

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TIKTOK INC.,
Petitioner,

v.

ADVANCED CODING TECHNOLOGIES LLC,
Patent Owner.

IPR2022-01547
Patent 9,313,244 B2

Before BART A. GERSTENBLITH, NATHAN A. ENGELS, and
RUSSELL E. CASS, *Administrative Patent Judges*.

GERSTENBLITH, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background*

TikTok Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of *inter partes* review of claims 1–7 (“the Challenged Claims”) of U.S. Patent No. 9,313,244 B2 (Ex. 1001, “the ’244 patent”). Advanced Coding Technologies LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

An *inter partes* review may be instituted only if “the information presented in the petition . . . and any [preliminary] response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons given below, on this record, Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review of the Challenged Claims on all grounds raised in the Petition.

B. *Related Proceedings*

The parties identify *Advance Coding Technologies LLC v. ByteDance, Ltd.*, No. 2:22-cv-00129-JRG (E.D. Tex.), as a related matter. Pet. 76; Paper 4 (Patent Owner’s Mandatory Notices), 2.

C. *Real Parties in Interest*

Petitioner identifies ByteDance Ltd., ByteDance Inc., and TikTok Inc. as real parties in interest. Pet. 75–76. Patent Owner identifies Advance Coding Technologies LLC as a real party in interest. Paper 4, 2.

D. The Asserted Grounds of Unpatentability and Declaration Evidence

Petitioner challenges the patentability of claims 1–7 of the ’244 patent on the following grounds:

Claims Challenged	35 U.S.C. § ¹	References
1–7	103(a)	Loomis, ² Hodge ³
1–3, 6, 7	103(a)	Loomis, Harris ⁴
1, 3, 6, 7	103(a)	Parekh, ⁵ Harris

Pet. 1. Petitioner supports its challenge with a Declaration of David B. Lett (Ex. 1003).

E. The ’244 Patent

The ’244 patent is directed to “a content reproduction apparatus, a content reproduction method, and a computer-readable recording medium having a content reproduction program recorded thereon that acquire and reproduce content distributed in a streaming system.” Ex. 1001, 1:18–22.

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. The ’244 patent was filed on September 13, 2013 (Ex. 1001, code (22)), but claims the benefit of a foreign patent application filed September 13, 2012 (*id.* at code (30)). On the present record, the priority date of the ’244 patent is not challenged and, thus, we assume (without deciding) that the ’244 patent is entitled to the foreign priority date claimed. Therefore, we apply the pre-AIA version of § 103. The analysis herein, however, would not change if the current version of § 103 were applicable.

² U.S. Patent No. 7,797,064 B2, issued Sept. 14, 2010 (Ex. 1004, “Loomis”).

³ U.S. Patent Application Publication No. 2007/0156962 A1, published July 5, 2007 (Ex. 1005, “Hodge”).

⁴ U.S. Patent Application Publication No. 2007/0112973 A1, published May 17, 2007 (Ex. 1006, “Harris”).

⁵ U.S. Patent Application Publication No. 2013/0085586 A1, published Apr. 4, 2013 (Ex. 1007, “Parekh”).

The '244 patent explains, by way of background, that it was known to receive music piece data of a predetermined content and that it also was known to “previously receive and store partial data in music piece data of a content other than the music piece data of the predetermined content.” *Id.* at 1:23–30. Explaining the known technology a bit further, the '244 patent states that “[t]he music piece data whose partial data is previously received has a reproduction order prior to or later than that of currently receiving music piece data.” *Id.* at 1:31–33. According to the '244 patent, “[i]n a conventional technology, an amount of partial data acquired in advance with respect to each music piece data to be received is set to be equal to an amount of other partial data acquired in advance over all music piece data to be received,” and “[t]herefore, user convenience has not been always good.” *Id.* at 1:39–43. The '244 patent sets forth an objective of the invention as “provid[ing] a content reproduction apparatus . . . that can increase an advance acquisition amount in a content with a higher possibility of being reproduced next to currently reproducing content.” *Id.* at 1:47–53.

Figure 1 of the '244 patent is reproduced below.

FIG. 1

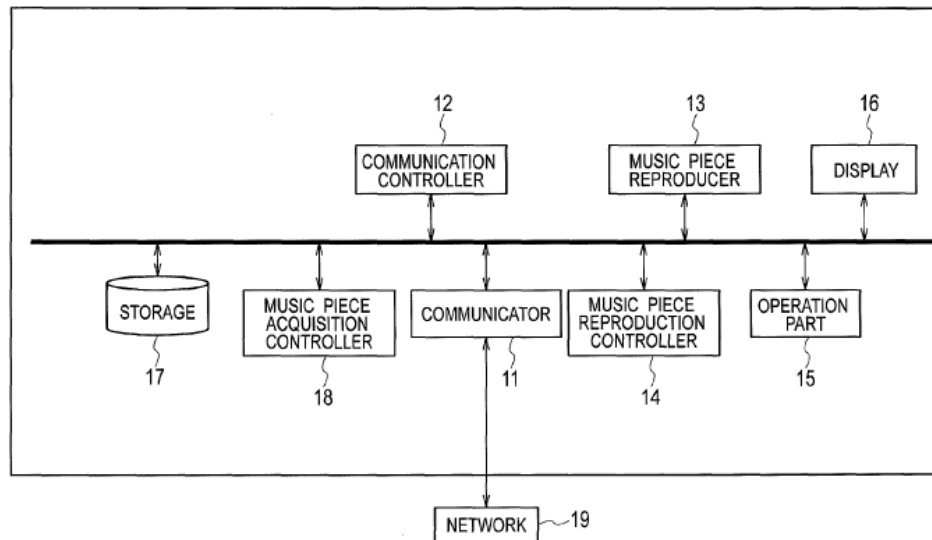


Figure 1 “is a diagram showing a configuration of a content reproduction apparatus according to a first embodiment.” Ex. 1001, 2:31–33. The '244 patent explains the following regarding the content reproduction apparatus of Figure 1:

The content reproduction apparatus includes a communicator 11, a communication controller 12, a music piece reproducer 13, a music piece reproduction controller 14, an operation part 15, a display 16, a storage 17, and a music piece acquisition controller 18.

The communicator 11 communicates with an external device (illustration is omitted) such as a server, through a network 19 of a wired or wireless telecommunications line under control of the communication controller 12. . . .

The communicator 11 receives and acquires music piece data distributed in a streaming system from the external device through the network 19. . . .

When a reproduction order list is stored in a predetermined server on the network 19, the communicator 11 receives and acquires the reproduction order list prior to reproduction of music piece data. Here, the reproduction order

list is the list indicating a reproduction order of a series of music piece data to be reproduced. The reproduction order list is, for example, a music title list of an album, or a list such as a play list created by a user selecting music pieces. The reproduction order list may be stored in the storage 17 instead of the predetermined server on the network 19.

In parallel with receiving and acquiring music piece data being reproduced, the communicator 11 receives and caches music piece data to be reproduced after the music piece data being reproduced. Here, caching is operation [sic] to acquire music piece data to be reproduced after the music piece data being reproduced in advance of reproduction, and to temporarily store it.

. . . .

The storage 17 is configured with an as-necessary basis access type storage device, for example, such as an HDD (hard disk drive) or a flash memory. . . . The storage 17 stores acquired music piece data. In addition, the storage 17 stores a program that is needed for causing a computer to realize operation including reproducing operation of music piece data and acquisition operation of the music piece data, the operation being performed in the apparatus. The storage 17 stores a content reproduction program of the present invention.

The music piece acquisition controller 18 controls operation to receive and acquire music piece data through the communicator 11. In parallel with receiving and acquiring music piece data through the communicator 11, the music piece acquisition controller 18 controls operation to cache a plurality of pieces of music piece data to be reproduced after the received music piece data being reproduced.

The music piece acquisition controller 18 determines advance acquisition amounts of the plurality of pieces of music piece data to be cached according to a reproduction order. Namely, the music piece acquisition controller 18 acquires music piece data to be reproduced after the music piece data being reproduced, and stores it in the storage 17 so that an advance acquisition amount is increased in music piece data

with an earlier reproduction order among the plurality of pieces of music piece data to be reproduced after the music piece data being reproduced. . . .

The music piece acquisition controller 18 performs operations to acquire music piece data in advance for each music piece data at a plurality of times, and gradually increases an advance acquisition amount of each content. . . .

The advance acquisition amount is set according to a distributed file format as a time when music piece data is reproduced, or a data amount for a period of time during which the music piece data is reproduced.

Id. at 3:19–5:17.

Figure 2 of the '244 patent is reproduced below.

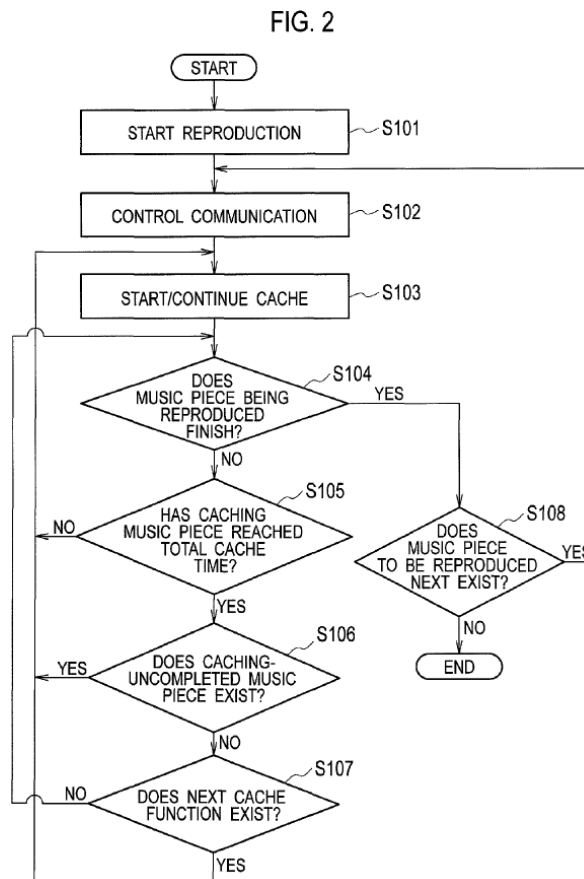


Figure 2 “is a flow chart showing an operation procedure of content reproduction” according to a first embodiment. Ex. 1001, 2:34–36. The

'244 patent explains that Figure 2 shows “an example . . . where an advance acquisition amount is set as a period of time (cache time) during which music piece data is reproduced.” *Id.* at 5:36–38. The '244 patent provides a detailed explanation of the flow chart of Figure 2, including the following:

[F]irst, in step S101, an instruction to receive and acquire a reproduction order list of music piece data from the network 19 is given by a user through the operation part 15. . . .

