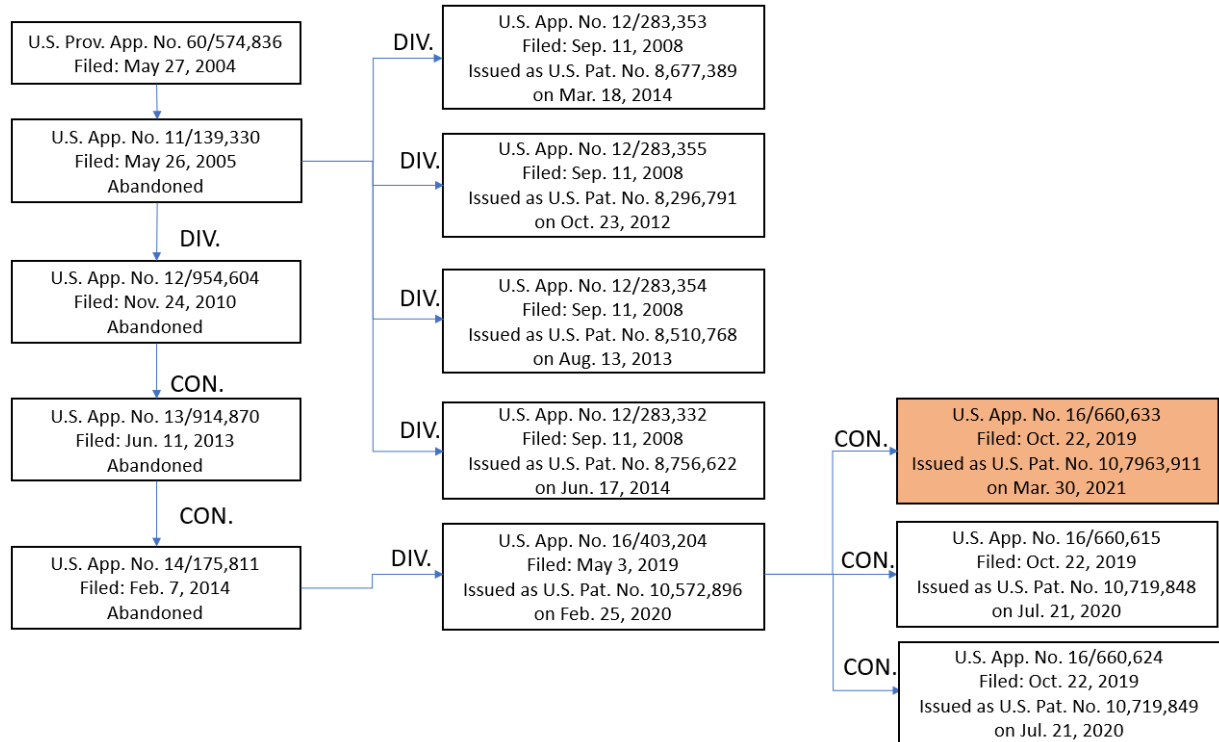
VIII. CLAIM CONSTRUCTION

Under the applicable standard in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), claim terms are typically given their ordinary and customary meanings as understood by a POSITA at the time of the invention based on the claim language, specification, and prosecution history of record. *Phillips*, 415 F.3d at 1313; *see also id.* at 1312–16. The Board, however, only construes claims when necessary to resolve the controversy. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11 at 16 (Aug. 14, 2015) (citation omitted). Petitioner submits that, for purposes of this proceeding, no term requires construction.⁵ (EX1002, ¶ 37.)

⁵ Petitioner reserves all rights to raise claim construction and other arguments in district court as relevant to those proceedings.

IX. EARLIEST EFFECTIVE FILING DATE OF '911 PATENT

The '911 patent attempts to claim priority to several patents and/or patent applications, as shown in the alleged priority chain below:



(See also *supra*, §II.B.2.)

However, the priority applications, namely U.S. Non-Provisional Application Nos. 11/139,330 (“the ’330 application”), 12/954,604 (“the ’604 application”), 13/914,870 (“the ’870 application”), and 14/175,811 (“the ’811 application”) (collectively, “the priority non-provisional applications”) and U.S. Provisional Application No. 60/574,836 (“the ’836 provisional application”), do not provide written description support for at least one feature required by the challenged claims, as required by § 112. (EX1002, ¶¶ 35-36.)

First, the challenged claims recite features related to video data not adequately supported by the priority applications. (*See infra*, §IX.B.) The priority applications are all focused on audio-based embodiments. Thus, the challenged claims are not entitled to an effective filing date earlier than **May 3, 2019** (“**2019 EFD**”), the filing date of priority U.S. Application No. 16/403,204 (“the ’204 application”), which added new matter not contained in any of the prior applications.⁶ (*See infra*, §IX.B.)

Second, even if for the sake of argument the ’836 provisional application alone, or in combination with the disclosures of the priority non-provisional applications, could support the challenged claims—and it does not—the earliest possible effective filing date of the challenged claims is still no earlier than **November 24, 2010** (“**2010 EFD**”), the filing date of the ’604 application. This is because the ’330 application, which is the intervening application between the ’836 provisional application and the ’604 application, does not incorporate the ’836 provisional application by reference. (*See infra*, §IX.C.)

⁶ Petitioner does not concede the ’911 patent has adequate §112 support in any application, including the ’204 application.

A. Requirements for Priority and Written Description Support

A claim in a U.S. patent is entitled to the benefit of the filing date of an earlier filed U.S. application only if the subject matter of the claim is disclosed in the earlier filed application in accordance with the written description requirement. *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306-11 (Fed. Cir. 2008); *LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005).

When the subject patent claims priority to a chain of priority applications, “[i]n order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112.” *Zenon Envtl. v. U.S. Filter*, 506 F.3d 1370, 1378 (Fed. Cir. 2007) (internal quotation marks and citations omitted). Whether the claimed subject matter is an obvious variant of the disclosed subject matter is irrelevant. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572.

As discussed below, the challenged claims are not entitled to the filing dates of certain priority applications as those applications do not provide written description support for the claims.

B. The Challenged Claims Are Not Entitled to a Filing Date Earlier Than 2019

At least for the reasons discussed below, the challenged claims are not entitled to an effective filing date earlier than **May 3, 2019**, the filing date of the '204 application. (EX1002, ¶¶ 49-52.)

1. The Priority Applications Do Not Provide Written Description Support for the Claimed “Video Data” and Related Video Features

Independent claim 1 of the '911 patent recites features relating to the use of **“video data being divisible into samples”**, i.e., **video data samples**. (EX1001, 15:12-34.)⁷ Specifically, the claim first recites receiving video data, which are divisible into samples, from a monitoring device. (*Id.*) The claim then recites **“determining . . . a next sample of the video data** for attempted identification of a media content item corresponding to the next sample **by adjusting a length of a time window of the next [video] sample** based at least in part upon a result of an attempt by the one or more computers to identify a first prior sample as corresponding to a media content item stored in a computerized database of reference content.” (*Id.*) “[T]he time length window of the next sample is changed relative to a time length window of the first prior sample based on the attempt to

⁷ Emphasis added unless otherwise noted.

identify the first prior sample indicating a result that is different than a result of an attempt to identify a second prior sample.” (*Id.*) The next sample is submitted for attempted content identification. (*Id.*) A play stream of content identifications is generated based on results of attempts to identify a series of samples comprising the determined next sample. (*Id.*; EX1002, ¶¶ 53-54.)

The other independent claim of the ’911 patent, namely claim 11, similarly recites features relating to the use of “**video data being divisible into samples**”, i.e., **video data samples**. (EX1001, 16:8-32.) The claim then recites “determining, by the one or more computers, a next sample for attempted identification based at least in part upon a result of an attempt . . . to identify prior samples against a computerized database of known content.” (*Id.*) “[D]etermining the next sample comprises selecting a relative time location of **the next sample within the video data** such that the relative time location of **the next [video] sample** is selected to be between a relative time location of the first prior sample and a relative time location of the second prior sample based on a result of attempting to identify a first prior sample against the computerized database of known content being different from a result of attempting to identify a second prior sample against the computerized database of known content.” (*Id.*) The next sample is submitted for attempted content identification, and a play stream of content identifications is generated based

on results of attempts to identify a series of samples comprising the determined next sample. (*Id.*; EX1002, ¶¶ 55-56.)

As discussed below, certain priority applications do not provide written description support for the above video data-related features. (EX1002, ¶ 57.)

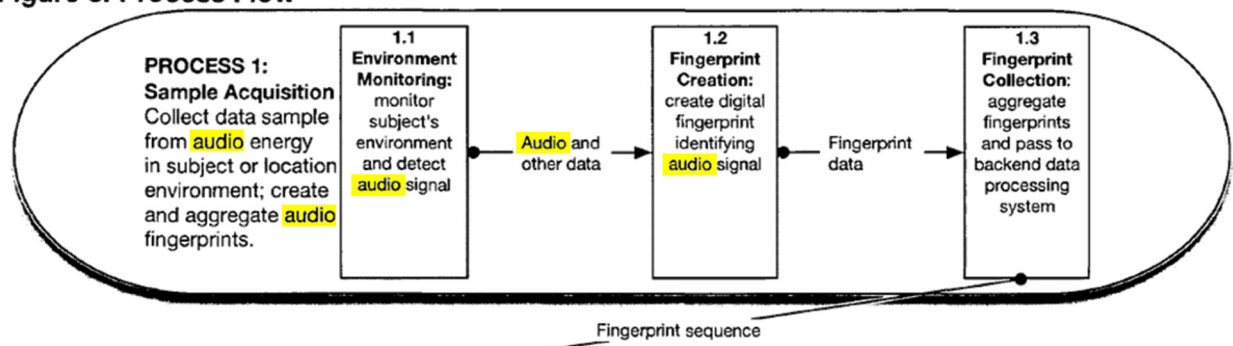
a) The '836 Provisional Application Does Not Support the Claimed Video Data Features

As shown above, the '911 patent claims priority through each of the priority non-provisional applications to the '836 provisional application. However, the '836 provisional application fails to provide written description support for the video data features set forth in the challenged claims at least because it does not describe any specific features or embodiments that use “video data being divisible into samples” and the related claim features. (EX1002, ¶ 58.)

The '836 provisional application discloses “measurement systems” that involve recording and reporting on individuals’ media usage habits. (EX1010, 2.) The '836 provisional application discloses that this is accomplished by using monitoring devices to collect and recognize media broadcast by a playback device. (EX1010, 2-3.) But, as explained further below, the disclosures of the '836 provisional application fail to adequately describe embodiments that rely on the use of video data samples, let alone in the manner claimed, and therefore the '836 provisional application does not support the challenged claims. (EX1002, ¶ 59)

The '836 provisional application does not disclose any features relating to using video data samples for content recognition. Instead, throughout the '836 provisional application, its disclosures focus on identifying media content using **audio** data associated with the content including collecting **audio** media content and using “**audio** fingerprinting” technology in order to recognize the content. (EX1002, ¶ 60 (citing EX1010, 2-5, 9 (FIG. 3)).)

Figure 3: Process Flow



(*Id.*, 9 (FIG. 3) (annotated); EX1002, ¶ 60.)

Similarly, the '836 provisional application asserts that once the audio fingerprints have been generated, the media content is recognized, or matched, using those audio fingerprints. (*Id.*, 3; EX1002, ¶ 60 (citing EX1010, 3-4).)

All of the various disclosures rely on using audio fingerprints and the '836 provisional application provides no equivalent or corresponding detailed disclosures that instead rely on using video data samples from the monitored media content. (EX1002, ¶ 60.) Even where the '836 provisional application mentions video

content, those features are limited to “content including at least some audio elements.” (EX1010, 2-3, 6; EX1002, ¶ 61.)

Thus, that the monitored media may include visual elements is inconsequential to each of the exemplary methods described because only the audio portion of video content is analyzed and processed. (EX1002, ¶ 61.)

The ’836 provisional application does include a brief, vague, and conclusory portion that mentions video data, but it fails to provide adequate written description support for the claimed video data features of the claims of the ’911 patent. This generic disclosure states:

Another exemplary method creates a record of individual media usage over time by means of an open-ended measurement system that employs portable and stationary detection devices to generate digital fingerprints of the video signal portion of the media content itself and identifies media played in the environment by means of matching such fingerprints against a database of known media. Such a video-based system may be built upon direct electrical connections and optical sensors (rather than microphones).

These various exemplary methods may involve video rather than audio.

(EX1010, 4.) This disclosure is insufficient to provide written description support for the claimed video data features of the '911 patent for the reasons explained below. (EX1002, ¶ 62.)

First, where the '836 provisional application states that “[t]hese various exemplary methods may involve video rather than audio,” it is unclear what methods the phrase “[t]hese various exemplary methods” refers to. For example, one disclosed exemplary method relates to “detect[ing] the simultaneous playback of more than one media source in a measured environment,” and illustrates such a scenario with an example where content is recognized when a “TV and radio are on at the same time,” or “if music is the background of an advertisement.” (EX1010, 3.) It is unclear how these examples, which refer to content that only includes an audio portion—content played by radio and music content—would have instead “involve[d] video rather than audio.” (EX1002, ¶ 63.)

Further, the conclusory disclosure related to video appears only around halfway into '836 provisional application, at the end of a section with the heading “Detailed Specification,” and after which are additional disclosures. (EX1010, 4.) It is therefore further unclear whether the phrase “[t]hese various exemplary methods” refers to the purported methods described prior to this disclosure, in the “Detailed Specification” section, to the later disclosed methods, or something else. (EX1002, ¶ 64.) Moreover, regardless of the examples to which the conclusory

disclosure is directed, the '836 provisional application provides no details whatsoever on what changes would be made in order for the “various exemplary methods” to “involve video rather than audio.” (*Id.*; EX1010, 4.)

PO may argue that there are no substantive differences between audio and video when substituting video data samples for audio data samples in the context of the '836 provisional application. But the '836 provisional application does not support such a conclusion. To the contrary, a POSITA would have recognized the different challenges and obstacles faced with collection and recognition of audio versus video, i.e., using audio data samples for content recognition as opposed to using video data samples for content recognition, and for performing claimed steps like “adjusting a length of a time window of the next sample” based on identification results associated with prior video samples (claim 1) and “selecting a relative time location of the next sample within the video data” based on identification results associated with prior video samples (claim 11). (EX1002, ¶¶ 65-66 (explaining that government-funded efforts at the time demonstrated around a 10-30% accuracy rate for video content recognition) (citing EX1030, 1-3, 10; EX1031, 1-3, 5; EX1032, 9).) The '836 provisional application is silent on such differences and how the disclosed audio-based embodiments would have been implemented in the context of video in light of any unique challenges posed by video data. (EX1002, ¶ 67.)

Without any disclosures similarly describing ways of dealing with difficulties unique to the video context or explaining how the disclosures for dealing with difficulties in the audio context would have extended to the video context or could be adapted to the video context, a POSITA would not have understood the named inventors of the '911 patent to have had possession of the claimed subject matter at the time the '836 provisional application was filed. (EX1002, ¶ 68); *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1349-50 (Fed. Cir. 2010) (en banc); *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002); *LizardTech*, 424 F.3d at 1346.

A detailed review of the claims confirms that the '836 provisional application does not provide adequate support for the claims. Claim 1 of the '911 patent recites “receiving, at one or more computers, **video data from a monitoring device, the video data being divisible into samples.**” (EX1001, 15:12-34.) The claim requires “determining . . . **a next sample of the video data** for attempted identification of a media content item corresponding to the next sample **by adjusting a length of a time window of the next [video] sample**” based on identification results associated with prior video samples. (*Id.*) Subsequently, a play stream of content identifications is generated based on results of attempts to identify a series of samples comprising the determined **next [video] sample**. (*Id.*) Thus, the claimed steps are tied to video data or premised on the use of video data samples. (EX1002,

¶ 69.) Claim 11 recites a method that is similarly premised on the use of video data samples. (EX1002, ¶ 70; EX1001, 16:8-32.) But, as explained above, the '836 provisional application does not disclose using video data samples to identify content. Thus, a POSITA would not have understood that the '836 provisional application supports the above-noted limitations of claims 1 and 11. (EX1002, ¶ 71.)

Claims 2-10 depend from claim 1 and claims 12-17 depend from claim 11. (EX1001, 15:35-16:7; 16:33-64.) These claims therefore lack written description support for at least the same reasons as claims 1 and 11. (EX1002, ¶ 72.)

b) The '330, '604, '870, and '811 Priority Non-Provisional Applications Do Not Provide Adequate Support for the Challenged Claims

The '330 application, '604 application, '870 application, and '811 application share substantially the same as-filed specifications. (EX1011, 577-599 ('330 application specification), 610-617 ('330 application abstract and drawings), EX1012, 276-298 ('604 application specification), 311-318 ('604 application abstract and drawings), EX1013, 21-43 ('870 application specification), 56-63 ('870 application abstract and drawings), EX1014, 420-442 ('811 application specification), 455 ('811 application abstract), 460-466 ('811 application drawings).) Exhibits 1017, 1018, and 1019 are computer-generated redlines comparing the as-filed specifications of the '604 application, '870 application, and

'811 application to the as-filed specification of the '330 application. As shown in exhibits 1017-1019, other than the changes to the “Cross Reference to Related Applications” sections in each of the priority applications, the specifications of these priority non-provisional applications are substantively identical. Thus, while the arguments below primarily focus on the lack of support for the challenged claims in the '330 application's disclosure, the disclosures of the '604 application, '870 application, and '811 application are deficient for the same reasons. (EX1002, ¶ 73.)

In particular, the disclosures of these priority non-provisional applications do not describe using video data samples to generate a play stream of content identifications, as recited in claims 1 and 11. (*See supra*, §IX.B.1.a.) Instead, the disclosures describe only embodiments based on **audio** data samples. (EX1002, ¶ 74.)

The '330 application specification uses the term “audio” 37 times, including, for instance, in the specification (33 times), abstract (2 times), and figures (2 times). (*See generally* EX1011, 577-599, 610-17.) It also is replete with terms that are related only to audio (to the exclusion of video): song (24 times, excluding figures), radio (11 times, excluding figures), microphone (10 times, excluding figures), album (5 times, excluding figures), sound (2 times), music (2 times). By contrast, the '330 application specification uses the term “video” only 4 times. (*See generally* EX1011, 577-599, 610-17.) The particular claim term “video data sample” appears only once

outside of the claims in the '330 application specification, in the “BACKGROUND” section:

At the same time, the media measurement context provides opportunities to utilize data exogenous to a particular audio or **video data sample**. Such opportunities have thus far been insufficiently exploited for the purpose of efficiently applying existing content recognition technologies in the media measurement context. Thus, an improved media measurement system and method is needed.

(EX1011, 578 ([0005]); EX1002, ¶ 75.)

Even in this instance, it is unclear if the term “video data sample” is used in the context of identifying content by sampling video data or if the term, as used in the context of the sentence (“the media measurement context provides opportunities to utilize data exogenous to **a particular audio or video data sample**”), is used to reference video content which includes an audio component, and the audio component is sampled for content recognition (since audio-sampling-based content recognition is the only type of content recognition described in the '330 application). Indeed, the '330 application does not describe any content recognition using a “video data sample.” (EX1002, ¶ 75.)

The '330 application specification also broadly refers to a “content of a media sample” in its “SUMMARY” section: “Some embodiments of the present invention

provide a media measurement system and method that enhances recognition (e.g. in terms of accuracy or efficiency) of the content of a media sample by analyzing information exogenous to the sample.” (EX1011, 578 ([0006])). The reference to a “media sample” is also insufficient to support the claims of the ’911 patent. (EX1002, ¶ 76.) First, the statement refers to “enhanc[ing] recognition . . . of the content of a media sample by analyzing information exogenous to the sample.” (EX1011, 578 ([0006])). That is, the statement is not directed at content recognition using the media sample but rather enhancing the content recognition by using information “exogenous to” (e.g., external to) the sample. A POSITA would not have understood from this statement that the ’330 application specification is describing a content recognition process using video data samples, let alone the detailed claim steps using video data samples. (EX1002, ¶ 77.) Second, the remaining portion of the specification of the ’330 patent is exclusively focused on content recognition methods using audio data samples (obtained from audio content or video content, as discussed above and below). Thus, a POSITA would have understood a “media sample” in the context of the overall disclosure of the ’330 application specification to be an audio sample obtained from audio content or video content. (*Id.*, ¶ 78.)

Moreover, to the extent the use of “video data sample” in the background section or the use of a “media sample” in the summary section could even be

interpreted to vaguely and generally refer to a content recognition process using video data samples, there is simply no associated detailed disclosure of a content recognition process based on the use of video data samples, as required by the claims. For example, there is no support in the '330 application for performing the claimed steps like “adjusting a length of a time window of the next [video] sample” based on identification results associated with prior video samples (claim 1) and “selecting a relative time location of the next [video] sample within the video data” based on identification results associated with prior video samples (claim 11). (*See generally* EX1011; EX1002, ¶ 79.)

While the '330 application specification uses certain video-related terms (*e.g.*, television, TV, movie, etc.), it is clear in view of the specification as a whole that these disclosures refer to analyzing and processing the audio data portion of captured video content. (EX1002, ¶ 80 (citing EX1011, 580-581 ([0017]-[0019], 582-583 ([0022]-[0023], 586-588 ([0029]-[0032]), 594 [0049].)

Thus, none of the embodiments in the '330 application describes the full scope of the video data samples features in the claims of the '911 patent. *Reckitt Benckiser LLC v. Ansell Healthcare Products LLC*, IPR2017-00066, Paper 35 at 15 (Jan. 30, 2018).

Instead, the embodiments disclosed in the '330 application (and the remaining priority non-provisional applications at issue) are solely focused on recognizing

content based on audio data and subsequent processing of the content recognition results. (*See generally* EX1011, 577-599, 610-17.) The '330 application does not disclose any embodiments related to, and thus does not provide any support for, the claimed feature of generating a play stream of content identifications based on video data samples, let alone the other related claim features. (EX1002, ¶ 81.)

Further, a POSITA would not have understood that the '330 application's disclosures of embodiments relying on audio data would have been interchangeable with embodiments that instead use video data.⁸ A POSITA would have understood that a system that relies on capturing audio would operate in different environments and be subject to different obstructions, challenges, and limitations to a system that relies on capturing video. (EX1002, ¶ 82; *see also id.*, ¶¶ 65-67 (citing EX1030, 1-3, 10; EX1031, 1-3, 5; EX1032, 9); *see supra*, §IX.B.1.a.) For example, multiple disclosures in the '330 application describe peculiarities related to audio content like “mut[ing] a broadcast,” “receiv[ing] a wireless or non-wireless audio signal,” “captur[ing] audio energy,” and “content types (e.g. speaking audio versus music

⁸ Whether the use of video data samples is an obvious variant of the disclosed use of audio data samples is irrelevant. *Lockwood*, 107 F.3d at 1572.

audio),” that have no clear analog in the video context. (EX1002, ¶ 82 (citing EX1011, 577 ([0002]); 578 ([0006]), 580 ([0017]), 584-585 ([0025])).)

Accordingly, the ’330 application (and other priority non-provisional applications at issue) do not provide support for the challenged claims. (EX1002, ¶ 83; *see also supra*, §IX.B.1.a.)

c) The ’836 Provisional Application Cannot Cure the Deficiencies of the Priority Non-Provisional Applications

PO may argue that the combination of the ’836 provisional application’s disclosure with the disclosure of the above-noted priority non-provisional applications provides adequate support for the video-related claims. Not so. (EX1002, ¶¶ 84-85.)

With respect to the first priority non-provisional application, i.e., the ’330 application, PO did not incorporate by reference the disclosure of the ’836 provisional application into the as-filed ’330 application specification. (*See* EX1011, 406-625 (no incorporation by reference of the ’836 provisional application); *see also id., generally.*) Thus, the ’330 application does not include any video-related disclosure. (*See also infra*, §IX.C.)

While the remaining priority applications (the ’604, ’870, and ’811 applications) incorporate the contents of the ’836 provisional application by

reference, the disclosures of these applications would still be insufficient to provide written description support for the challenged claims for at least two reasons.

First, the '330, '604, '870, and '811 priority non-provisional applications do not reference the above-noted vague paragraph from the '836 provisional application concerning video, such that a POSITA would have consulted that particular paragraph in reviewing and understanding the audio-based disclosures of the priority non-provisional applications. (*See generally* EX1011, 577-599; EX1012, 276-298; EX1013, 21-43; EX1014, 420-442.) Nor would a POSITA have understood that the disclosed audio-based embodiments could have been implemented in the video context during the relevant timeframe for all the reasons explained above. (*See supra*, §IX.B.1.a-b; EX1002, ¶ 86 (citing EX1030, 1-3, 10; EX1031, 1-3, 5; EX1032, 9).) In other words, even if it would have been obvious to combine the '836 provisional application's disclosure with the disclosures of the priority non-provisional applications to arrive at the challenged claims, that is insufficient to provide written description support. (EX1002, ¶¶ 86-87); *Lockwood*, 107 F.3d at 1572.

Second, under Rule 1.57 at the relevant time, “[e]ssential material’ may be incorporated by reference, but **only by way of an incorporation by reference to a**

U.S. patent or U.S. patent application publication.” 37 C.F.R. § 1.57(c) (2004).⁹ Rule 1.57 defines “essential material” as material necessary to, among other things, “[p]rovide a written description of the claimed invention.” 37 C.F.R. § 1.57(c)(1) (2004). Thus, a provisional application incorporated by reference cannot be relied on for essential matter. 37 C.F.R. §§ 1.57(c) and 1.57(c)(1) (2004). Here, the only mention of any video-based embodiment in the priority non-provisional applications is by way of the ’836 provisional application’s disclosure incorporated by reference. But that disclosure from the provisional application, albeit insufficient as discussed above, cannot be referenced for establishing written description support for the challenged claims. *Id.*; *see also Hulu, LLC v. SITO Mobile R&D IP, LLC et al.*, IPR2021-00298, Paper 31 at 64-65 (May 17, 2022) (finding lack of written description support where an incorporated by reference U.S. non-provisional application was relied upon for essential matter because it was not a US patent or

⁹ The version of 37 C.F.R. § 1.57 being applied herein became effective in 2004—before the May 27, 2005 filing date of the ’330 application, which is the earliest non-provisional application in the priority chain. *See* EX1029, 1 (“DATES”), 58 (reproducing Rule 1.57 at the time). Unless otherwise noted, citations to Rule 1.57 herein are to the 2004 version.

US patent application publication) (citing *Droplets, Inc. v. E*TRADE Bank*, 887 F.3d 1309, 1318 (Fed. Cir. 2018)).¹⁰

Thus, the above-noted priority applications fail to provide written description support for the video data features set forth in the claims. (EX1002, ¶ 87.)