In step S102, the communication controller 12 sets a communication band of each communication that the apparatus performs. . . . The communication controller 12 continuously monitors a communication environment, and when the communication environment changes, the communication controller 12 sequentially assures reproduction quality, and guarantees a communication band for caching. . . .

In step S103, the music piece acquisition controller 18 starts caching of music piece data to be reproduced from the network 19 through the communicator 11. The music piece acquisition controller 18 performs caching in according with a cache function.

For example, the cache function is set as a function as shown in FIG. 3, and is previously stored to be prepared in the storage 17. The cache function is the function indicating a relationship between a relative reproduction order of music piece data after currently reproducing music piece data with respect to the currently reproducing music piece data (a horizontal axis), and a total cache time (an advance acquisition amount) (vertical axis). It is noted that a cache time is a period of time during which the music piece data is reproduced. When caching for 60 seconds of cache time is performed, the music piece can be reproduced for 60 seconds even if the music piece data is not received after the caching. . . .

. . . .

In step S103, the music piece acquisition controller 18 first starts caching of music piece data to be reproduced next to the currently reproducing music piece data using the cache

function CF101. The music piece acquisition controller 18 then caches the music piece data having the first reproduction order until the cache time reaches 60 seconds. As a result of this, after that, even though the music piece data having the first reproduction order cannot be received, the music piece acquisition controller 18 allows reproduction of the music piece data having the first reproduction order for 60 seconds. Next, the music piece acquisition controller 18 caches the music piece data having the second reproduction order until the cache time reaches 40 seconds, and next, caches the music piece data having the third reproduction order until the cache time reaches 20 seconds. The music piece acquisition controller 18 does not cache the music piece data having reproduction order after the third because the cache time is not more than 0 second[s]. The music piece acquisition controller 18 then stores the cached music piece data in the storage 17.

In step S104, the music piece reproduction controller 14 determines whether or not reproduction of the currently reproducing music piece data has been finished. When reproduction of the music piece data is not finished, the music piece reproduction controller 14 executes processing shown in step S105. When reproduction of the music piece data is finished, the music piece reproduction controller 14 executes processing shown in step S108.

....

In step S107, the music piece acquisition controller 18 determines whether or not there is a cache function to be used next. When there is a cache function, the procedure returns to the previous step S103, and the music piece acquisition controller 18 continues caching using a next cache function, i.e., the cache function CF102 here. . . . Hereinafter, the same is true on the cache function CF103 and the cache function CF104.

As described above, after acquiring a plurality of pieces of music piece data in advance based on the advance acquisition amount determined based on the cache function CF101, the music piece acquisition controller 18 determines advance

acquisition amounts of the plurality of pieces of music piece data based on the cache function CF102 so that the advance acquisition amounts of the plurality of pieces of music piece data are further increased, and subsequently, acquires the plurality of pieces of music piece data in advance again based on the redetermined advance acquisition amounts.

....

As described above, in addition to the plurality of pieces of music piece data acquired in advance in the cache function CF101, if music piece data to be reproduced after the plurality of pieces of music piece data is also acquired in advance, user convenience can be further enhanced.

Id. at 5:28–8:10. The '244 patent further explains that “although [the] data amount to be cached is set as the total cache time and the cache function is represented by a unit of time, a cache function represented by a unit of byte may be used because a content is data.” *Id.* at 10:35–39.

Figure 3 of the '244 patent is reproduced below.

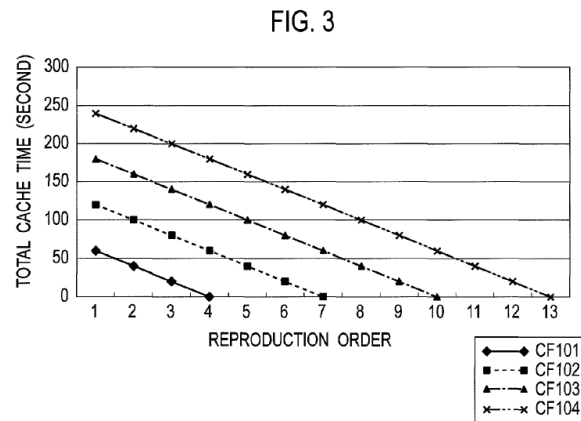


Figure 3 “is a graph showing a first example of a cache function.” Ex. 1001, 2:37–39. The '244 patent explains that “four cache functions CF101 to CF104 are prepared in the first embodiment. In each of the cache functions CF101 to CF104, a reproduction order and a total cache time are in a relation of a linear function with a negative slope.” *Id.* at 6:26–29.

Figure 4 of the '244 patent is reproduced below.

FIG. 4

REPRODUCTION ORDER	TOTAL CACHE TIME			
	CF101	CF102	CF103	CF104
1	60	120	180	240
2	40	100	160	220
3	20	80	140	200
4	0	60	120	180
5	-20	40	100	160
6	-40	20	80	140
7	-60	0	60	120
8	-80	-20	40	100
9	-100	-40	20	80
10	-120	-60	0	60
11	-140	-80	-20	40
12	-160	-100	-40	20
13	-180	-120	-60	0

Figure 4 “is a table showing one example of a total cache time with respect to a reproduction order in the cache function shown in FIG. 3.” Ex. 1001, 2:40–42. The '244 patent explains that

[e]ach of the cache functions CF101 to CF104 is one example in the case of reproducing the music piece data 0 to the music piece data 13 in the order of the music piece data 0 to the music piece data 13, and specific numerical values of the reproduction order and the total cache time are, for example, prescribed as shown in FIG. 4. The total cache time in each of the cache functions CF101 to CF104 indicates an upper-limit value of a cache time. For example, a total cache time of the music piece data having the first reproduction order is 60 seconds in the cache function CF101, and it is 120 seconds in the cache function CF102.

Id. at 6:42–52.

The '244 patent also describes an embodiment (shown in Figure 7, not reproduced below) in which

the content reproduction apparatus is the one in which a music piece evaluator 21 is added to the content reproduction apparatus shown in FIG. 1, and includes a new music acquisition controller 22 instead of the music piece acquisition controller 18. Other components are similar to the components of the content reproduction apparatus of the first embodiment.

Ex. 1001, 11:1–6. In the embodiment of Figure 7,

the music piece evaluator 21 creates an evaluation result that evaluates a user's preference to music piece data. The music piece evaluator 21 creates the evaluation result by scoring the evaluation result, for example, into five grades (1 to 5). . . . [I]t can also be said that a music piece having a larger score has a high possibility of matching [a] user's preference.

Id. at 11:14–19. The '244 patent explains that “[t]he evaluation result can be created according to information that the user directly inputs through the operation part 15. Alternatively, the music piece evaluator 21 can create the evaluation result according to information such as a reproduction frequency and a skip reproduction frequency of music piece data.” *Id.* at 11:20–25.

The '244 patent further explains that

[t]he music piece evaluation controller 22 creates evaluation cache functions CF401 to CF404 reflecting an evaluation result according to the evaluation result created by the music piece evaluator 21. The music piece acquisition controller 22 creates the evaluation cache functions CF401 to CF404 using a reference cache function. For example, the cache functions CF101 to CF104 shown in FIG. 3 can be used for the reference cache function.

The music piece acquisition controller 22 corrects the reference cache functions CF101 to CF104 which are created according to the reproduction order, based on the evaluation result, creates an evaluation cache function, and determines a total cache time. The music piece acquisition controller [22] functions similarly to the music piece acquisition controller 18 of the first embodiment except for creating the evaluation cache functions CF401 to CF404 and caching music piece data.

Id. at 11:32–47.

F. Illustrative Claim

Claims 1, 6, and 7 are the independent claims challenged in this proceeding. Claim 6⁶ is illustrative of the claimed subject matter and is reproduced below with Petitioner’s bracketing added for reference (*see* Pet. v):

6. [6.P] A content reproduction method comprising:
- [6.1] receiving a content distributed in a streaming system through a telecommunications line;
 - [6.2.1] acquiring data, which has not been received, of a content being reproduced, and [6.2.2] determining advance acquisition amounts in a plurality of contents to be reproduced after the content being reproduced according to a reproduction order;
 - [6.3] acquiring a part of the plurality of contents in advance based on the determined advance acquisition amounts;
 - [6.4] redetermining advance acquisition amounts in the plurality of contents so as to increase the advance acquisition amounts in the plurality of contents after acquiring the part of the plurality of contents in advance based on the determined advance acquisition amounts;
 - [6.5] sequentially acquiring another part of the plurality of contents in advance based on the redetermined advance acquisition amounts; and
 - [6.6] reproducing the acquired contents.

Ex. 1001, 14:4–21.

⁶ Each of claims 1, 6, and 7 are illustrative of the subject matter challenged in this proceeding. We choose claim 6 here because Petitioner analyzed claim 6 as the first claim in each of its challenges and relies on that analysis when addressing claims 1 and 7. *See, e.g.*, Pet. 21 n.4 (“In each Ground, claim 6 is discussed first because it is asserted in the co-pending litigation.”), 32–33 (discussing claim 1 primarily by referring to Petitioner’s analysis of claim 6), 36–37 (discussing claim 7 primarily by referring to Petitioner’s analysis of claim 6).