2. PO Cannot Rely on Additional Materials Mentioned in the Priority Non-Provisional Applications to Support the Claims

The '330 application (and similarly the other priority non-provisional applications) purports to be “adapted to implement one or more known content recognition methods that identify content by extracting parameters from a media

¹⁰ In another case, *Samsung Electronics Co., Ltd. v. Acquis LLC*, the Board reached a different result regarding Rule 1.57’s applicability when determining whether documents incorporated by reference, that were not U.S. patents/patent publications, provided written description support for a priority claim. IPR2021-00608, Paper 8 at 15-18 (Sept. 15, 2021) (citing *Droplets, Inc.*, 887 F.3d at 1318); *see also Samsung Electronics Co., Ltd. v. Acquis LLC*, IPR2021-00608, Paper 10 (Decision on Rehearing) at 6-13 (Dec. 8, 2021). While Petitioner does not necessarily agree with that decision, the challenged claims here are not entitled to the filing dates of the priority applications for the additional reasons discussed above, regardless of how the Board applies Rule 1.57 here.

signal and applying an algorithm to those parameters to search for a content match.” (EX1011, 584-585 ([0025]).) The ’330 application then mentions several patent applications (submitted as Exhibits 1020-1023) that allegedly describe content recognition methods without specifying any particular portions of the documents as being relevant. (*Id.*; EX1002, ¶ 88.)

These documents cannot be relied upon to support the video data features of the claims for at least three reasons.

First, the ’330 application (and the other priority non-provisional applications) does not expressly incorporate by reference the documents. (*Id.*); *see also* 37 C.F.R. § 1.57(b)(1) (2004) (requiring that an incorporation by reference must “express a clear intent to incorporate by reference by using the root words ‘incorporat(e)’ and ‘reference.’”).

Second, even if the above-noted documents were considered part of the disclosures of the priority non-provisional applications (they should not be), they still do not remedy the deficient written description support for the video data features. *VirnetX Inc. v. Cisco Sys., Inc.*, 776 F. App’x 698, 703 (Fed. Cir. 2019). For example, to the extent the above-noted documents disclose features related to using video data samples for content recognition, none of the priority non-provisional applications make any mention of specific video data sampling-related features of these documents or how their use may be incorporated into the disclosed

embodiments. *VirnetX*, 776 F. App'x at 703. Instead, the priority non-provisional applications generically state that these documents are examples of content recognition methods and algorithms. (EX1011, 584-585 ([0025]).) The documents also could not be relied on for “essential material,” as would be the case here, as all but one (EXS1021-1023) are neither U.S. patents nor U.S. patent application publications, and the one that is relates to identification of audio and provides no disclosures related to identification of video content. (*See generally* EX1020; EX1002, ¶¶ 89-90); *see also* 37 C.F.R. § 1.57(c)(1) (2004).

Third, the requirements of Rule 1.57 aside, “[i]t is not sufficient for purposes of the written description requirement of § 112 that the disclosure, when combined with the knowledge in the art, would lead one to speculate as to the modifications that the inventor might have envisioned, but failed to disclose.” *D Three Enters., LLC v. Sunmodo Corp.*, 890 F.3d 1042, 1050 (Fed. Cir. 2018) (internal citation omitted). A POSITA reviewing the above-noted documents in view of the priority non-provisional applications would be impermissibly required to speculate without guidance as to what teachings to combine, and how to accomplish such combinations, in order to adapt the disclosed embodiments to the use of video data samples. (EX1002, ¶ 91); *D Three Enters., LLC*, 890 F.3d at 1050; *Lockwood*, 107 F.3d at 1572; *Nautilus, Inc. v. Icon Health & Fitness Inc.*, IPR2017-01408, 2018 WL 6318050, at *20-23 (PTAB Dec. 3, 2018).

For these reasons, the above-noted documents do not provide written description to support the challenged claims.

3. PO Improperly Added New Matter to the Intervening '204 Application That Issued as the '896 Patent

PO's addition of new matter to the as-filed specification of the '204 application, which is another non-provisional application to which the '911 patent claims priority, in an apparent attempt to support the video-related features of the claims further reinforces the inadequate disclosures in the earlier priority non-provisional applications, *i.e.*, the '330 application, '604 application, '870 application, and '811 application. In particular, the following single generic paragraph regarding video was added to the '204 application:

In alternative embodiments to what is illustrated and described in FIGS. 1-6, a record is created of individual media usage over time by means of an open-ended measurement system that employs portable and stationary detection devices to generate digital fingerprints of the video signal portion of the media content itself and identifies media played in the environment by means of matching such fingerprints against a database of known media. Such a video-based system may be built upon direct electrical connections and optical sensors (rather than microphones). Thus, various alternatives to the exemplary methods discussed in the context of the audio

data-based embodiments illustrated in FIGS. 1-6 rely
instead on video data.

(EX1015, 232 (¶[0061]); EX1002, ¶ 92.)

While at first blush, the new paragraph above appears similar to the short paragraph regarding video in the '836 provisional application (EX1010, 4) discussed above in §IX.B.1.a, at least the reference to the “**FIGS. 1-6**” embodiments and the last sentence stating that the “various alternatives to the exemplary methods discussed in the context of the **audio data-based embodiments illustrated in FIGS. 1-6 rely instead on video data**” constitutes new matter. (*See also* EX1028.) This is because Figures 1-6 and their corresponding detailed descriptions in the '204 application were not included in the '836 provisional application, and so extrapolating the application of video data to those detailed embodiments (to the extent a POSITA would have understood it as such) is not supported by the '836 provisional application. (*See generally* EX1010, 2-9; EX1011, 611-616 (FIGS. 1-6).) The new paragraph above is also not included in any of the priority non-provisional application specifications. (*See generally* EX1011, 577-599; EX1012, 276-298; EX1013, 21-43; EX1014, 420-442.) Thus, there is no support in any of the priority applications for video data being relied upon in the detailed embodiments of “FIGS. 1-6,” to the extent this new paragraph from the '204 application can be understood. (EX1002, ¶ 93.)

Notably, while the above new paragraph was not present in the non-provisional applications to which the '204 application claims priority (the '330 application, '604 application, '870 application, and '811 application), PO did not notify the Examiner of the amendment to the specification (e.g., by filing an amended, red-lined version of the specification relative to the specification of the prior non-provisional application(s) to which it claims priority). (*See generally* EX1015, 189-240 (the '204 application as-filed).)

Accordingly, to the extent the '911 patent is entitled to any filing date, it is no earlier than May 3, 2019, *i.e.*, the filing date of the '204 application. (EX1002, ¶ 94.)

C. The Challenged Claims Are Not Entitled to a Filing Date Earlier Than 2010

For a claim to gain the benefit of the filing date of an earlier application in a priority chain, “each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112.” *Zenon Env'tl.*, 506 F.3d at 1378 (quoting *Lockwood*, 107 F.3d at 1571).

In *Zenon*, the patent claims included features supported by a grandparent application of the patent-at-issue, but the intervening parent application did not incorporate by reference the relevant disclosures of the grandparent application (despite claiming priority to the grandparent application). *Zenon Env'tl.*, 506 F.3d at 1378-80. Absent such proper incorporation by reference of the relevant disclosures

throughout the priority chain, the Federal Circuit found the claims-at-issue are not entitled to the filing date of the grandparent application because “a lack of continuity of disclosure exists in the family chain.” *Id.* at 1381-82.

The challenged claims here are not entitled to a filing date earlier than the filing date of the '604 application because of a similar break in the continuity of disclosures in the priority chain of the '911 patent.

As noted above, the priority non-provisional applications, *i.e.*, the '330 application, '604 application, '870 application, and '811 application, share substantially identical specifications. (*See supra*, §IX.B.1.b.) However, there is one notable difference between the “Cross Reference to Related Applications” section in the '330 application and the same sections in the subsequent priority non-provisional applications (*i.e.*, the '604 application, '870 application, and '811 application).

The '330 application claims priority to the '836 provisional application, but does **not** incorporate the '836 provisional application by reference (with the provisional application being the only application with any disclosure, albeit insufficient, of video-related embodiments). (*See* EX1011, 406-625; *see also id.*, *generally*; *supra*, §IX.B.1.c.) The subsequent priority non-provisional applications claim priority to, and incorporate by reference, the '836 provisional application.

The first application in the priority chain that incorporates the '836 provisional application by reference is the '604 application filed November 4, 2010. Thus, even if the disclosures of the '836 provisional application in combination with the disclosures of the priority non-provisional applications are considered sufficient for providing written description support for the challenged claims—they do not for the reasons discussed above in §IX.B.1.c—the earliest possible effective filing date of the challenged claims is still no earlier than **November 24, 2010** (“**2010 EFD**”), the filing date of the '604 application. *See Zenon Envtl.*, 506 F.3d at 1378-82.¹¹

X. DETAILED EXPLANATION OF GROUNDS

¹¹ Even if Patent Owner is successful in updating its priority claim to the related '353 application filed **September 11, 2008** (“**2008 EFD**”) **Error! Bookmark not defined.** (*see supra*, §V.B) and to the extent it is found that the '353 application properly incorporated the '836 provisional by reference, the '911 patent's priority chain suffers from the same lack of continuity of disclosure at least with respect to the **2008 EFD**.

A. Grounds 1 and 2:

Ground 1: The Combination of Steuer750 and Eldering Renders Obvious Claims 1-17

Ground 2: The Combination of Steuer389 and Eldering Renders Obvious Claims 1-17

Ground 1 relies on the combination of Steuer750 (EX1005) and Eldering (EX1007) whereas **Ground 2** relies on the combination of Steuer389 (EX1006) and Eldering. However, Steuer750 and Steuer389 have substantively identical specifications. (See EX1008; EX1002, ¶¶ 38-42.) As such, in the interest of efficiency and clarity, Petitioner presents both grounds collectively, with citations provided to both Steuer750 and Steuer389. That is, Petitioner provides citations below to Steuer750 (to support **Ground 1**) and Steuer389 (to support **Ground 2**). In doing so, Petitioner is not relying on Steuer750 for **Ground 2** or Steuer389 for **Ground 1**. (EX1002, ¶ 95.)

Of note, Steuer389 further includes claims 1-17 which are nearly identical to challenged claims 1-17 here, except the word “audio” in claims 1-17 of Steuer389 is substituted with “video” in the challenged claims.¹² (Compare EX1001, claims 1-

¹² Certain clauses in limitations 1.d and 11.c.2 in the challenged claims are moved around in the corresponding limitations in claims 1 and 11 of Steuer389. (EX1002, ¶ 44.) Additionally, limitations 1.e-f and 11.d-e of the challenged claims are not included in the Steuer389 claims. (EX1002, ¶ 45.)

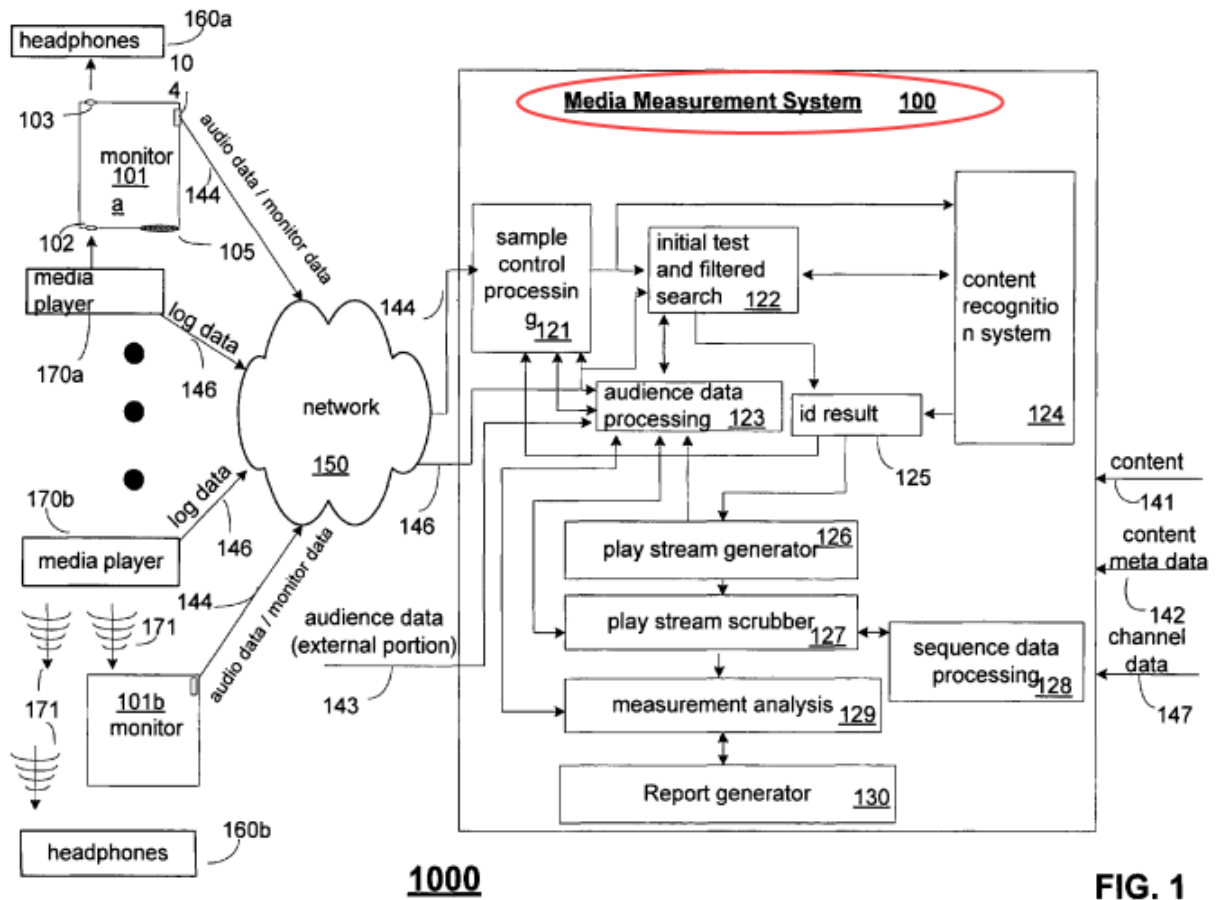
17 with EX1006, claims 1-17; *see also* EX1009 (showing comparison of the claims); EX1002, ¶ 43.) Thus, under **Ground 2**, Petitioner further cites to claims 1-17 of Steuer389 as they almost verbatim disclose challenged claims 1-17 except the “video” feature. The reliance on Eldering is the same in both **Ground 1 and 2**, as is Petitioner’s rationale for combining Eldering with Steuer750 or with Steuer389. (EX1002, ¶ 96.)

1. Claim 1

a) A media measurement method comprising:

To the extent that the preamble of claim 1 is limiting, Steuer750 and Steuer389 both independently disclose the limitation therein. (EX1005, Title, Abstract, FIGS. 1-2, claims 1, 19, 35, 40, 44, 48, 61-62; EX1006, Title, Abstract, FIGS. 1-2, claims 1-11.) As an initial matter, both Steuer750 and Steuer389 claim “[a] media measurement method[.]” (EX1005, claims 1, 19, 35, 40, 44, 48, 61-62; EX1006, claims 1, 11.) Steuer750 and Steuer389 also refer to a media measurement method in their disclosures. (EX1005, [0006]; *see also id.*, Abstract, [0002]; EX1006, 1:60-2:10; *see also id.*, Abstract, 1:14-32; EX1002, ¶ 97.)

Steuer750 and Steuer389 further disclose a “Media Measurement System 100” (Figure 1) for carrying out its methods and “illustrates a media measurement method” in Figure 2 (EX1005, [0009]; EX1006, 2:26-28).



(EX1005, FIG. 1 (annotated); *see also id.*, [0008], [0016]-[0017]; EX1006, FIG. 1; *see also id.*, 2:23-25, 2:66-3:25; EX1002, ¶ 98.)

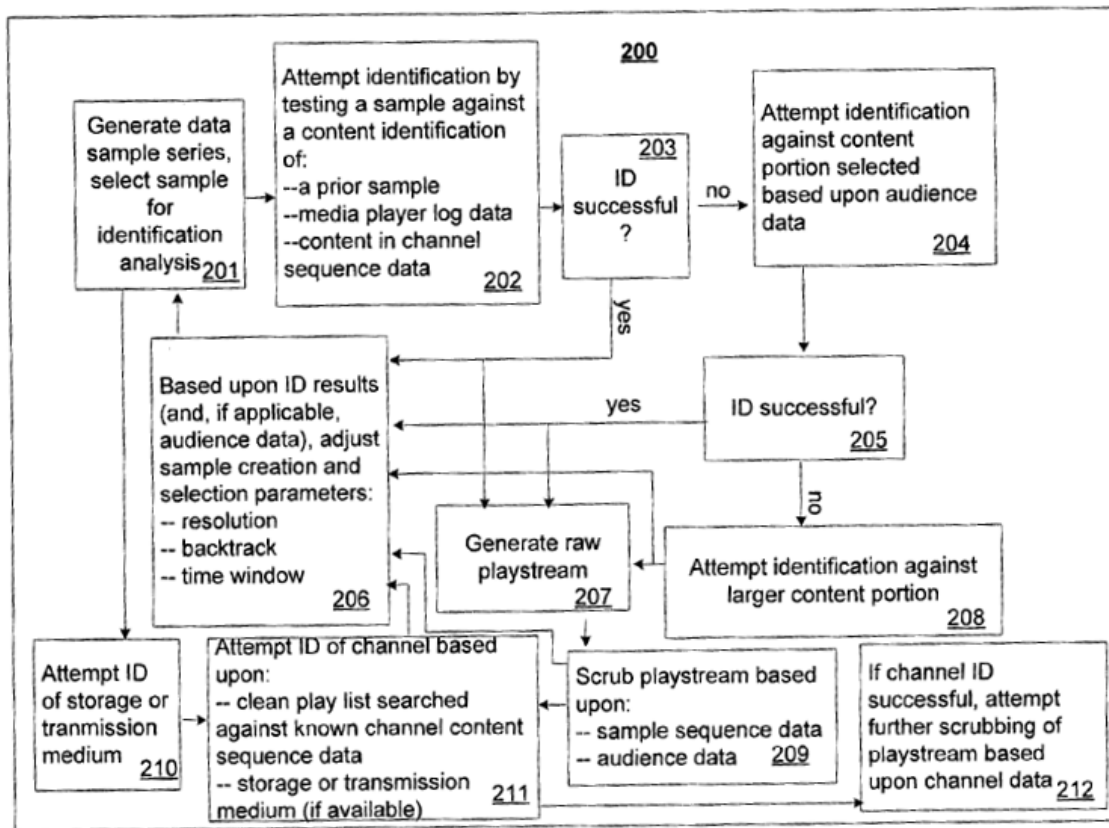


FIG. 2

(EX1005, FIG. 2; *see also id.*, [0009], [0034]; EX1006, FIG. 2; *see also id.*, 2:26-28, 6:58-7:3.)

Thus, Steuer750 and Steuer389 both disclose “[a] media measurement method,” as claimed. (*See also infra*, §§X.A.1.b–f; EX1002, ¶ 99.)

- b) receiving, at one or more computers, video data from a monitoring device, the video data being divisible into samples; and**

Steuer750 in combination with Eldering and Steuer389 in combination with Eldering disclose or suggest this limitation. (EX1002, ¶¶ 100-117.)

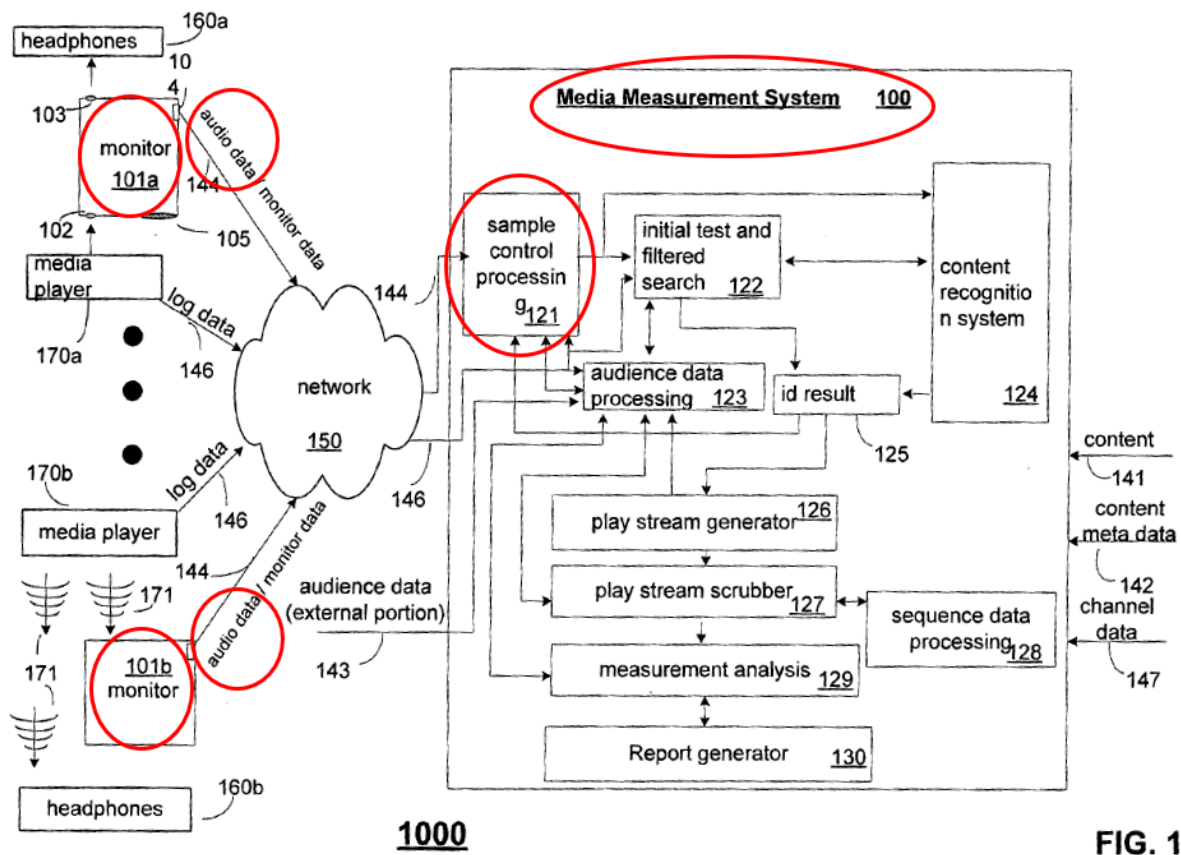
Steuer750 and Steuer389 disclose receiving, at one or more computers (e.g., the media measurement system 100 implemented by computer system 700), audio data from monitors 101 (“a monitoring device”), the audio data being divisible into samples. (EX1005, [0023], [0034], [0066], [0016]-[0022], [0024]-[0031], FIGS. 1, 2, 4, 7; claims 1, 6, 19, 40, 44; EX1006, 4:49-62, 6:58-7:3, 13:58-14:15, 2:66-4:48, 4:63-6:27, FIGS. 1, 2, 4, 7; EX1002, ¶ 101.)

For example, Steuer750 discloses and claims, albeit in the “audio data” context, “receiving audio data from a monitoring device, the audio data being divisible into a series of samples.” (EX1005, claim 19; EX1002, ¶ 102.)

Steuer389’s claim 1 similarly recites almost identical language as claim limitation 1.b except it substitutes the claimed video data with “audio data.” (EX1006, claim 1; EX1002, ¶ 103.)

Steuer750 and Steuer389 disclose that “audio data and monitor data (e.g. device ID) is received [from monitoring device 101] at sample control processing module 121 [of system 100],” where “[m]odule 121 [] divides the audio data into

samples” or “the audio data may already have been divided into samples prior to receipt by system 100 (e.g. at monitor 101).” (EX1005, [0023]; EX1006, 4:49-62.)



(EX1005, FIG. 1 (annotated); EX1006, FIG. 1; EX1002, ¶ 104.)

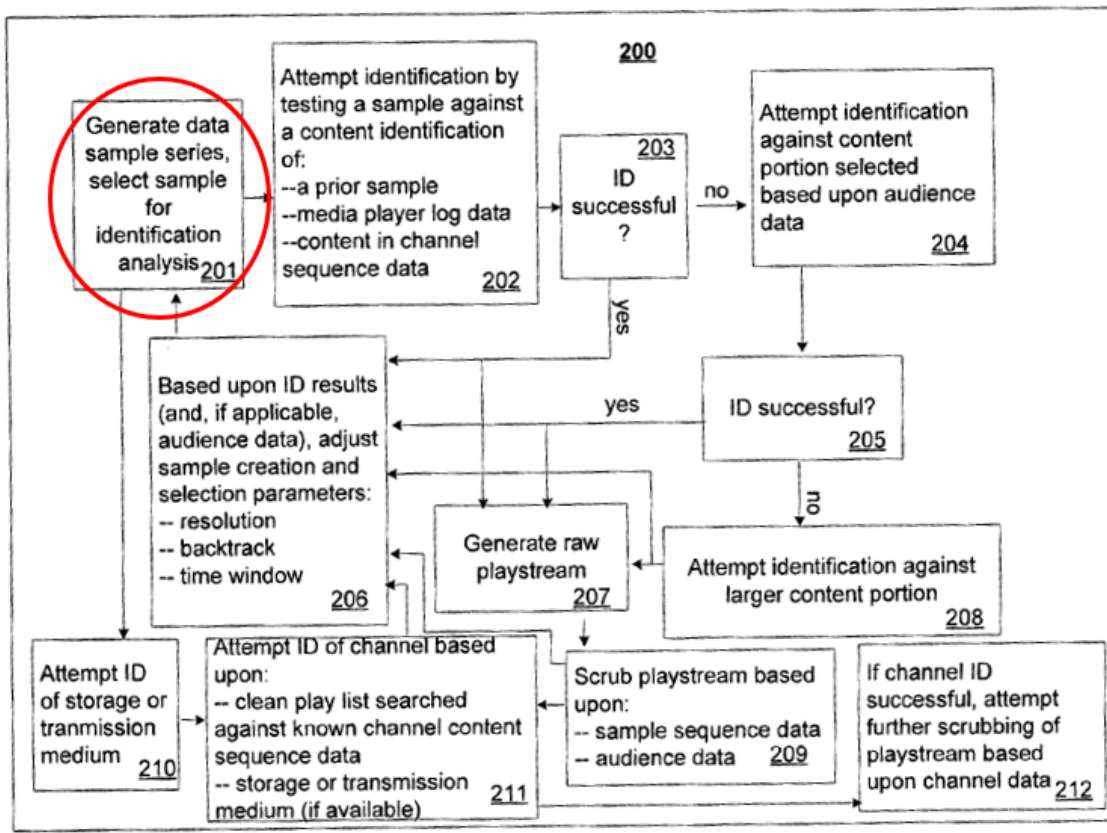


FIG. 2

(EX1005, FIG. 2 (annotated); EX1006, FIG. 2; EX1002, ¶ 104.)

The disclosures of Steuer750 and Steuer389 are limited to media measurement methods/systems for receiving **audio** data from a monitoring device for content identification and performing subsequent data processing steps based on the content identification results. (EX1005, Abstract, [0006], [0017]-[0019], [0022]-[0023], [0034]-[0035]; EX1006, Abstract, 1:60-2:10, 3:4-54, 4:13-62, 6:58-7:16.) Steuer750 and Steuer389 do not disclose that the received data is “video” data divisible into samples. (EX1002, ¶ 105.) However, as discussed below, it would have been obvious to modify Steuer750’s and Steuer389’s disclosed media

measurement methods such that the received data is video data divisible into samples for the purposes of video content recognition (instead of, or in addition to, receiving audio data) based on the teachings of Eldering. (*Id.*)

Similar to Steuer750 and Steuer389, Eldering is directed to methods and systems used to identify media content (e.g., advertisements and programs) being consumed by users by matching samples of the consumed media content with a content database. (*See, e.g.*, EX1007, Abstract, [0008]-[0010]; *see also id.*, [0001]-[0007], [0072]; EX1005, [0002] (similarly describing “track[ing] usage of media” including “tracking consumption of advertisements”), [0049] (describing detection of “ad49”), [0053]; EX006, 1:14-32, 10:5-27, 11:10-26.) Eldering discloses that the incoming content data is divisible into samples. (EX1007, [0008] (describing the use of “evenly [] subsampled representations of the original video” for the content identification process), [0070]-[0076] (describing content sampling examples), [0101], FIGS. 7-9; EX1002, ¶¶ 106-107.)