G. Level of Ordinary Skill in the Art

Petitioner, supported by Dr. Lett’s testimony, proposes that a person of ordinary skill in the art at the time of the invention “would have been a person with a working knowledge of cache memory technologies.” Pet. 10 (citing Ex. 1003 ¶ 42⁷). Petitioner contends that a person of ordinary skill in the art “would have had a Bachelor of Science degree in an academic discipline emphasizing the design of electrical, computer, or software technologies, in combination with experience with memory management technologies such as caching. Superior education or experience would compensate for deficiencies in either.” *Id.* at 10–11 (citing Ex. 1003 ¶ 42).

Patent Owner states that “[f]or the purposes of this Preliminary Response only, Patent Owner utilizes Petitioner’s proposed level of skill in the art.” Prelim. Resp. 13.

At this stage of the proceeding and on the present record, we find that Petitioner’s uncontested level of ordinary skill in the art is consistent with the level of ordinary skill in the art reflected by the ’244 patent and the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978). Therefore, we adopt Petitioner’s level of ordinary skill in the art in our consideration of the issues presently before us.

⁷ Petitioner cites to Exhibit 1003 as “Declaration” throughout the Petition. *See, e.g.*, Pet. 10. In any future briefing, Petitioner shall cite to the exhibits using the exhibit number. *See* 37 C.F.R. § 42.104(b)(5) (noting that a statement of the precise relief requested for each claim challenged must identify the “exhibit number of the supporting evidence relied upon”). In other words, instead of citing to “Declaration, [42]”—the citation should be to “Ex. 1003 ¶ 42.”

II. CLAIM CONSTRUCTION

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2022). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art at the time of the invention. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). In construing claims in accordance with their ordinary and customary meaning, we take into account the specification and prosecution history. *Phillips*, 415 F.3d at 1315–17.

Additionally, only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner and Patent Owner agree that no claim terms require an express construction at this stage of the proceeding.⁸ Pet. 11; Prelim.

⁸ During a conference call and as documented in a joint email thereafter, (1) Petitioner acknowledged an error in the Petition, where it states that four claim elements should be construed instead of stating that no terms require construction and (2) Patent Owner agreed that Petitioner’s clarification mooted an argument raised on page 13 of the Preliminary Response regarding the error in the Petition. *See* Ex. 3001 (Email from D. Smith dated Feb. 17, 2023).

Resp. 13. Accordingly, we need not construe any claim terms expressly because none are in dispute. *See Vivid Techs.*, 200 F.3d at 803.

III. ANALYSIS

A. *Legal Standards – Obviousness*

The U.S. Supreme Court set forth the framework for applying the statutory language of 35 U.S.C. § 103 in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966):

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

The Supreme Court explained in *KSR International Co. v. Teleflex Inc.* that

[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (alteration in original))).

“Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted). “[W]here a party argues a skilled artisan would have been motivated to combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1154, 1068–69 (Fed. Cir. 2012)).

B. Ground 1A: Obviousness over Loomis and Hodge

Petitioner asserts that the combination of Loomis and Hodge would have rendered the subject matter of claims 1–7 of the ’244 patent obvious to one of ordinary skill in the art at the time of the invention. Pet. 12–17 (describing Loomis and Hodge), 18–21 (discussing motivation to combine and reasonable expectation of success), 21–37 (discussing the application of the art to the claims).

1. Level of Ordinary Skill in the Art

The level of ordinary skill in the art at the time of the invention is discussed above. *See supra* § I.G.

2. Scope and Content of the Prior Art

a. Loomis

Loomis relates to “Internet based personalized radio/music technology” and is directed to “an apparatus and method allowing a user to skip one or more songs in a pre-selected play list without having an unintended delay between skips.” Ex. 1004, 1:15–18. Loomis explains that when a user’s computer plays a playlist the computer receives the data in a

programmed sequence “so that there is no unintended delay between any two programs in the list.” *Id.* at 1:40–44. But, if a user skips one of the programs in the list, the natural flow of the list is interrupted and “several seconds of loading time is needed.” *Id.* at 1:46–51. “This type of unintended delay between skips has been a major factor affecting users['] experience using personalized radio service.” *Id.* at 1:56–58. Thus, Loomis identifies “a need in the art to provide a solution to overcome the unintended delay or pause problem caused by a user’s skipping from one song to the other while a pre-determined list of selections is playing in a programmed sequence.” *Id.* at 1:59–62.

Loomis’ solution to avoid a delay between a user’s skips in a playlist is accomplished by downloading and pre-caching, i.e. pre-buffering the first small portion of each of the next several songs on the play list so that, should the user choose to skip to any of the next several songs, the pre-buffered small portion of the target song is already available to be played and therefore there is no unintended delay between two songs.

Ex. 1004, 2:3–8. Loomis explains that “[t]he apparatus starts to play the pre-buffered small portion of the target song and starts to download the rest of the target song at the same time.” *Id.* at 2:9–11. Loomis configures its system so that “the time for playing the pre-buffered small portion is longer than the initial buffering time for the rest of the target song,” thus allowing “the entire target [to be] played smoothly.” *Id.* at 2:11–14. And, “there is no unintended delay between the first small portion and the rest portion either.” *Id.* at 2:14–16.

Loomis' Figure 3A is reproduced below.

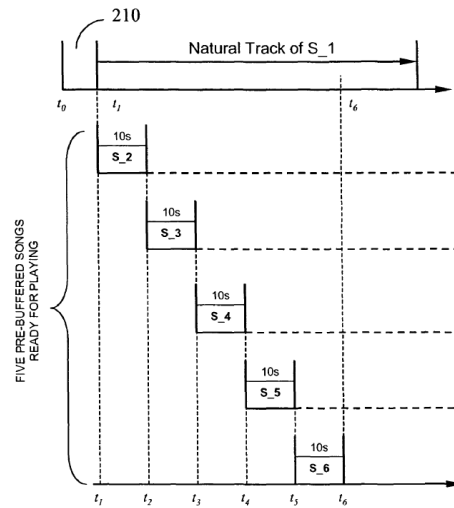


FIG. 3A

Figure 3A “is a schematic diagram illustrating a pre-buffering solution according to the preferred embodiment.” Ex. 1004, 2:43–45.

Loomis' Figure 3B is reproduced below.

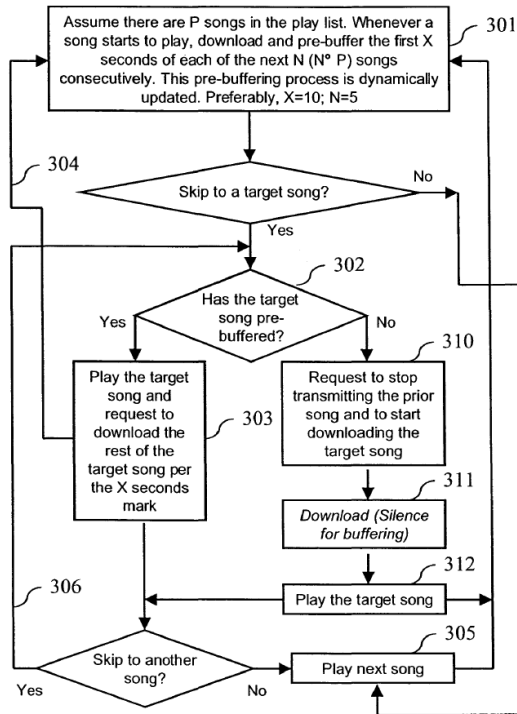


FIG. 3B

Figure 3B “is a flow chart illustrating a process according to the pre-buffering solution according to FIG. 3A.” Ex. 1004, 2:46–47.

Loomis explains the following regarding the solution shown in Figures 3A and 3B:

Step 301: Start downloading the second song S₂ immediately after the initial buffering time 210 is over at the time t₁. This step is called pre-buffering or pre-caching. The application is configured to download only the first few seconds of S₂. In the preferred embodiment, the application is configured to download the first ten seconds. After download[ing] the first ten seconds of the second song, start downloading the first ten seconds of the third song. The similar pre-buffering step goes so on and so forth. In the preferred embodiment, the application is configured to download and pre-buffer the first ten seconds of five songs subsequent to the current song which is being played. The total time required for pre-buffering five songs is about one minute. Usually a user would be able to decide whether or not to continue the song after listening to it for one minute. Therefore, although the application can be otherwise configured, pre-buffering five songs would be good enough for most of circumstances.

Step 302: Assuming the user decides to skip to a target song (for example S₅), the application first check[s] whether there is a file characterized as the target song.

Step 303: If S₅ is identified in the buffer and because the first ten seconds of S₅ is already there, the system can start to read S₅ immediately. This means that there is no unintended delay between S₁ and S₅ unless the networking condition is abnormally bad or the user has exhausted the local cache. At the same time, the application asks the server to transmit the rest of S₅ to the buffer. Because the buffering time for the rest of S₅ is less than ten seconds, by the time the reader finishes reading the pre-buffered ten seconds of S₅, a sufficient part of the rest of S₅ is already there and is ready to be read. Therefore, there is no interruption between the first ten seconds of S₅ and the rest of S₅. In this way, the user experience is enhanced and waiting time is minimized.

Step 304: While the song (S₅) is being displayed, update Step 301 to keep five songs subsequent to the current one being pre-buffered.

Step 305: Play next song after S₅ is over.

Step 306: Repeat Step 302 if the user wants to skip while S₅ is being played.

Steps 301-306 represents the first loop in which the user's play list is played without interruption even [if] he sometimes decides to skip one or more songs.

This invention also helps to bring the song playing back into the first loop when an interruption occurs.

Step 310: If the check result in Step 302 is no (i.e. the target song S₅ is not identified in the buffer), the system requests that the server stop transmitting the prior song (S₁ in the example) and start transmitting the target song.

Step 311: Start to download the target song. Because the target song is not pre-buffered, an initial buffering time is required before the target song can be played. During initial buffering time, typically 5-6 seconds, the system is silent.

Step 312: Start to play the target song. This step leads to step 305 or step 306, and step 301. Because the system always attempts to have five next songs pre-buffered, if the target song is one of the pre-buffered, the natural flow of the play list will not be interrupted by skipping.

When the user skips to the target song, the pre-buffered songs which are prior to the target in the play list (e.g. S₂-S₄ if the user skipped from S₁ to S₅) will be deleted from the memory just as they had already been played.

Ex. 1004, 5:51–6:45. Loomis also explains that its “solution described above can also be used in Internet based video service and any other services where an initial buffering time is needed before the first section of the downloaded data can be read.” *Id.* at 8:20–24.

b. Hodge

Hodge is directed to a “media device with intelligent cache utilization.” Ex. 1005, code (54). Hodge explains that portable media players “such as MP3 players or DVD players” are becoming more popular, but that when a user selects a song to play, the song must first be loaded into memory before it can be played, which can cause a delay with a large file. *Id.* ¶ 5. Hodge states that “[w]henever a media item to be played is not stored within the semiconductor memory, the storage disk must be accessed,” which are “rather costly in terms of power consumption for small, battery-powered MPS players.” *Id.* ¶ 6. Thus, Hodge identifies “a need for improved techniques to reduce the need to access the storage disks of media players.” *Id.*

Hodge’s Figure 5 is reproduced below.

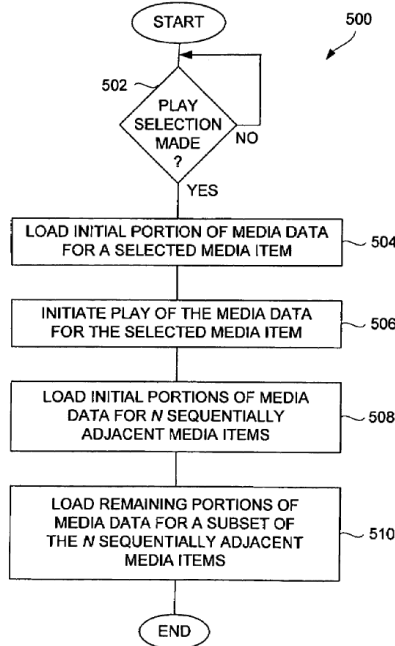


FIG. 5

Figure 5 is a flow diagram of cache loading process 500. Ex. 1005 ¶¶ 23, 51. Hodge explains the following regarding cache loading process 500:

The cache loading process 500 is performed by a media device. More particularly, the cache loading process 500 is, for example, performed by a media access manager, such as the media access manager 124 illustrated in FIG. 1, in the context of loading a cache memory, such as the cache 106 illustrated in FIG. 1.

The media device performing the cache loading process 500 includes a cache memory and a disk drive. The disk drive maintains storage for media data for a plurality of media items. The cache memory stores a small subset of the media data stored in the disk drive. The cache memory offers fast, low power access to the media data. The cache loading process 500 serves to intelligently load a portion of the media data from the disk drive into the cache memory.

The cache loading process 500 begins with a decision 502 that determines whether a play selection has been made. When the decision 502 determines that a play selection has not yet been made, the cache loading process 500 awaits such a selection. Once the decision 502 determines that a play selection has been made, the cache loading process 500 continues. In other words, the cache loading process 500 can be deemed to be invoked once a play selection has been made.

After the decision 502 determines that a play selection has been made, an initial portion of media data for the selected media item is loaded 504 into the cache memory. Once the initial portion of the media data for the selected media item has been loaded 504 into the cache memory (or otherwise available), play of the media data for the selected media item can be initiated 506. In addition, initial portions of media data for N sequentially adjacent media items can be loaded 508 into the cache memory. Moreover, remaining portions of media data for a subset of the N sequentially adjacent media items can also be loaded 510 into the cache memory. After the operation 510, the cache loading process 500 ends. It should be noted that the order of the operations 504 through 510 can be performed in any order.

Ex. 1005 ¶¶ 51–54.

Hodge's Figure 7B is reproduced below.

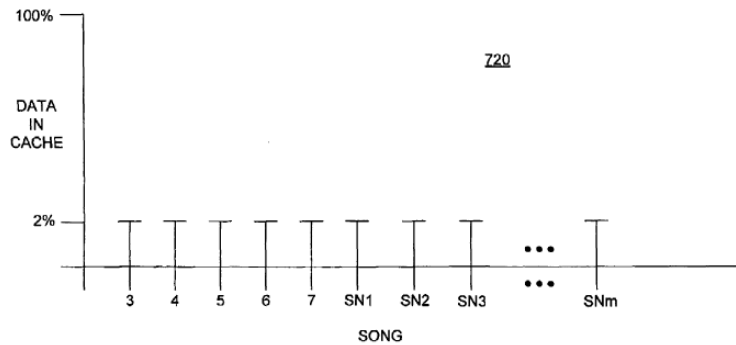


FIG. 7B

Figure 7B “illustrates a representative graph 720 pertaining to data storage in a cache memory.” Ex. 1005 ¶ 60; *see id.* ¶ 26 (same). Hodge explains that representative graph 720 “can reflect a first phase of media data storage to the cache memory, wherein the identified songs to be stored in the cache memory each have their initial portions stored in the cache memory.” *Id.* ¶ 60. Hodge states that “[a]fter the first stage of media data storage is complete, the final stage of media data storage can be performed to result in the cache memory storing media data as illustrated in the representative graph” shown in Figure 7A, which is reproduced below. *Id.*

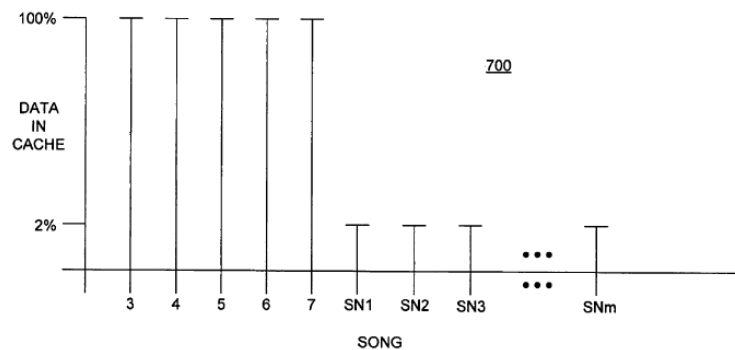


FIG. 7A

Figure 7A “illustrates a representative graph 700 pertaining to data storage in a cache memory.” *Id.* ¶ 58; *see id.* ¶ 25 (same). Hodge explains the following regarding Figure 7A:

The representative graph 700 depicts percentage of data in a cache memory along the vertical axis and particular songs along the horizontal axis. The representative graph 700 depicts a media data set stored in a cache memory. In this example, songs 3 through 7 are fully stored within the cache memory, wherein as subsequent songs, denoted snippets SN1 through SNm, are only partially stored (e.g., 2%) in the cache memory. Here, a total of m snippets are stored in the cache memory. These snippets support skip operations as discussed elsewhere herein.

Although snippets represent only small portions of the complete media data for corresponding media items, it should be understood that the size of the snippets can vary with implementation. Still further, the size of the snippets can be controlled or adaptable. For example, a user selection (e.g., user preference) could influence the size of the snippets. As another example, the size of the snippets can also adapt to user behavior. As an example, if the user of the media device tends to enter a skip request very quickly, if at all, then the size of the skip requests could be made smaller than normal. Alternatively, if the user of the media device tends to enter a skip request very slowly, if at all, then the size of the skip requests could be made larger than normal.

Id. ¶¶ 58–59. Through Hodge’s process and “[b]y providing a cache memory and loading the cache memory so as to provide skip support, battery power for the portable media device can be conserved (i.e., efficiently consumed).” *Id.* ¶ 7.

3. *Differences Between the Prior Art and the Claims; Motivation to Modify*

Petitioner contends that “Loomis describes, during playback of a track, pre-caching a portion of some of the next consecutive tracks from a playlist” and that, “[i]n the combination, after the pre-caching of the portion of some of the next consecutive tracks from the playlist in Loomis, an

additional amount of some of the next consecutive tracks from the playlist are also cached, like in Hodge.” Pet. 18 (citing Ex. 1004, 5:46–62, Figs. 3A–D; Ex. 1005 ¶¶ 58–61).

a. Claim 6

i. Limitation [6.P]

The preamble of claim 6 recites “[a] content reproduction method comprising.” Ex. 1001, 14:4. Petitioner contends that, “[t]o the extent the preamble is deemed limiting, it is rendered obvious by the combination of Loomis and Hodge” because “Loomis describes a method for reproducing ‘a pre-selected list of songs to be played in a particular order’ (*e.g.*, a playlist of content).” Pet. 21–22 (quoting Ex. 1004, Abs.). Petitioner asserts that “Loomis describes that, when a particular song is playing, the method includes ‘**pre-buffering the first ten seconds of each of the next several songs**’ on the list so that, should the user choose to skip to any of the next several songs, the pre-buffered ten seconds of the target song is already available to be played.” *Id.* at 22 (citing Ex. 1004, Abs., Fig. 3B). Additionally, Petitioner points to Hodge, contending that “in the combination, Hodge describes that, after pre-buffering an initial portion of each song (*e.g.*, the first ten seconds as in Loomis), ‘**remaining portions** of media data’ for songs in the list ‘**can also be loaded**’ 510 into the cache memory’ (*i.e.*, pre-buffered as described in Loomis).” *Id.* (citing Ex. 1005 ¶ 54; Ex. 1004, Abs., Fig. 3B; Ex. 1003 ¶ 69).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s arguments directed to the preamble of claim 6. *See generally* Prelim. Resp.