Eldering discloses identifying content using video data or audio data. (EX1007, [0008]-[0010], [0050], [0064], [0086]; EX1002, ¶¶ 108-109; *see also id.*, ¶¶ 46-48 (Eldering summary).)

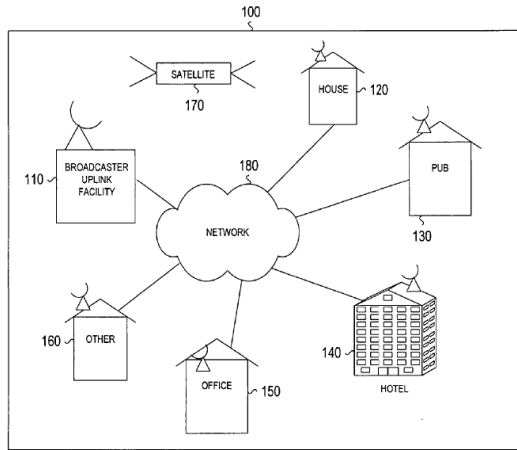


FIG. 1

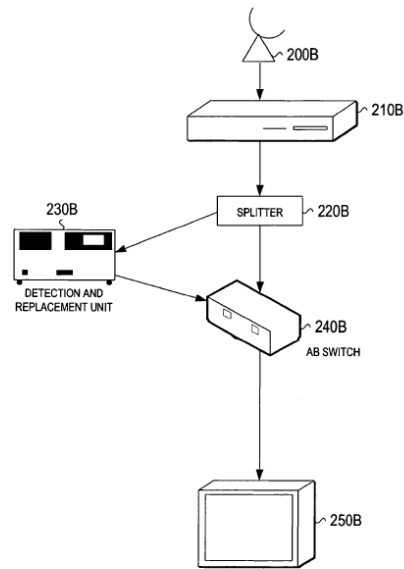


FIG. 2

(EX1007, FIGS. 1-2; *see also id.*, [0039]-[0043], [0046]-[0048]; EX1002, ¶ 109.)

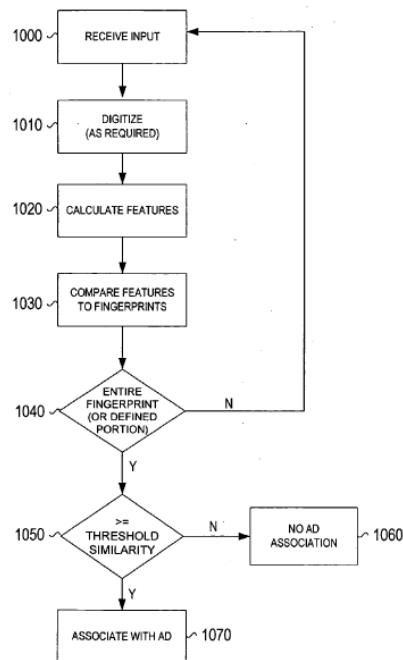


FIG. 10

(EX1007, FIG. 10; *see also id.*, [0080]-[0082]; EX1002, ¶ 109.)

Thus, Eldering discloses content identification systems and methods in the same technical field as Steuer750 and Steuer389, including content identification based on data divisible into samples. Accordingly, a POSITA would have had reason to consider the teachings of Eldering when implementing Steuer750 or Steuer389. (EX1002, ¶ 110.)

Similar to limitation 1.b, Eldering discloses receiving, at a network interface device 200 (like the computer of Steuer750/389), an incoming video stream (“video data”). (EX1007, [0046]-[0047], FIG. 2; *see also id.*, [0039], [0080], FIGS. 1, 10.) As discussed above, the received video stream is divisible into samples. (*Id.*, [0008], [0070]-[0076], [0101], FIGS. 7-9; EX1002, ¶ 111.)

Eldering further discloses additional process steps related to content identification, similar to those disclosed in Steuer750 and Steuer389, such as adjusting the parameters for content identification based on results associated with identifying prior samples. (EX1007, [0090]-[0093], [0097], FIGS. 11-14; EX1005, [0032], [0034], [0037]-[0038]; EX1006, 6:28-46, 6:58-7:3, 7:39-65; EX1002, ¶ 112.)

In view of Eldering’s teachings, a POSITA would have been motivated to consider and draw from such teachings when implementing Steuer750’s or Steuer389’s disclosed methods and systems such that, in addition to, or as an alternative to, using audio data samples, video data samples would have been used

to generate content identification results and perform subsequent data processing steps. As explained above, Steuer750, Steuer389, and Eldering all concern content identification processes that require collecting data samples, making content identifications based on those data samples, and comparing sequences of content identifications against known sequences. (EX1002, ¶ 113.)

A POSITA would have found it obvious and would have known how to modify Steuer750 and Steuer389 to incorporate Eldering's teachings as proposed, because as discussed above, Eldering discloses a way of identifying content based on matching video data samples with video data stored in a database. (EX1002, ¶ 114.) Thus, a POSITA would have recognized that the application of using video data instead of the audio data-based approach disclosed in Steuer750 or Steuer389 would have been based on obvious modifications using known technology, such as sampling video data instead of (or in addition to) sampling audio data, and using the sampled video data to identify content as taught by Eldering. (*Id.*)

In view of the foregoing, a POSITA would have had the capability and knowledge to implement, and found it obvious to try, the above modification to include the use of video data instead of (or in addition to) audio data as required by the claim, while ensuring proper operation of the Steuer750/Steuer389 systems and methods. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). Therefore, a POSITA would have had a reasonable expectation of success that the combined

Steuer750-Eldering method and combined Steuer389-Eldering method would have operated as expected. *See Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379-81 (Fed. Cir. 2023). (EX1002, ¶ 115.)

The above modification would have been a mere combination of known technologies (e.g., the concept of gathering video data samples with Steuer750's/Steuer389's disclosed systems and methods for making content identifications), according to known methods (e.g., sampling the video stream), to achieve predictable results (e.g., generating content identification results by comparing video data samples with known content). *See KSR*, 550 U.S. 398 at 416-18. (EX1002, ¶ 116.)

Therefore, the Steuer750-Eldering method and the Steuer389-Eldering method disclose or suggest claim limitation 1.b. (EX1002, ¶ 117.)

- c) **determining, by the one or more computers, a next sample of the video data for attempted identification of a media content item corresponding to the next sample by adjusting a length of a time window of the next sample based at least in part upon a result of an attempt by the one or more computers to identify a first prior sample as corresponding to a media content item stored in a computerized database of reference content;**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 118-122.)

First, Steuer389's claim 1 recites almost identical language as claim limitation 1.c, albeit in the context of "audio data." (EX1006, claim 1; EX1002, ¶ 119.)

Further, with reference to Figure 2, Steuer750 and Steuer389 disclose that "[a]t step 206, an identification result is used to adjust sampling control and selection parameters for one or more subsequent samples. Parameters that might be adjusted include resolution, backtrack selection, **sample time window**, or recognition algorithm selected." (EX1005, [0037], [0063]-[0065] (similarly describing the adjustment of time window length of a next sample based on identification results of prior samples), FIGS. 2, 6; *see also id.*, [0034] (disclosing that the "time window" of a sample corresponds to the sample's "length"), claims 19-21; EX1006, 7:39-42, 13:20-56, FIGS. 2, 6; *see also id.*, 7:2-3.) Steuer750 and Steuer389 describe with respect to step 206 that "once media content for a limited series of samples has been identified, the **time window size for each sample** might be decreased from, for example, 5 seconds to 3 seconds" which "would mean that samples submitted for attempted identification would be shorter in length." (EX1005, [0038], [0063]-[0065]; EX1006, 7:57-65, 13:20-56; EX1002, ¶ 120.) The above processes are performed using one or more computers (e.g., the media measurement system 100 implemented by computer system 700), as discussed above. (EX1002, ¶ 121; *see supra*, §X.A.1.b.)

It would have been obvious to implement Steuer750's and Steuer389's disclosed content identification systems/methods using video data instead of the disclosed audio-based approach. (*See supra*, §X.A.1.b.) Indeed, Eldering discloses adjusting the parameters for content identification based on results associated with identifying prior samples, similar to Steuer750's and Steuer389's disclosures above. (*Id.* (citing EX1007, [0090]-[0093], [0097], FIGS. 11-14).) Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 1.c. (EX1002, ¶ 122.)

- d) wherein the time length window of the next sample is changed relative to a time length window of the first prior sample based on the attempt to identify the first prior sample indicating a result that is different than a result of an attempt to identify a second prior sample;**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitation 1.c. (EX1002, ¶¶ 123-126.)

First, Steuer389's claim 1 recites almost identical language as claim limitation 1.d, albeit in the context "audio data." (EX1006, claim 1; EX1002, ¶ 124.)

Further, both Steuer750 and Steuer389 disclose adjusting selection parameters like the time length window for subsequent samples ("next sample") based on prior identification results. (*See supra*, §X.A.1.c; EX1005, [0037]-[0038], [0063]-[0065], FIGS. 2, 6; EX1006, 7:39-42, 7:57-61, 13:20-56, FIGS. 2, 6.) The adjustment of

selection parameters includes adjustment when an identification result of a current sample does not match the identification result of a prior sample. (EX1005, [0037] (“As another example, if an identification result does not match the result of the prior sample identified, then step 206 might initiate a back track analysis and select an intervening sample that has not yet been analyzed.”), [0038] (describing adjusting the time window of the next sample based on prior identification results) [0064]-[0065] (similarly describing scenarios where the time window length for a next sample being adjusted based on identification results for prior samples not matching each other); EX1006, 7:38-65, 13:23-56; EX1002, ¶ 125.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 1.d. (EX1002, ¶ 126; *see supra*, §§X.A.1.b-c.)

e) submitting, by the one or more computers, the determined next sample for attempted content identification; and

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitation 1.c. (EX1002, ¶¶ 127-129.)

For example, Steuer750 and Steuer389 both disclose that the next sample determined in step 206 (“determined next sample”) is provided to step 202 (via step 201) for attempting content identification based on that next sample, as claimed.

(*See supra*, §X.A.1.c; EX1005, [0037]-[0038], [0063]-[0065] FIGS. 2, 6, claims 19-21; EX1006, 7:39-65, 13:20-56, FIGS. 2, 6.) The above processes are performed using one or more computers (e.g., the media measurement system 100 implemented by computer system 700), as discussed above. (*See supra*, §X.A.1.b.)

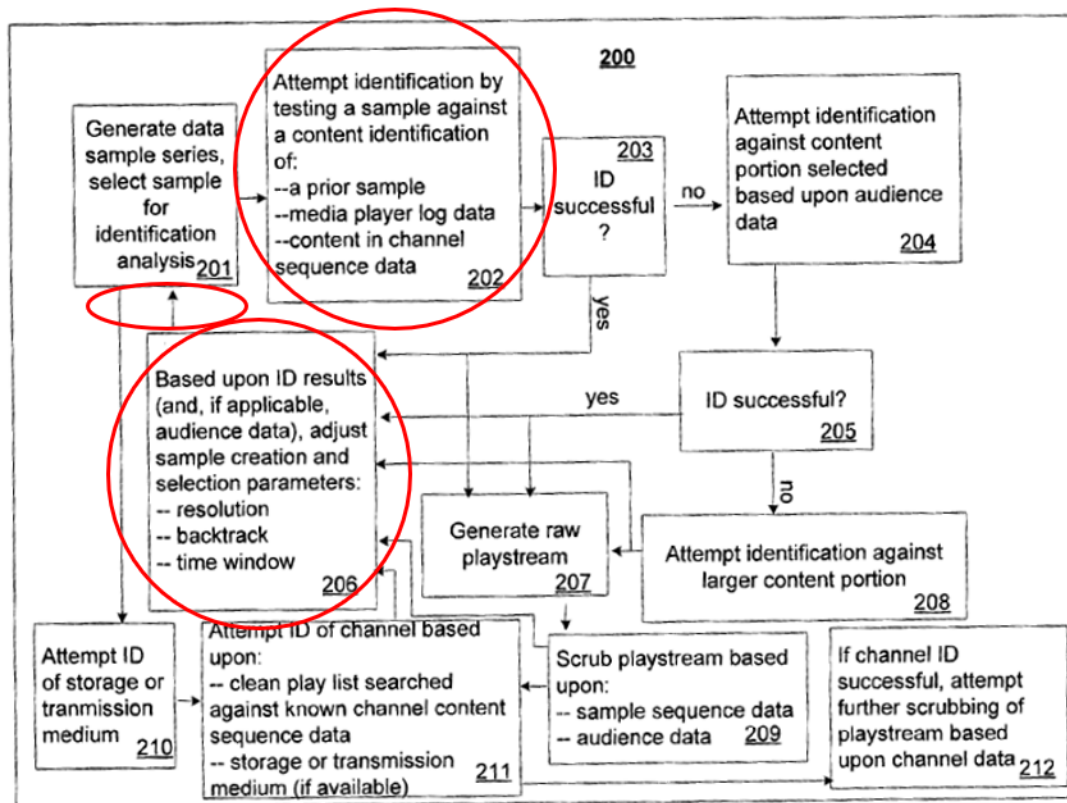


FIG. 2

(EX1005, FIG. 2 (annotated); EX1006, FIG. 2; EX1002, ¶ 128.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 1.e. (EX1002, ¶ 129; *see supra*, §§X.A.1.b-c.)