On the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that Loomis, Hodge, and the combination of Loomis and Hodge all teach the preamble of claim 6 for the reasons provided by Petitioner.⁹

ii. *Limitation [6.1]*

Limitation [6.1] recites “receiving a content distributed in a streaming system through a telecommunications line.” Ex. 1001, 14:5–6. Petitioner contends that “Loomis teaches that ‘[v]arious peripheral components are connected to the computer platform 121’ including ‘***an Internet connection interface such as an Ethernet 107***’ (a telecommunications line).” Pet. 22 (alteration in original) (quoting Ex. 1004, 3:8–12) (citing Ex. 1003 ¶ 71). Petitioner also points to Loomis’ teaching that “[u]sing clip based ***data streaming technologies***, the user’s local computer 120 can play ***audio or video program in real time as it is being downloaded over the Internet***’ (via the Ethernet interface 107) ‘as opposed to pre-storing the entire program in a local file.’” *Id.* at 22–23 (citing Ex. 1004, 3:21–24, 5:9–13; Ex. 1003 ¶ 71).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s arguments directed to limitation [6.1] of claim 6. *See generally* Prelim. Resp.

On the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that Loomis teaches limitation [6.1] for the reasons provided by Petitioner.

⁹ We need not determine whether the preamble of claim 6 is limiting because we find, on the present record, that Petitioner has shown it is taught by the asserted art.

iii. *Limitation [6.2.1]*

Limitation [6.2.1] recites “acquiring data, which has not been received, of a content being reproduced.” Ex. 1001, 14:7–8. Petitioner contends that “Loomis teaches that the user selects to ‘**play [a] target song**’ (*i.e.*, a content being reproduced) in the list of songs.” Pet. 23 (alteration in original) (citing Ex. 1004, 6:36, 7:3–7). Petitioner asserts that “[o]nce a ‘first small portion’ (*e.g.*, 10 seconds) of the target song is downloaded, the system ‘play[s] the first small portion of the target song,’ and, while the target song is playing, ‘**download[s] the rest of the target song**’ (*i.e.*, acquires data which has not yet been received on the content being reproduced).” *Id.* (alterations in original) (citing Ex. 1004, 7:3–6; Ex. 1003 ¶ 73); *see id.* at 23–24 (citing Ex. 1004, Fig. 3D (steps 330B and 337)).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s arguments directed to limitation [6.2.1] of claim 6. *See generally* Prelim. Resp.

On the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that Loomis teaches limitation [6.2.1] for the reasons provided by Petitioner.

iv. *Limitation [6.2.2]*

Limitation [6.2.2] recites “determining advance acquisition amounts in a plurality of contents to be reproduced after the content being reproduced according to a reproduction order.” Ex. 1001, 14:8–11. Petitioner contends that, “Loomis teaches that, after the target song (*e.g.*, the first song in the list ‘S₁’), has started playing, the system ‘[s]tart[s] downloading the second song S₂ immediately after the initial buffering time 210 is over at the time t1.’” Pet. 24 (alterations in original) (citing Ex. 1004, 5:51–52,

Fig. 3A). Petitioner contends that “Loomis describes that ‘[t]his step is called pre-buffering or pre-caching.’” *Id.* at 25 (alteration in original) (citing Ex. 1004, 5:53). Petitioner asserts that “Loomis describes that ‘[a]fter download[ing] the first ten seconds of the second song,’ the system ‘start[s] downloading the first ten seconds of the third song,’ and continues to the other songs in the list according to the order in which they appear in the list (*i.e.*, a reproduction order).” *Id.* (alterations in original) (citing Ex. 1004, 5:56–62; Ex. 1003 ¶ 72). As an example, Petitioner states that “Loomis teaches that, in one case, ‘***the application is configured to download and pre-buffer the first ten seconds of five songs subsequent to the current song which is being played.***’” *Id.* at 25–26 (citing Ex. 1004, 5:56–62). Thus, according to Petitioner, “in the combination, Loomis describes determining an amount of each song to download (*i.e.*, advance acquisition amounts).” *Id.* at 26 (citing Ex. 1003 ¶ 76; Ex. 1004, 5:51–67, Fig. 3A).

Petitioner annotated Figure 3A of Loomis, as shown below.

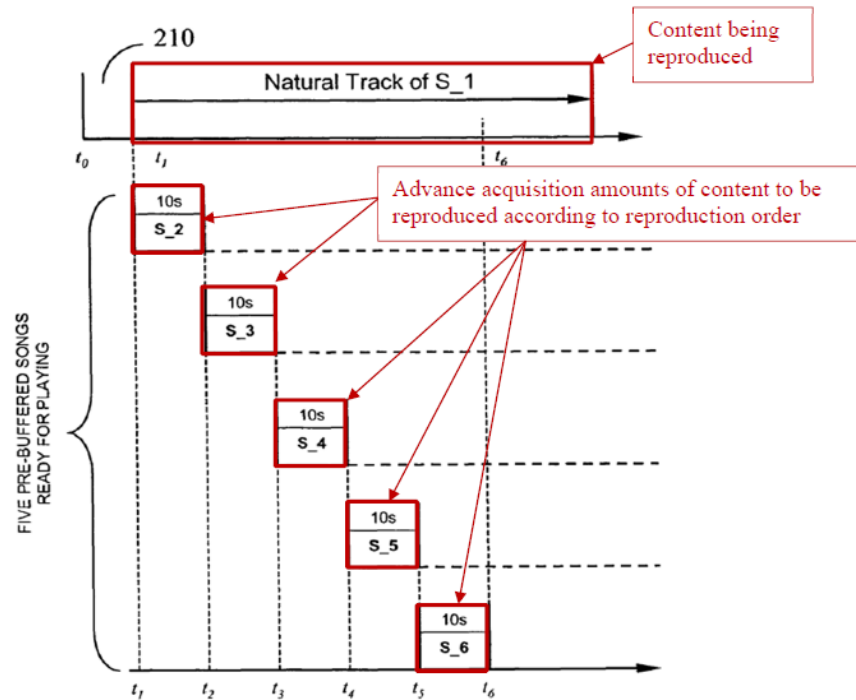


FIG. 3A

Pet. 25. Figure 3A of Loomis “is a schematic diagram illustrating a pre-buffering solution” as taught by Loomis. Ex. 1004, 2:43–45. Petitioner annotated Figure 3A to identify the “Natural Track of S₁” as teaching the “[c]ontent being reproduced” and the pre-buffered 10 seconds of the next five songs as teaching “[a]dvance acquisition amounts of content to be reproduced according to reproduction order.” Pet. 25. Additionally, Petitioner contends that

Loomis further describes that the “number of content segments that are to be downloaded to the pre-buffer cache,” “the size of the pre-buffer cache,” and “the length of each of the portions” are “configurable via a function call,” indicating that these values related to the advance acquisition amounts are also determined by the system.

Id. at 26 (citing Ex. 1004, 12:49–56).

Patent Owner raises several arguments in response. Prelim. Resp. 14–16. First, Patent Owner contends that “Loomis does not disclose determining advance acquisition amounts, but rather it discloses that the advance acquisition amount is pre-set, or configured, to be 10 seconds.” *Id.* at 14. Patent Owner asserts, “[t]hus, there is no determining of amounts based on the order because Loomis is programmed with pre-determined amounts of 10 seconds.” *Id.*

On the present record, we disagree with Patent Owner’s argument. The ’244 patent teaches determining advance acquisition amounts based on a cache function (e.g., CF101). *See, e.g.*, Ex. 1001, 6:7–11 (“In step S103, the music piece acquisition controller 18 starts caching of music piece data to be reproduced from the network 19 through the communicator 11. The music piece acquisition controller 18 performs caching in accordance with a cache function.”); *see also id.* at 7:58–60 (“acquiring a plurality of pieces of music piece data in advance based on the advance acquisition amount determined based on the cache function CF101”). And, the ’244 patent at least implies that the cache function is pre-set in some manner in advance of the function being performed. *See id.* at 6:12–14 (“For example, the cache function is set as a function as shown in FIG. 3, and is previously stored to be prepared in the storage 17.”). Thus, Patent Owner’s argument does not identify a substantive difference (relevant to limitation [6.2.2]) between Loomis’s pre-set function to cache 10 seconds of the next five songs in a playlist as compared to the ’244 patent’s cache function, which also appears to be determined or pre-set in advance of the function being performed.

Second, Patent Owner contends that “[t]he pre-programmed 10 second advance acquisition amount in Loomis is not based on order, as

each advance acquisition amount is 10 seconds regardless of the song position.” Prelim. Resp. 15. Patent Owner points to Loomis’s teaching that pre-buffering ten seconds is advantageous because if a user skips a song before the pre-buffered ten seconds is played, a royalty is not charged. *Id.* (citing Ex. 1004, 2:19–23). Thus, Patent Owner asserts that “the apparatus and method in Loomis does not ‘determine’ the advance acquisition amount for contents to be reproduced ‘according to a reproduction order,’ as required by the Challenged Claims.”¹⁰ *Id.*

On the present record, we disagree with Patent Owner’s argument. Loomis teaches that, “[i]n the preferred embodiment, the application is configured to download and pre-buffer the first ten seconds of five songs subsequent to the current song which is being played” in the user’s play list. Ex. 1004, 5:59–62 (describing a preferred embodiment), 5:4–5 (discussing a user’s playlist). Thus, Loomis’s determination to pre-buffer the next five songs in a user’s playlist is based on the order of the user’s playlist. In other words, Petitioner’s argument and evidence support the finding, at this stage of the proceeding and on the present record, that Loomis determines advance acquisition amounts (i.e., 10 seconds of the next five songs) in a plurality of contents to be reproduced after the content being reproduced (i.e., the user’s

¹⁰ Patent Owner also contends that Petitioner asserts “only that ‘Loomis describes that the advance acquisition amounts are determined,’ and not that they are determined ‘according to a reproduction order.’” Prelim. Resp. 15 (citing Pet. 26; Ex. 1003 ¶ 76). We disagree. As noted above in our description of Petitioner’s argument, Petitioner contends that Loomis downloads and pre-buffers the first ten seconds of songs following the current song being played “according to the order in which they appear in the list (*i.e.*, a reproduction order).” Pet. 25. Thus, Petitioner clearly addresses the “reproduction order” recitation in limitation [6.2.1].

playlist) according to a reproduction order (i.e., the order of the user's playlist).