- f) **generating, by the one or more computers, a play stream of content identifications based on results of attempts to identify a series of samples comprising the determined next sample.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 130-132.)

For example, Steuer750 and Steuer389 both disclose that the content identification process discussed above proceeds to generating a raw play stream 410 (“play stream”) in step 207 (and shown in Figure 4) of content identifications (“content ID” column in raw play stream 410) based on results of attempts to identify a series of samples comprising the determined sample as discussed above with respect to at least steps 201, 202, and 206 of Figure 2. (EX1005, [0040], [0045], FIGS. 2, 4; *see also id.*, [0036], [0041]-[0042], FIG. 3; EX1006, 8:1-22, 9:12-31, FIGS. 2, 4; *see also id.*, 7:16-38, 8:23-49, FIG. 3.) These processes are performed using one or more computers, as discussed above. (*See supra*, §X.A.1.b.)

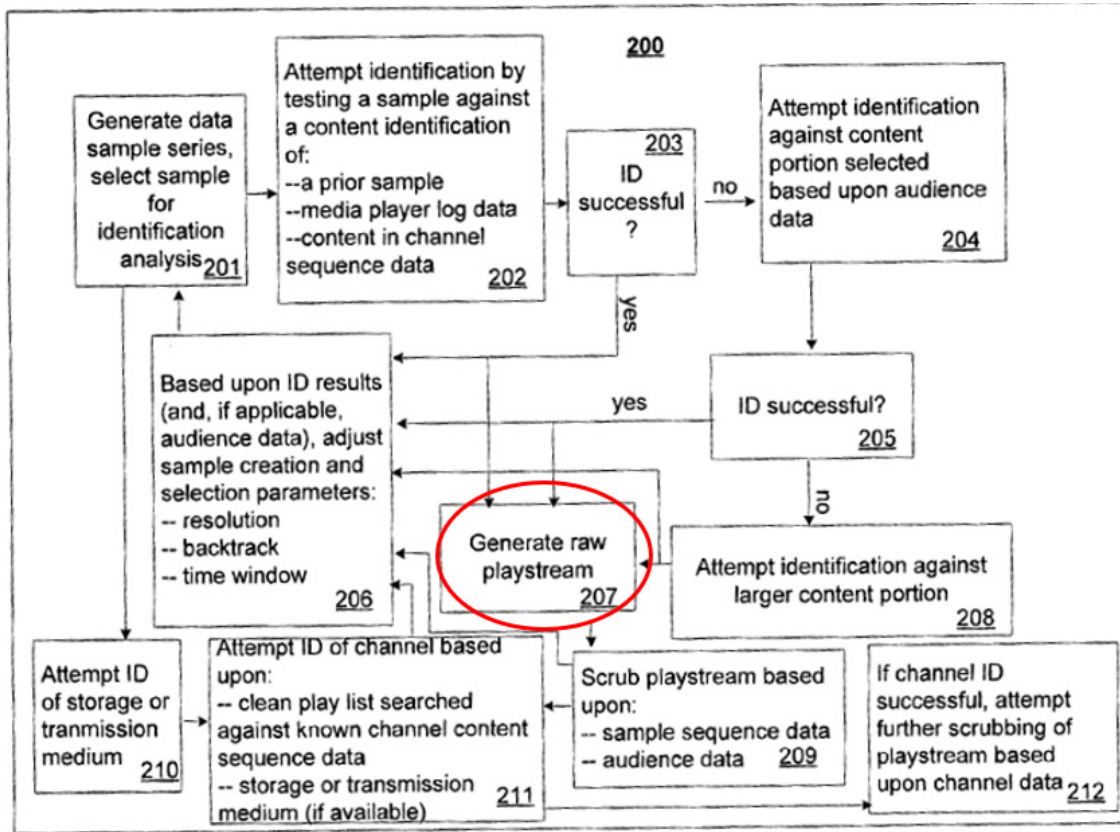


FIG. 2

(EX1005, FIG. 2 (annotated); EX1006, FIG. 2; EX1002, ¶ 131.)

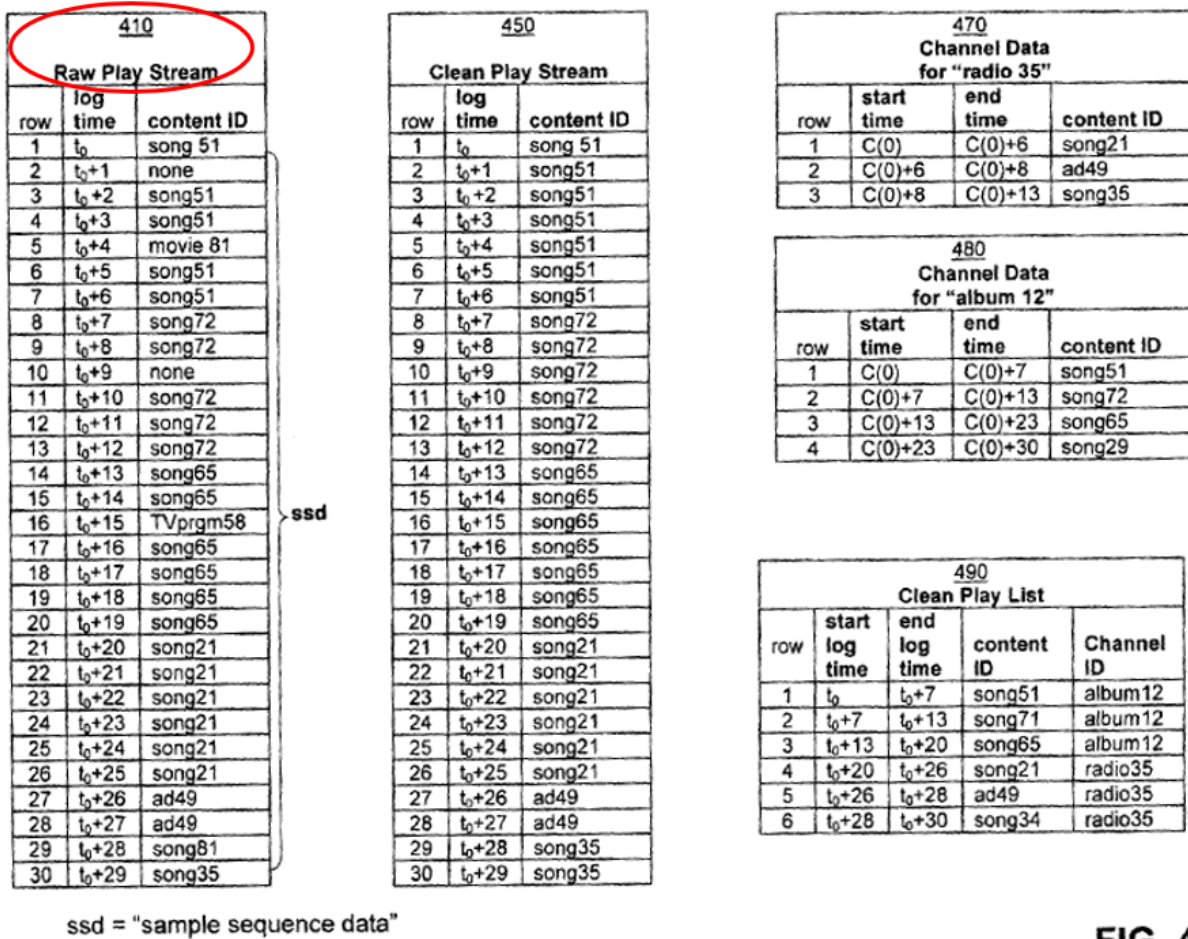


FIG. 4

(EX1005, FIG. 4 (annotated); EX1006, FIG. 4; EX1002, ¶ 131.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 1.f. (EX1002, ¶ 132; *see supra*, §§X.A.1.b-c.)

2. Claim 2

a) The method of claim 1 wherein determining comprises selecting a format of a sample.

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 133-136.)

For example, Steuer389's claim 2 recites almost identical language as claim limitation 2.a, albeit in the context of "audio data." (EX1006, claim 2; EX1002, ¶ 134.)

Steuer750 similarly discloses that the step of determining a next sample (limitation 1.c) comprises selecting a format of a sample, in the context of its audio-based approach. (EX1005, claims 19-20 (disclosing "determining [a sample for attempted identification based at least in part upon a result of an attempt to identify a prior sample against known content] comprises selecting a format of a sample"), claim 21 (disclosing that the "format includes length of a sample time window"); EX1002, ¶ 135.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 2.a. (EX1002, ¶ 136; *see supra*, §§X.A.1.b-c.)

3. Claim 3

- a) The method of claim 2 wherein: selecting a format includes selecting video parameters corresponding to requirements of a content recognition algorithm; and**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 137-140.)

For example, Steuer389’s claim 3 recites almost identical language as claim limitation 3.a, albeit in the context of “audio parameters” as opposed to “video parameters.” (EX1006, claim 3; EX1002, ¶ 138.)

Steuer750 similarly discloses that the step of selecting a format (limitation 2.a) includes selecting parameters corresponding to requirements of a content recognition algorithm, in the context of its audio-based approach. (EX1005, claims 19-20, claim 22 (disclosing that the “format includes audio parameters corresponding to requirements of a content recognition algorithm”); *see supra*, §X.A.2; EX1002, ¶ 139.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 3.a. (EX1002, ¶ 140; *see supra*, §§X.A.1.b-c.)

- b) determining comprises, for a sample subsequent to an n'th sample, selecting video parameters corresponding to one of a plurality of available content recognition algorithms based at least in part upon an identification result corresponding to the n'th sample.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 141-144.)

For example, Steuer389's claim 3 recites almost identical language as claim limitation 3.b, albeit in the context of "audio parameters" as opposed to "video parameters." (EX1006, claim 3; EX1002, ¶ 142.)

Steuer750 similarly discloses that the step of determining a next sample (limitation 1.c) comprises, for a sample subsequent to an n'th sample, selecting parameters corresponding to one of a plurality of available content recognition algorithms based at least in part upon an identification result corresponding to the n'th sample, in the context of its audio-based approach. (EX1005, claims 19-20, claim 22 (disclosing that the "determining comprises, for a sample subsequent to an n'th sample, selecting audio parameters corresponding to one of a plurality of available content recognition algorithms based at least in part upon an identification result corresponding to the n'th sample"); *see supra*, §X.A.2; EX1002, ¶ 143.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 3.b. (EX1002, ¶ 144; *see supra*, §§X.A.1.b-c.)

4. Claim 4

- a) The method of claim 2 wherein: selecting a format includes selecting video parameters corresponding to settings of a content recognition algorithm; and**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 145-148.)

For example, Steuer389’s claim 4 recites almost identical language as claim limitation 4.a, albeit in the context of “audio parameters” as opposed to “video parameters.” (EX1006, claim 4; EX1002, ¶ 146.)

Steuer750 similarly discloses that the step of selecting a format (limitation 2.a) includes selecting parameters corresponding to settings of a content recognition algorithm, in the context of its audio-based approach. (EX1005, claims 19-20, claim 23 (disclosing that the “format includes audio parameters corresponding to settings of a content recognition algorithm”)); *see supra*, §X.A.2; EX1002, ¶ 147.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 4.a. (EX1002, ¶ 148; *see supra*, §§X.A.1.b-c.)

- b) determining comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 149-152.)

For example, Steuer389's claim 4 recites almost identical language as claim limitation 4.b, albeit in the context of "audio parameters" as opposed to "video parameters": "determining comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample." (EX1006, claim 4; EX1002, ¶ 150.)

Steuer750 similarly discloses that the step of determining a next sample (limitation 1.c) comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample. (EX1005, claims 19-20, claim 23 (disclosing that the "determining comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample"); *see supra*, §X.A.2; EX1002, ¶ 151.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 4.b. (EX1002, ¶ 152; *see supra*, §§X.A.1.b-c.)

5. Claim 5

- a) The method of claim 1 wherein channel data is used in determining the next sample, the channel data relating to recently identified samples.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 153-156.)

For example, Steuer389's claim 5 recites almost identical language as claim limitation 5.a, albeit in the context of "audio data." (EX1006, claim 5; EX1002, ¶ 154.)

Steuer750 similarly discloses in the context of "audio data" that "channel data is used in determining the sample, the channel data relating to recently identified samples." (EX1005, claim 29; *see also id.*, claim 19; *see supra*, §X.A.2; EX1002, ¶ 155.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 5.a. (EX1002, ¶ 156; *see supra*, §§X.A.1.b-c.)

6. Claim 6

- a) The method of claim 1 wherein content data is used in determining the next sample, the content data relating one or more recently identified samples.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 157-160.)

For example, Steuer389’s claim 6 recites almost identical language as claim limitation 6.a, albeit in the context of “audio data.” (EX1006, claim 6; EX1002, ¶ 158.)

Steuer750 similarly discloses in the context of “audio data” that “content data is used in determining the sample, the content data relating one or more recently identified samples.” (EX1005, claim 30; *see also id.*, claim 19; EX1002, ¶ 159.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 6.a. (EX1002, ¶ 160; *see supra*, §§X.A.1.b-c.)

7. Claim 7

- a) The method of claim 6 wherein content data includes at least one of content type and content length.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 161-164.)

For example, Steuer389’s claim 7 recites almost identical language as claim limitation 7.a, albeit in the context of “audio data.” (EX1006, claim 7; EX1002, ¶ 162.)

Steuer750 similarly discloses in the context of “audio data” that “content data includes at least one of content type and content length.” (EX1005, claim 31; *see also id.*, claims 19, 30; EX1002, ¶ 163.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 7.a. (EX1002, ¶ 164; *see supra*, §§X.A.1.b-c.)