On the present record at this stage of the proceeding, we find Petitioner's evidence and argument sufficient to establish that Loomis teaches limitation [6.2.2] for the reasons explained by Petitioner and as discussed above.

v. *Limitation [6.3]*

Limitation [6.3] recites "acquiring a part of the plurality of contents in advance based on the determined advance acquisition amounts." Ex. 1001, 14:12–13. Petitioner contends that

[i]n the combination, after song S_1 has started playing, Loomis teaches to "[s]tart downloading the second song S_2 immediately after the initial buffering time 210 is over at the time t1. This step is called pre-buffering or pre-caching. The application is configured to download only the first few seconds of S_2. In the preferred embodiment, the application is configured to download the first ten seconds."

Pet. 26–27 (first alteration added) (quoting Ex. 1004, 5:51–56). Petitioner also quotes the following from Loomis:

[a]fter download[ing] the first ten seconds of the second song, start downloading the first ten seconds of the third song. The similar pre-buffering step goes so on and so forth. In the preferred embodiment, the application is configured to download and pre-buffer the first ten seconds of five songs subsequent to the current song which is being played.

Id. at 27 (first alteration in original) (quoting Ex. 1004, 5:56–62).

Patent Owner raises several arguments in response to Petitioner's contentions. Prelim. Resp. 16–18. First, Patent Owner asserts that Petitioner "quotes various statements of Loomis without explanation or analysis, which merely state that 'the first ten seconds' of each song is

downloaded one after another.” *Id.* at 16. Patent Owner contends that “[a]s explained above with respect to ‘determining advance acquisition amounts,’ the first ten seconds of each song is a pre-set amount and is not ‘determined.’ Accordingly, Loomis does not acquire ‘determined advance acquisition amounts.’” *Id.*

This argument by Patent Owner relies on Patent Owner’s argument directed to limitation [6.2.2], which we discussed above. For the same reasons expressed in our consideration of limitation [6.2.2], we do not agree with Patent Owner’s application of that argument to limitation [6.3]. Additionally, limitation [6.3] is straightforward. It recites acquiring a part of the plurality of contents in advance based on the amounts determined in limitation [6.2.2]. Petitioner’s quotations from Loomis are specifically directed to showing how Loomis teaches limitation [6.3] by sequentially acquiring the first ten seconds of the next five songs in a user’s playlist. In other words, the application of Loomis to limitation [6.3] is also straightforward and no further explanation is required to understand how Petitioner maps Loomis to the subject matter of limitation [6.3].

Second, Patent Owner contends that “[t]he ’244 Patent teaches away from acquiring equal advance acquisition amounts, such as the 10 second amounts disclosed in Loomis.” Prelim. Resp. 16. Patent Owner points to the following from the ’244 patent:

In a conventional technology, an amount of partial data acquired in advance with respect to each music piece data to be received ***is set to be equal*** to an amount of other partial data acquired in advance over all music piece data to be received.
Therefore, user convenience has not been always good.

Id. at 16–17 (quoting Ex. 1001, 1:39–43). Patent Owner states that “[t]he invention of the ’244 Patent avoids the equal acquisition amounts of Loomis

by ‘increase[ing] [sic] an advance acquisition amount in a content with a higher possibility of being reproduced next to currently reproducing content’ which ‘enhances user convenience.’” *Id.* at 17 (first two alterations in original) (quoting Ex. 1001, 1:50–53, 2:24–27). Patent Owner asserts that Loomis acquires ten seconds of the next five songs regardless of order and therefore fails to satisfy limitation [6.3]. *Id.* at 17–18 (citing Ex. 1004, Fig. 3A).

We disagree with Patent Owner’s argument. Initially, Patent Owner misapplies the concept of teaching away in this instance. Teaching away is an argument that may be raised in response to an obviousness challenge where one argues that a given prior art reference (not the challenged patent itself) would have led one of ordinary skill in the art away from the path taken by the inventor of the challenged patent. *See, e.g., Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed.” (quoting *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009)); *see also Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (same).

Rather than teaching away, what Patent Owner appears to argue is that the “advance acquisition amounts” of limitation [6.3] should be *construed* as requiring *different* acquisition amounts, such that Loomis’s acquisition of

ten seconds for each of the next five songs in a playlist would not satisfy the claim language. On this point, we offer the following. First, this is an issue of claim construction, even though Patent Owner represents that “claim construction is not required to resolve any issues” at this stage of the proceeding. Prelim. Resp. 13. To the extent Patent Owner seeks to construe “advance acquisition amounts” to require something that excludes Loomis’s advance acquisition amounts of ten seconds for the next five songs, Patent Owner should set forth that construction clearly in its Patent Owner Response with a proper and complete claim construction analysis to demonstrate why one of ordinary skill in the art would have understood the phrase to be construed in that manner.

Second, the ’244 patent’s statement regarding conventional technology describes, as the conventional approach, a situation where “an amount of partial data acquired in advance with respect to each music piece data to be received is set to be equal to an amount of other partial data acquired in advance over *all* music piece data to be received.” Ex. 1001, 1:39–42 (emphasis added). Thus, this statement considers the conventional approach as acquiring the *same* amount of partial data in advance for *all* music piece data to be received; in other words, for each song in a playlist. As discussed above, Loomis’s process of acquiring and pre-caching the first ten seconds of the next five songs on a playlist is limited to the next five songs as opposed to acquiring the first ten seconds of every song on a playlist (i.e., “*all* music piece data to be received” (emphasis added)). Thus, at this stage of the proceeding and on this record, even if we were to somehow construe limitation [6.3] to avoid what is described as

conventional technology in the background section of the '244 patent, it appears that Loomis still teaches limitation [6.3].¹¹

On the present record at this stage of the proceeding, we find Petitioner's evidence and argument sufficient to establish that Loomis teaches limitation [6.3] for the reasons explained by Petitioner and as discussed above.

vi. *Limitation [6.4]*

Limitation [6.4] recites “redetermining advance acquisition amounts in the plurality of contents so as to increase the advance acquisition amounts in the plurality of contents after acquiring the part of the plurality of contents in advance based on the determined advance acquisition amounts.”

Ex. 1001, 14:14–18. Petitioner contends that, “[i]n the combination, Hodge teaches that after initial portions of media data for N sequentially adjacent media items are loaded into the cache memory, ‘**remaining portions** of media data for a subset of the N sequentially adjacent media items can also be loaded 510 into the cache memory.’” Pet. 27 (citing Ex. 1005 ¶ 54). Petitioner points to Hodge's Figure 7B, noting that it “shows a first phase of media storage to the cache memory, wherein the identified songs to be stored in the cache memory each have their initial portions stored in the cache memory.” *Id.* (citing Ex. 1005 ¶ 60; Ex. 1003 ¶ 80). Petitioner then turns to Hodge's Figure 7A, asserting that it shows that, “[a]fter the first stage of media data storage is complete, the final stage of media data storage

¹¹ As noted above, because the parties have not proposed any claim terms for construction, no claim construction analysis has been presented in the record before us and we offer these thoughts only on the preliminary record developed thus far. The thoughts expressed above are not and should not be considered a ruling, even a preliminary ruling, on claim construction.

can be performed to result in the cache memory storing media data.” *Id.* (citing Ex. 1005 ¶ 60). Petitioner annotated Figure 7A from Hodge as shown below.

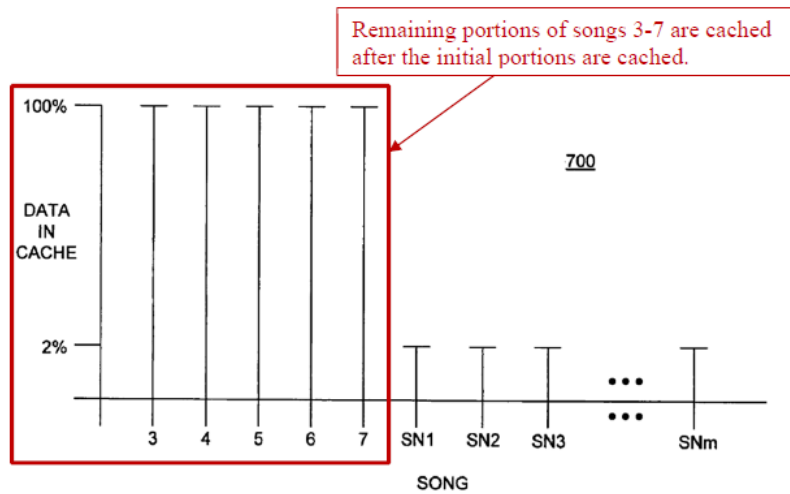


FIG. 7A

Id. Hodge’s Figure 7A “illustrates a representative graph pertaining to data storage in a cache memory according to one embodiment” described. Ex. 1005 ¶ 25. Petitioner annotated Figure 7A to place a red box around part of the graph, showing that 100% of the data for songs 2–7 was cached, which Petitioner labels as “[r]emaining portions of songs 3–7 are cached after the initial portions are cached.” Pet. 28.

Petitioner contends that one of ordinary skill in the art “would have understood or at least found it obvious that Hodge redetermines the amount of each song (*e.g.*, songs 3-7) to be stored in cache after storing the initial portions of each song during the first phase of media storage into cache memory.” Pet. 28 (citing Ex. 1003 ¶ 81; Ex. 1005, Fig. 7A, ¶¶ 54, 60). Petitioner asserts that, “[f]or example, to the extent that ‘the size of the snippets can be controlled or adaptable,’ a [person of ordinary skill in the art] would have recognized that the remaining amount of each song to be

cached in its entirety would have been redetermined so that the songs could be fully cached during the final stage of media data storage.” *Id.* (citing Ex. 1003 ¶ 82; Ex. 1005 ¶ 59). Petitioner points again to Hodge’s Figure 7A, noting that Figure 7A “shows that the amount of media data that gets stored in cache increases from 2% (for example) to 100%.” *Id.* at 29 (citing Ex. 1005, Figs. 7A–B; Ex. 1003 ¶ 83). Petitioner relies on its arguments directed to motivation to combine (discussed further below) to assert that it would have been obvious to one of ordinary skill in the art “to modify Loomis to redetermine the advance acquisition amounts to increase the amount of each track stored in cache, like Hodge.” *Id.* (citing Pet. § IV.A.4; Ex. 1003 ¶ 84).

Petitioner also presents an “[a]dditional[] or alternative[]” argument based on Loomis. Pet. 29. Petitioner asserts that, “in Loomis, when a ‘next song’ in the playlist starts to play, the first portion (*e.g.*, the first ten seconds) of that song is reproduced.” *Id.* (citing Ex. 1004, 7:59–65). Petitioner asserts that “Loomis also describes that, in such a case, the rest of the song is downloaded ‘beginning from the ten seconds mark.’” *Id.* (citing Ex. 1004, 7:66–67). According to Petitioner, “Loomis thus ‘redetermines’ the amount of the song to download (*i.e.*, from the ‘ten seconds mark’ forward).” *Id.* (citing Ex. 1004, 7:66–67; Ex. 1003 ¶ 85).

Patent Owner contends that “Hodge does not disclose the claimed ‘redetermining’ and that the ‘circuitry redetermines’ advance acquisition amounts.” Prelim. Resp. 19. Patent Owner explains that Hodge “caches the plurality of contents in two predetermined phases.” *Id.* Patent Owner states that Hodge’s “Phase 1 is to cache 2% of the next N songs . . . [and] [i]n phase 2, Hodge continues caching the remaining portions of the first 5 songs

(songs 3–7) until fully cached, and does not change the acquisition amounts of songs thereafter (SN1-SNm).” Patent Owner annotated Figures 7A and 7B as shown below, starting with Figure 7B (phase 1) following by Figure 7A (phase 2).

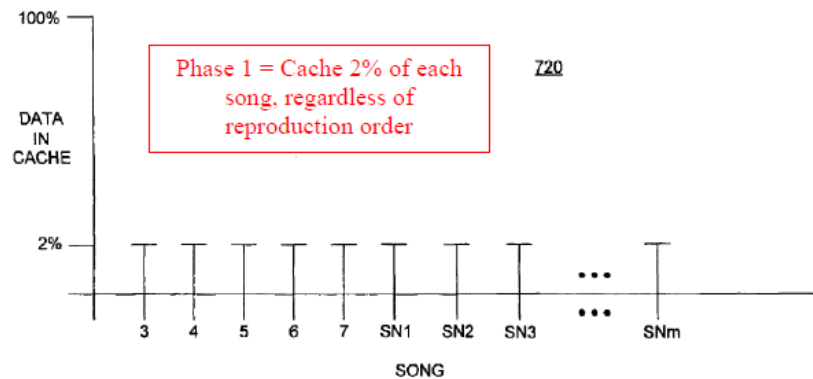


FIG. 7B

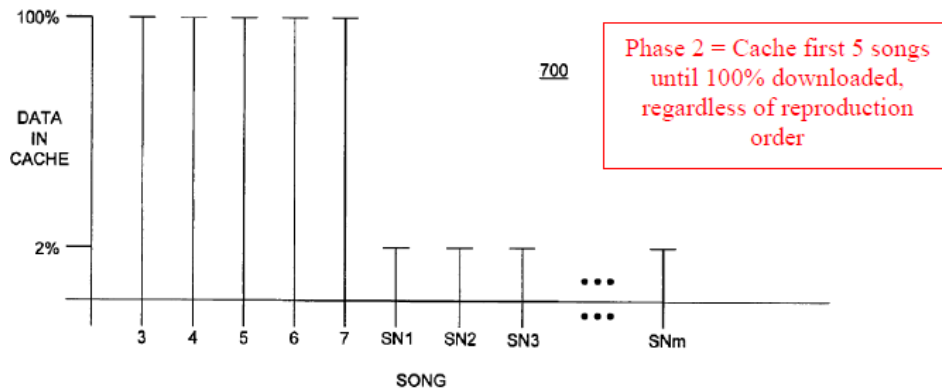


FIG. 7A

Prelim. Resp. 20. Hodge’s Figures 7A and 7B illustrate representative graphs pertaining to data storage in a cache memory in accordance with different embodiments described. Ex. 1005 ¶¶ 25–26. Patent Owner annotated Figure 7B to add the following statement: “Phase 1 = Cache 2% of each song, regardless of reproduction order” and annotated Figure 7A to add: “Phase 2 = Cache first 5 songs until 100% downloaded, regardless of reproduction order.” Prelim. Resp. 20.

Patent Owner contends that, “[a]s shown in the figures, in the second and final phase, Hodge does not ‘redetermine’ any advance acquisition amounts as [Petitioner] asserts, but rather it continues downloading the first five songs until the entire song is downloaded.” Prelim. Resp. 21 (footnote omitted) (citing Ex. 1005 ¶¶ 54, 60). Patent Owner asserts that “[t]he amount is not determined based on order (or any other factor), as the amounts are all the same (100%), regardless of order. None of the subsequent songs denoted by SN1 through SNm are redetermined or cached in the second and final phase, as they simply maintain their 2% data cache.” *Id.* (citing Ex. 1005 ¶¶ 54, 60). And, Patent Owner reiterates its argument from limitation [6.3] that “the ’244 Patent teaches away from acquiring equal amounts of subsequent songs, as disclosed in Hodge.” *Id.*

Additionally, Patent Owner challenges Petitioner’s reliance on Loomis, contending that “Loomis also does not redetermine amounts of the plurality of contents. Similar to Hodge, Loomis merely downloads the song selected for playback. Loomis does not teach redetermining acquisition amounts in the plurality of contents after the currently reproduced song.” Prelim. Resp. 21 (citing Ex. 1004, 2:10–11).

We find Petitioner’s argument regarding Hodge supported sufficiently on the present record before us. In particular, Hodge teaches that the size of the “snippets” (i.e., the initial portions of the songs cached in the first phase) “can vary with implementation” and “the size of the snippets can be controlled or adaptable.” Ex. 1005 ¶ 59. “For example, a user selection (e.g., user preference) could influence the size of the snippets. As another example, the size of the snippets can also adapt to user behavior.” *Id.* Although Hodge does not explicitly describe how it performs each detail of

the second stage, Hodge states that “[a]fter the first stage of media data storage is complete, the final stage of media data storage can be performed to result in the cache memory storing media data as illustrated in the representative graph 720 in FIG. 7A.” *Id.* ¶ 60. Petitioner’s argument that one of ordinary skill in the art would have recognized that Hodge redetermines remaining amounts of each song to be cached in the second phase is supported sufficiently because Hodge can vary the size of the snippets. In other words, Petitioner’s argument is persuasive at this stage of the proceeding because it demonstrates that one of ordinary skill in the art would have understood that in order to cache the remaining amounts of each song, Hodge needs to determine how much of each song has not yet been cached in the first phase so that it can cache the remaining amounts in the second phase.

Additionally, Petitioner’s argument is supported by Mr. Lett’s testimony, which is fully set forth in the discussion in the Petition on this issue. Mr. Lett’s testimony also provides, even if minimal, the basis for his opinion—that “the size of the snippets can be controlled or adaptable.”¹²

¹² Patent Owner contends that the Petition and Mr. Lett’s Declaration are substantively identical and that Mr. Lett “does not provide any independent analysis aside from copying the attorney arguments in the Petition and does not disclose the underlying facts or data upon which his opinions are based,” and, therefore, “his opinion should be entitled to no weight.” Prelim. Resp. 34–35. First, Mr. Lett’s Declaration constitutes evidence cited to and relied on in the Petition. Thus, to the extent there is repetition, it is more reasonable to infer that the Petition repeats Mr. Lett’s testimony (not the other way around). Second, that a petition repeats the analysis of an expert declarant is not a reason, in and of itself, to give that expert’s opinion little to no weight. Rather, the critical inquiries are whether the declaration testimony “is conclusory and unsupported” and whether it “disclose[s] the

See Pet. 27; Ex. 1003 ¶ 82. On the present record, Petitioner’s argument and Mr. Lett’s testimony are sufficient to show that the teachings of Hodge, relied on by Petitioner in the proposed combination, satisfy limitation [6.4].¹³

vii. *Limitation [6.5]*

Limitation [6.5] recites “sequentially acquiring another part of the plurality of contents in advance based on the redetermined advance acquisition amounts.” Ex. 1001, 14:19–21. In addressing limitation [6.5], Petitioner first asserts that Loomis satisfies the claim language, but also proposes an “additional” or “alternative” argument relying on Hodges. Pet. 29–31. Regarding Loomis, Petitioner contends that, “Loomis describes ‘download[ing] and pre-buffer[ing] the first X seconds of each of the next X [] songs consecutively.’” *Id.* at 29 (alterations in original) (citing Ex. 1004, Fig. 3B (301), 5:52–67). Petitioner asserts that “Loomis teaches to ‘download, consecutively, a first small portion (*e.g.* ten seconds) of each of a number of songs which are, in the pre-determined sequence (*i.e.* playlist), subsequent to the song which is currently playing.’” *Id.* at 29–30 (citing

underlying facts or data on which the opinion is based.” *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential) (quoting 37 C.F.R. § 42.65(a)). Additionally, a similar important inquiry is whether the declaration testimony supports the arguments made in the Petition. If these conditions are satisfied, we do not give little to no weight to declaration testimony simply because it is repeated in a petition, just as we do not give little to no weight to teachings of the prior art that are repeated in a petition.

¹³ Since we find that Petitioner sufficiently shows that Hodge satisfies limitation [6.4], we need not also determine whether Petitioner sufficiently shows that Loomis does as well. See Pet. 29 (raising an “additional” or “alternative” argument regarding Loomis).

Ex. 1004, 7:55–59). Petitioner contends that “when a ‘next song’ in the playlist starts to play, the first portion (*e.g.*, the first ten seconds) of that song is reproduced” and, when that happens, “the rest of the song is downloaded ‘beginning from the ten seconds mark[.]’” *Id.* at 30 (alteration in original) (citing Ex. 1004, 7:59–65, 7:66–67). Petitioner therefore asserts that “Loomis thus ‘redetermines’ the amount of the song to download (*i.e.*, from the ‘ten seconds mark’ forward).” *Id.* (citing Ex. 1004, 7:66–67; Ex. 1003 ¶ 86).