8. Claim 8

- a) The method of claim 1 wherein sample sequence data is used in determining the next sample, the sample sequence data relating to recently identified samples.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 165-168.)

For example, Steuer389's claim 8 recites almost identical language as claim limitation 8.a, albeit in the context of "audio data." (EX1006, claim 8; EX1002, ¶ 166.)

Steuer750 similarly discloses in the context of "audio data" that "sample sequence data is used in determining the sample, the sample sequence data relating to recently identified samples." (EX1005, claim 32; *see also id.*, claim 19; EX1002, ¶ 167.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 8.a. (EX1002, ¶ 168; *see supra*, §§X.A.1.b-c.)

9. Claim 9

- a) The method of claim 1 wherein log data is used in determining the next sample, the log data relating to a media player of an audience member using the monitoring device.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 169-172.)

For example, Steuer389’s claim 9 recites almost identical language as claim limitation 9.a, albeit in the context of “audio data.” (EX1006, claim 9; EX1002, ¶ 170.)

Steuer750 similarly discloses in the context of “audio data” that “log data is used in determining the sample, the log data relating to a media player of an audience member using the monitoring device.” (EX1005, claim 33; *see also id.*, claim 19; EX1002, ¶ 171.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 9.a. (EX1002, ¶ 172; *see supra*, §§X.A.1.b-c.)

10. Claim 10

- a) The method of claim 1 wherein location data is used in determining the next sample, the location data relating to a media player of an audience member using the monitoring device.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 173-176.)

For example, Steuer389’s claim 10 recites almost identical language as claim limitation 10.a, albeit in the context of “audio data.” (EX1006, claim 10; EX1002, ¶ 174.)

Steuer750 similarly discloses in the context of “audio data” that “location data is used in determining the sample, the location data relating to a media player of an audience member using the monitoring device.” (EX1005, claim 34; *see also id.*, claim 19; EX1002, ¶ 175.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 10.a. (EX1002, ¶ 176; *see supra*, §§X.A.1.b-c.)

11. Claim 11

- a) A media measurement method comprising:**

To the extent that the preamble of claim 11 is limiting, Steuer750 and Steuer389 both independently disclose the limitation therein for the same reasons as discussed above for the preamble of claim 1. (EX1002, ¶¶ 177-179; *see supra*,

§X.A.1.a.) Moreover, Steuer389's claim 11 includes an identical preamble.
(EX1006, claim 11; EX1002, ¶ 178.)

b) receiving, at one or more computers, video data from a monitoring device, the video data being divisible into samples; and

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for the same reasons as discussed above for limitation 1.b. (EX1002, ¶¶ 180-182; *see supra*, §X.A.1.b.)

Moreover, Steuer389's claim 11 recites almost identical language as claim limitation 11.b, except it substitutes the claimed video data with audio data.
(EX1006, claim 11; EX1002, ¶ 181.)

c)

- (1) **determining, by the one or more computers, a next sample for attempted identification based at least in part upon a result of an attempt by the one or more computers to identify prior samples against a computerized database of known content**
- (2) **wherein determining the next sample comprises selecting a relative time location of the next sample within the video data such that the relative time location of the next sample is selected to be between a relative time location of the first prior sample and a relative time location of the second prior sample based on a result of attempting to identify a first prior sample against the computerized database of known content being different from a result of attempting to identify a second prior sample against the computerized database of known content;**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation. (EX1002, ¶¶ 183-188.)

First, Steuer389's claim 11 recites almost identical language as claim limitation 11.c.1 and 11.c.2, albeit in the context of "audio data." (EX1006, claim 1; EX1002, ¶ 184.)

Further, with respect to claim limitation 11.c.1, Steuer750 and Steuer389 both disclose this limitation with reference to Figure 2 as they state, e.g.: "At step 206, **an identification result is used to adjust sampling control and selection parameters for one or more subsequent samples.** Parameters that might be

adjusted include resolution, backtrack selection, sample time window, or recognition algorithm selected.” (EX1005, [0037], [0063]-[0065], FIGS. 2, 6, claims 19, 24-28; EX1006, 7:39-56, 13:20-56, FIGS. 2, 6; EX1002, ¶ 185.)

Further, with respect to claim limitation 11.c.2, Steuer750 and Steuer389 both disclose, with reference to Figures 2 and 6, determining the next sample comprises selecting a relative time location of the next sample (e.g., an intervening sample such as the $(n_1+6)^{\text{th}}$ sample) within the audio data such that the relative time location (e.g., (n_1+6)) of the next sample is selected to be between a relative time location of the first prior sample (e.g., time location of the n_1^{th} sample) and a relative time location of the second prior sample (e.g., time location of the n_2^{th} sample) based on a result of attempting to identify a first prior sample (e.g., the n_1^{th} sample) against the computerized database of known content being different from a result of attempting to identify a second prior sample (e.g., the n_2^{th} sample) against the computerized database of known content. (EX1005, [0037] (“[I]f an identification result [of a sample] **does not match** the result of the prior sample identified, then step 206 might initiate a **back track analysis** and **select an intervening sample that has not yet** Steuer750 and Steuer389 both disclose **been analyzed.**”), [0064] (“[I]f the n_2^{th} sample **does not match** the n_1^{th} sample, then process 200 can make a **backtrack decision and go back in the series of samples to select, for example, the $(n_1+6)^{\text{th}}$ sample for content recognition analysis . . .**,” where “[t]he order in which samples

are selected for analysis in this example is illustrated by arrows 1, 2, and 3 in FIG. 6.”); EX1006, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶¶ 186-187.)

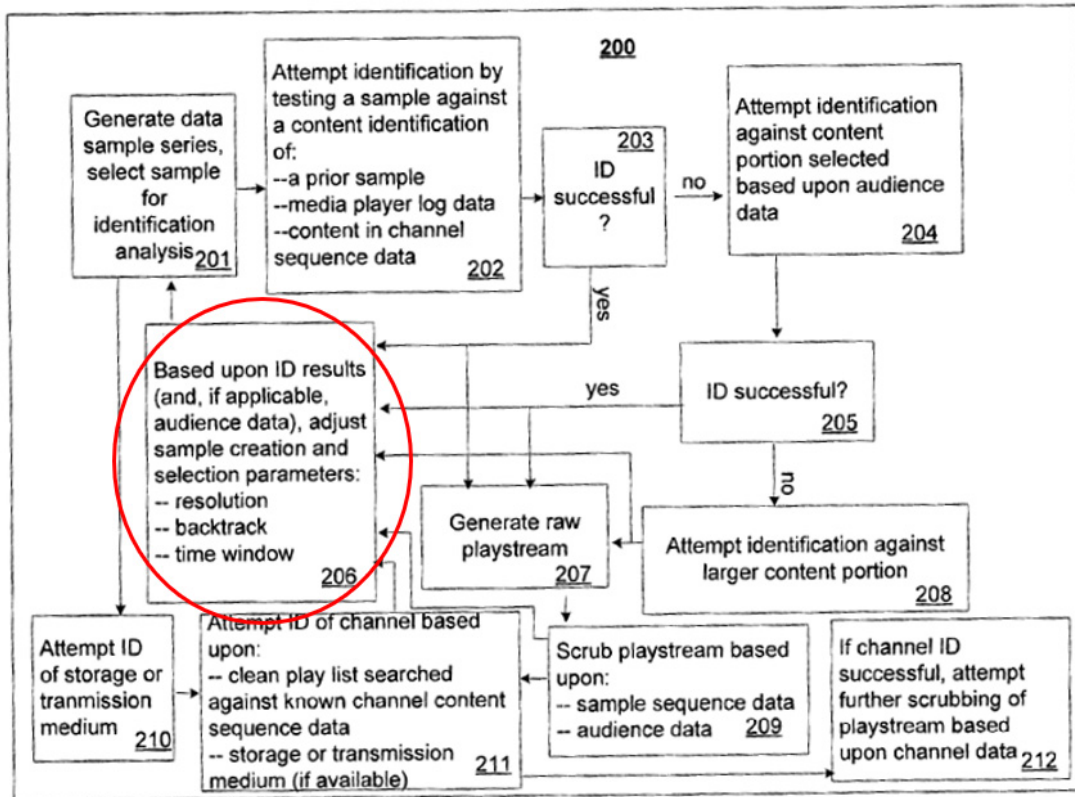
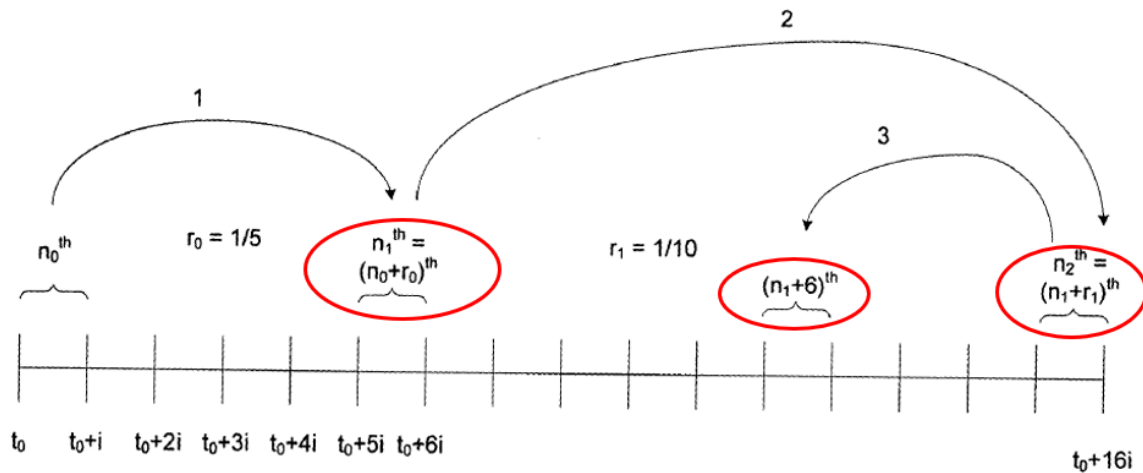


FIG. 2

(EX1005, FIG. 2 (annotated); EX1006, FIG. 2; EX1002, ¶ 187.)



600

FIG. 6

(EX1006, FIG. 6 (annotated); EX1006, FIG. 6; EX1002, ¶ 187.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitations 11.c.1-2. (EX1002, ¶ 188.)

- d) submitting, by the one or more computers, the determined next sample for attempted content identification; and**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for the same reasons as discussed above for limitation 1.e. (EX1002, ¶ 189; *see supra*, §X.A.1.e.) Petitioner notes that for claim 1, step 206 is cited for its adjustment of the time length window of the next sample based on prior content identification results, for example, while for claim 11, step 206 is cited for selection of an intervening sample as the next sample based on prior content identification results. (*See supra*, §§X.A.1.c-d, X.A.11.c.1-2.) The subsequent processes for submitting the determined next sample for attempting content identification using steps 201 and 202 operate the same regardless of the selection parameter being adjusted for the next sample in step 206. (EX1002, ¶¶ 189-190.)

- e) generating, by the one or more computers, a play stream of content identifications based on results of attempts to identify a series of samples comprising the determined next sample.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for the same reasons as discussed

above for limitation 1.f. (EX1002, ¶¶ 191-192; *see supra*, §§X.A.1.f, X.A.11.d.)

12. Claim 12

- a) **The method of claim 11 further comprising, for a series of samples of the video data: determining a sample by selecting an $(n \pm r)$ 'th sample for to be submitted for content recognition wherein r is determined at least in part based upon an identification result corresponding to the n 'th sample.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination discloses or suggests this limitation for reasons similar to those given above for limitations 11.c.1-2. (EX1002, ¶¶ 193-196; *see supra*, §X.A.11.c.,)

First, Steuer389's claim 12 recites almost identical language as claim limitation 12.a, albeit in the context of "audio data." (EX1006, claim 12; EX1002, ¶ 194.)

Further, as discussed above with respect to limitations 11.c.2, Steuer750 and Steuer389 both disclose that for a series of samples of the audio data as described with reference to step 206 of Figure 2 and related Figure 6, the content recognition process includes determining a sample by selecting an $(n \pm r)$ 'th sample (e.g., an intervening sample such as the $(n_1 + 6)^{\text{th}}$ sample) to be submitted for content recognition wherein r (e.g., "6" in this example) is determined at least in part based upon an identification result corresponding to the n 'th sample (e.g., the n_1^{th} sample or the n_2^{th} sample). (*See supra*, §X.A.11.c; EX1005, [0064], FIGS. 2, 6, claims 19, 24-28; EX1006, 13:23-56, FIGS. 2, 6.)

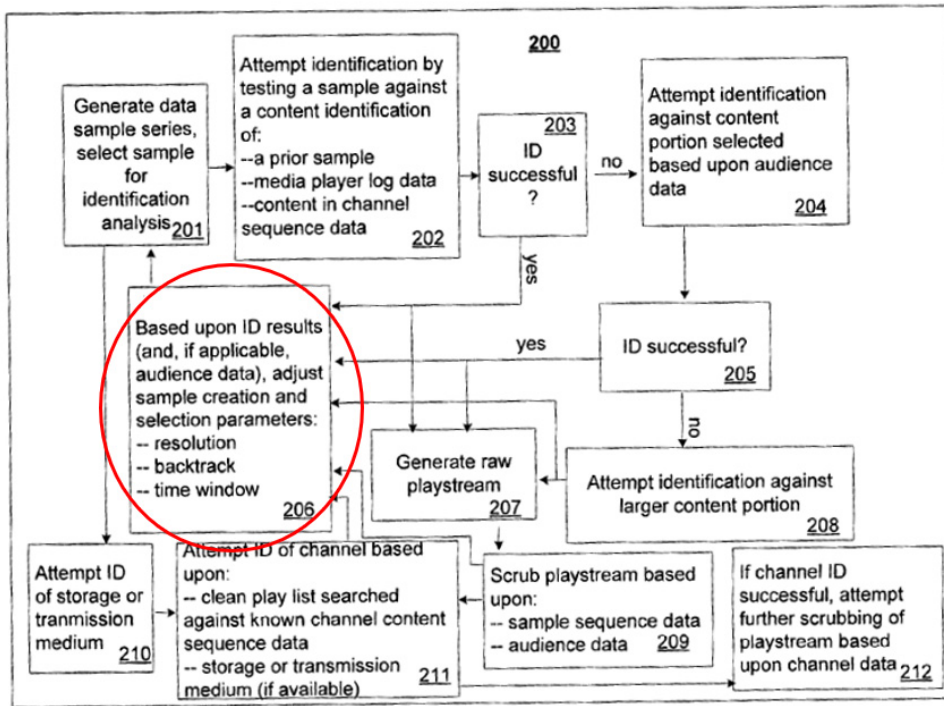
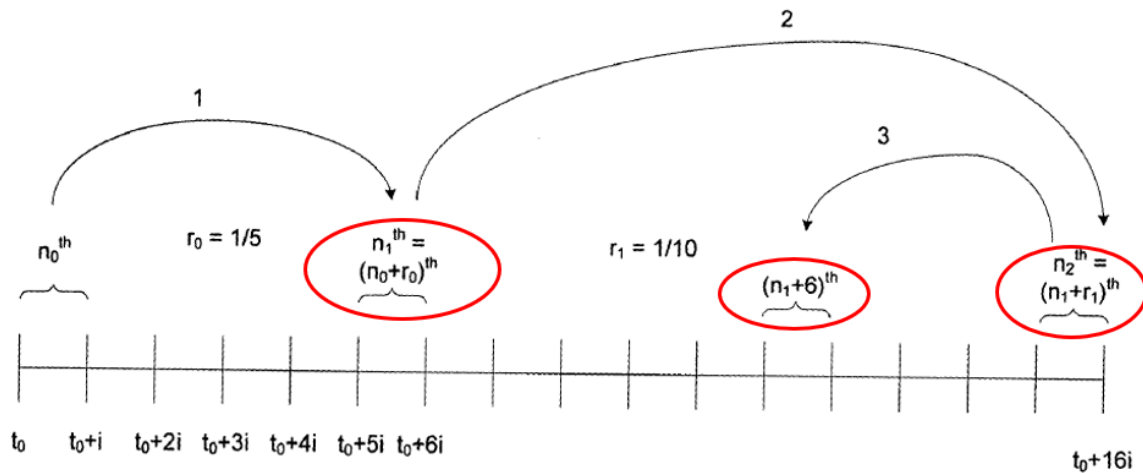


FIG. 2

(EX1005, FIG. 2 (annotated); EX1006, FIG. 2; EX1002, ¶ 195.)



600

FIG. 6

(EX1006, FIG. 6 (annotated); EX1006, FIG. 6; EX1002, ¶ 195.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 12.a. (EX1002, ¶ 196.)

13. Claim 13

- a) **The method of claim 12 wherein the magnitude of r is increased from a prior value if the identification result corresponding to the n 'th sample does not indicate an identification.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given

above for limitations 11.c.1-2 and 12.a. (EX1002, ¶¶ 197-200; *see supra*, §§X.A.11.c, X.A.12.a.)

For example, Steuer389’s claim 13 recites almost identical language as claim limitation 13.a, albeit in the context of “audio data.” (EX1006, claim 13; *see also id.*, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶ 198.)

Steuer750 similarly discloses in the context of “audio data” that “wherein the value of r is increased from a prior value if the identification result corresponding to the n ’th sample does not indicate an identification.” (EX1005, claim 25; *see also id.*, claims 19, 24, 26-28, [0037], [0064], FIGS.2, 6; EX1002, ¶ 199.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 13.a. (EX1002, ¶ 200.)

14. Claim 14

- a) The method of claim 12 wherein the magnitude of r is increased from a prior value if the identification result corresponding to the n ’th sample indicates absence of any media content.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitations 11.c.1-2 and 12.a. (EX1002, ¶¶ 201-204; *see supra*, §X.A.11.c, X.A.12.a.)

For example, Steuer389's claim 14 recites almost identical language as claim limitation 13.a, albeit in the context of "audio data." (EX1006, claim 14; *see also id.*, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶ 202.)

Steuer750 similarly discloses in the context of "audio data" that "wherein the value of r is increased from a prior value if the identification result corresponding to the n 'th sample indicates absence of any media content." (EX1005, claim 26; *see also id.*, claims 19, 24-25, 27-28, [0037], [0064], FIGS.2, 6; EX1002, ¶ 203.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 14.a. (EX1002, ¶ 204.)

15. Claim 15

- a) **The method of claim 14 further comprising: depending upon identification results corresponding to an n 'th and an $(n \pm r)$ 'th sample, determining whether any samples captured between the n 'th and the $(n \pm r)$ 'th sample should be submitted for a content recognition attempt.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitations 11.c.1-2 and 12.a. (EX1002, ¶¶ 205-209; *see supra*, §X.A.11.c, X.A.12.a.)

For example, Steuer389's claim 15 recites almost identical language as claim limitation 13.a, albeit in the context of "audio data." (EX1006, claim 15; *see also id.*, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶ 206.)

Steuer750 similarly discloses in the context of “audio data” that “wherein determining comprises, depending upon identification results corresponding to an n 'th and an $(n+r)$ 'th sample, determining whether any samples captured between the n 'th and the $(n+r)$ 'th sample should be submitted for a content recognition attempt.” (EX1005, claim 27; *see also id.*, claims 19, 24-26, 28, [0037], [0064], FIGS. 2, 6; EX1002, ¶ 207.)

Moreover, as discussed above, Steuer389 and Steuer750 both disclose depending upon identification results corresponding to the n_1 th sample (“ n 'th [sample]”) and the n_2 th sample (“ $(n\pm r)$ 'th sample”), determining whether any samples captured between the n 'th and the $(n\pm r)$ 'th sample (e.g., an intervening sample such as the (n_1+6) th sample shown in Figure 6) should be submitted for a content recognition attempt, as required by limitation 15.a. (EX1005, [0064], FIGS. 2, 6; EX1006, 13:23-56, FIGS. 2, 6; EX1002, ¶ 208.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 15.a. (EX1002, ¶ 209.)

16. Claim 16

- a) **The method of claim 15 further comprising: submitting one or more samples captured between the n 'th and the $(n \pm r)$ 'th sample for a content identification attempt if the identification results corresponding to the n 'th and $(n \pm r)$ 'th sample do not match.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitations 11.c.1-2, 12.a, and 15.a. (EX1002, ¶¶ 210-214; *see supra*, §§X.A.11.c, X.A.12.a, X.A.15.a.)

For example, Steuer389's claim 16 recites almost identical language as claim limitation 16.a, albeit in the context of "audio data." (EX1006, claim 16; *see also id.*, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶ 211.)

Steuer750 similarly discloses in the context of "audio data" that "submitting one or more samples captured between the n 'th and the $(n+r)$ 'th sample for a content identification attempt if the identification results corresponding to the n 'th and $(n+r)$ 'th sample do not match." (EX1005, claim 18; *see also id.*, claims 19, 24-27, [0037], [0064], FIGS.2, 6; EX1002, ¶ 212.)

Moreover, as discussed above, Steuer389 and Steuer750 both disclose submitting an intervening sample such as the (n_1+6) th sample shown in Figure 6 ("one or more samples captured between the n 'th and the $(n \pm r)$ 'th sample") captured between the n_1 th sample (" n 'th [sample]") and the n_2 th sample (" $(n \pm r)$ 'th sample") for

a content identification attempt if the identification results corresponding to the n 'th and $(n \pm r)$ 'th sample do not match. (EX1005, [0064], FIGS. 2, 6; EX1006, 13:23-56, FIGS. 2, 6; EX1002, ¶ 213; *see also supra*, §X.A.11.d.)

Thus, the Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest limitation 16.a. (EX1002, ¶ 214.)

17. Claim 17

- a) **The method of claim 11 wherein: if the result of attempting to identify the first prior sample against the computerized database of known content does not differ from the result of attempting to identify the second prior sample against the computerized database of known content, then the relative time location of the next sample within the video data is selected to be after relative time locations of the first and second prior samples.**

The Steuer750-Eldering combination and the Steuer389-Eldering combination disclose or suggest this limitation for reasons similar to those given above for limitations 11.c.1-2 and 12.a. (EX1002, ¶¶ 215-219; *see supra*, §X.A.11.c, X.A.12.a.)

First, Steuer389's claim 17 recites almost identical language as claim limitation 16.a, albeit in the context of "audio data." (EX1006, claim 16; *see also id.*, 7:39-56, 13:23-56, FIGS. 2, 6; EX1002, ¶ 216.)

Moreover, Steuer389 and Steuer750 both disclose that if the result of attempting to identify the n_0 th sample ("first prior sample") against the computerized

database of known content does not differ from the result of attempting to identify the n_1^{th} sample (“second prior sample”) against the database, then the relative time location of the n_2^{th} sample (“next sample”) within the data is selected to be after relative time locations of the first and second prior samples, as required by claim 17. (EX1005, [0064], FIGS. 2, 6; *see also id.*, [0037]; EX1006, 13:23-50, FIGS. 2, 6; *see also id.*, 7:39-56; EX1002, ¶¶ 217-218.)

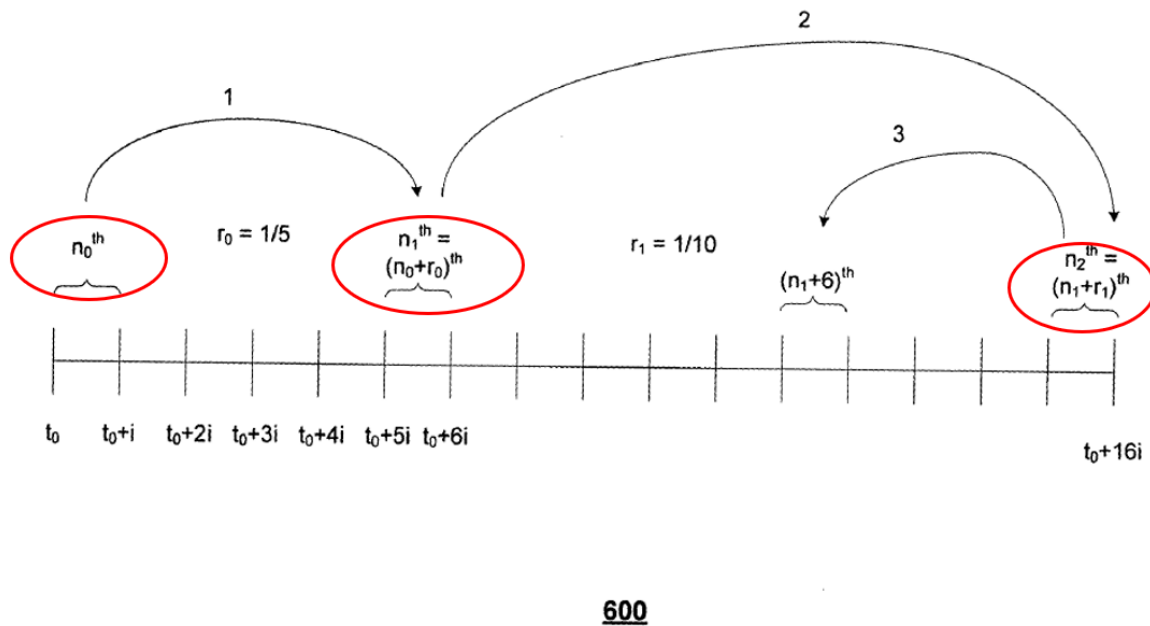


FIG. 6

(EX1006, FIG. 6 (annotated); EX1006, FIG. 6; EX1002, ¶ 217.)

Thus, the Steuer750-Eldering and the Steuer389-Eldering combination disclose or suggest limitation 16.a. (EX1002, ¶ 219.)

XI. THE RELATED LITIGATION PROVIDES NO BASIS FOR DISCRETIONARY DENIAL

Petitioner stipulates that, if the PTAB institutes this IPR, Petitioner will not pursue in the parallel district court proceeding (the 439 action) any grounds that were raised or reasonably could have been raised in this IPR. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to §II.A). The USPTO's discretionary denial guidance notes that the PTAB will not discretionarily deny institution in view of parallel litigation if Petitioner presents a *Sotera* stipulation, as here. (EX1024, 3, 7-8.)

XII. CONCLUSION

For the reasons given above, Petitioner requests institution of IPR for the challenged claims based on each of the specified grounds.

Respectfully submitted,

Dated: January 31, 2025

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)
Counsel for Petitioner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 10,963,911 contains, as measured by the word processing system used to prepare this paper, 13,974 words. This word count does not include the items excluded by 37 C.F.R. § 42.24 as not counting towards the word limit.

Respectfully submitted,

Dated: January 31, 2025

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)
Counsel for Petitioner

CERTIFICATE OF SERVICE

I hereby certify that on January 31, 2025, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 10,963,911 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on Patent Center:

Maschoff Brennan Gilmore Israelsen & Mauriel LLP
1389 Center Drive, Suite 300
Park City, UT 84098

A courtesy copy was also sent electronically to Patent Owner's litigation counsel listed below:

AMR_AZA@azalaw.com
Ahmad, Zavitsanos & Mensing PLLC
1221 McKinney, Suite 2500
Houston, TX 77010

Respectfully submitted,

Dated: January 31, 2025

By: /Naveen Modi/
Naveen Modi (Reg. No. 46,224)
Counsel for Petitioner