Patent Owner contests Petitioner’s reliance on Loomis for limitation [6.5], asserting that “downloading the remainder of the playing song cannot satisfy the limitation because the currently playing song is not ‘a *plurality* of contents to be reproduced *after* the content being reproduced.’” Rather, it *is* the content being reproduced.” Prelim. Resp. 22 (citing Ex. 1001, 13:13–15, 14:9–10, 14:29–30). Additionally, Patent Owner contends that “[d]ownloading the remainder of the currently playing song is also not based on redetermined advance acquisition amounts, which refers to amounts for contents to be reproduced *after* the currently playing song.” *Id.* (citations omitted).

On this alternative based on Loomis, we agree with Patent Owner. Claim 6 recites, *inter alia*, “a plurality of contents to be reproduced *after* the content being reproduced” (limitation [6.2.2]); claim 6 then refers back to *the* plurality of contents in the redetermining step of limitation [6.4] (in *the* plurality of contents); and claim 6 similarly refers to *the* plurality of contents in limitation [6.5]. In Petitioner’s discussion of limitation [6.2.2], Petitioner relies on the songs to be downloaded *after* the currently playing song as teaching a plurality of contents to be reproduced after the content being

reproduced. See Pet. 24–26 (stating that, after the target song has started playing, Loomis starts to download “second song S_2” and relying on downloading ten seconds of the next five songs (2–6) to satisfy limitation [6.2.2]). Thus, Petitioner cannot now, in the context of limitation [6.5], change the identification of the “plurality of contents to be reproduced after the content being reproduced” to the remainder of the song currently playing.

Petitioner “[a]dditionally or alternatively,” relies on Hodge as satisfying limitation [6.5]. Pet. 30–31. Petitioner contends that “Hodge describes that ‘initial portions of media data for N **sequentially adjacent** media items can be loaded 508 into the cache memory’” and that “the ‘remaining portions of media data for a subset of the N **sequentially adjacent** media items can also be loaded 510 into the cache memory.’” *Id.* at 30 (citing Ex. 1005 ¶ 54). Petitioner also notes that Hodge teaches “that ‘the sequentially adjacent media items are subsequent to the selected media and in a sequential list,’” and Petitioner points to Figure 5 of Hodge as illustrating this operation. *Id.* (citing Ex. 1005 ¶ 57, Fig. 5).

Petitioner annotated Hodge's Figure 5 as shown below.

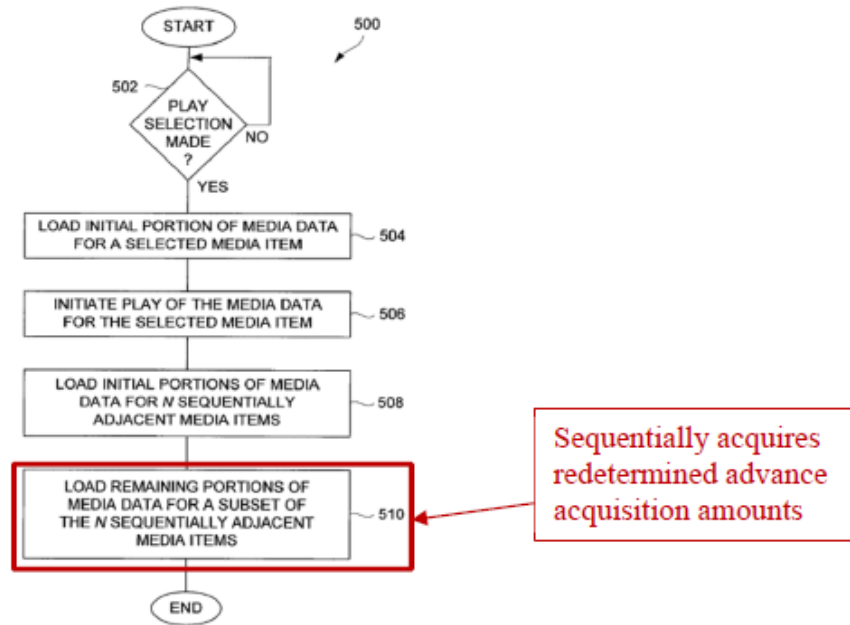


FIG. 5

Pet. 31. Figure 5 “is a flow diagram of a cache loading process.” Ex. 1005 ¶ 23. Petitioner annotated Figure 5 to include a box around step 510 (load remaining portions of media data for a subset of the *N* sequentially adjacent media items) and refers to that step as “[s]equentially acquires redetermined advance acquisition amounts.” Pet. 31.

Additionally, Petitioner contends that it would have been obvious to one of ordinary skill in the art “to modify Loomis to redetermine the advance acquisition amounts to increase the amount of each track stored in cache, based on the teachings of Hodge.” Pet. 31 (citing Pet. § IV.A.4; Ex. 1003 ¶ 88).

In response to Petitioner’s reliance on Hodge, Patent Owner first asserts that “Hodge does not acquire ‘part of the plurality of contents’ based on redetermined advance acquisition amounts” as asserted by Petitioner; “[r]ather, Hodge merely loads the remainder of the subsequent songs.”

Prelim. Resp. 23 (citing Pet. 30–31; Ex. 1005 ¶ 54). Patent Owner states, “[t]hus, [Hodge] does not acquire a part of the contents, but instead acquires the entirety of the contents.” *Id.* Second, Patent Owner contends that, “[a]s stated above, the ’244 Patent teaches away from acquiring equal amounts of data for each song. Thus, acquiring 100% of each song is not based on redetermined advance acquisition amounts, which are not equal amounts.” *Id.*

We disagree with Patent Owner. Patent Owner’s first argument is based, in part, on Patent Owner’s position set forth in regard to limitation [6.4] and whether Hodge redetermines advance acquisition amounts. We have addressed this issue above. Additionally, we disagree with Patent Owner that the remainder of a song is not a “part” of the song. In the combination, Loomis is relied on as acquiring the first ten seconds of a song (subsequent to the song being played in a playlist) and Hodge is relied on as acquiring the remainder of that song. The remainder of the song is a “part” of the complete song. For example, if a song is three minutes in length and the first ten seconds are acquired initially, acquiring the remainder of the song (two minutes and fifty seconds), in accordance with Hodge, acquires a part of the song because the remaining 2 minutes and 50 seconds is a part of the entire three-minute song. Patent Owner’s second argument again asserts “teach[ing] away” instead of performing a claim construction analysis for whatever term Patent Owner contends is limited in the manner alleged. As discussed above, if Patent Owner seeks to construe limitation [6.5] in a particular manner, Patent Owner should present that argument in detail in its Patent Owner Response.

On the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that Hodge teaches limitation [6.5] for the reasons explained by Petitioner and as discussed above.

viii. Limitation [6.6]

Limitation [6.6] recites “reproducing the acquired contents.” Ex. 1001, 14:22. Petitioner contends that, “[i]n the combination, Loomis describes that the ‘sequence of songs’ (*i.e.*, the acquired contents) ‘is **played**’ (*i.e.*, reproduced) ‘in a continuous manner.’” Pet. 31–32 (citing Ex. 1004, 5:13–14, Fig. 3B; Ex. 1005 ¶¶ 65–66, Fig. 8; Ex. 1003 ¶ 90). Thus, Petitioner asserts that “the combination of Loomis and Hodge renders this limitation obvious.” *Id.* at 32.

In the Preliminary Response, Patent Owner does not challenge Petitioner’s arguments directed to limitation [6.6] of claim 6. *See generally* Prelim. Resp.

On the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that Loomis teaches limitation [6.6] for the reasons provided by Petitioner.

b. Claims 1 and 7

As noted above, independent claims 1 and 7 recite substantially the same subject matter as independent claim 6 although claim 1 is directed to “[a] content reproduction apparatus” and claim 7 is directed to “[a] computer-readable recording medium having a content reproduction program recorded thereon.” Ex. 1001, 13:7 (claim 1), 14:22–23 (claim 7). Petitioner relies primarily on the same arguments raised in its challenge to claim 6 when addressing claims 1 and 7. *See* Pet. 32–33 (claim 1), 36–37

(claim 7). Petitioner also includes discussion and analysis of any differences between the claims. *See id.* at 32–33 (addressing limitation [1.0]), 36 (addressing limitation [7.P]).

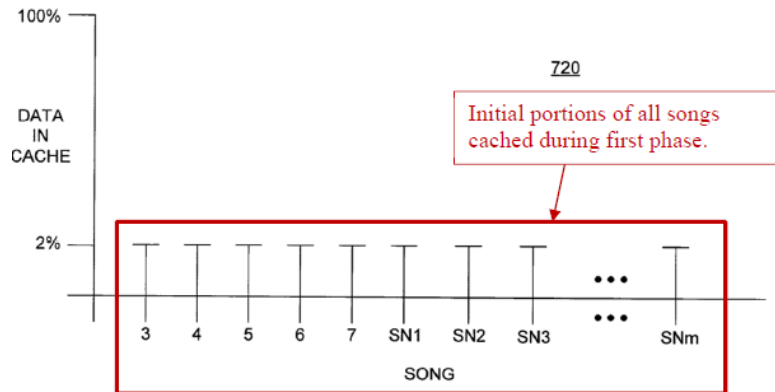
Patent Owner argues claims 1, 6, and 7 as a group, where its arguments are applicable to each independent claim, and Patent Owner does not raise additional argument not already addressed in the context of our consideration of claim 6. *See, e.g.*, Prelim. Resp. 14 (pointing to claims 1, 6, and 7), 16 (same), 19 (same), 22 (same). Thus, our consideration of the parties’ arguments in the context of claim 6 also addresses the parties’ arguments in the context of claims 1 and 7.

Accordingly, on the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that the combination of Loomis and Hodge teaches the subject matter of claims 1 and 7 for the reasons provided by Petitioner and as explained in our discussion of claim 6 above.

c. Claim 2

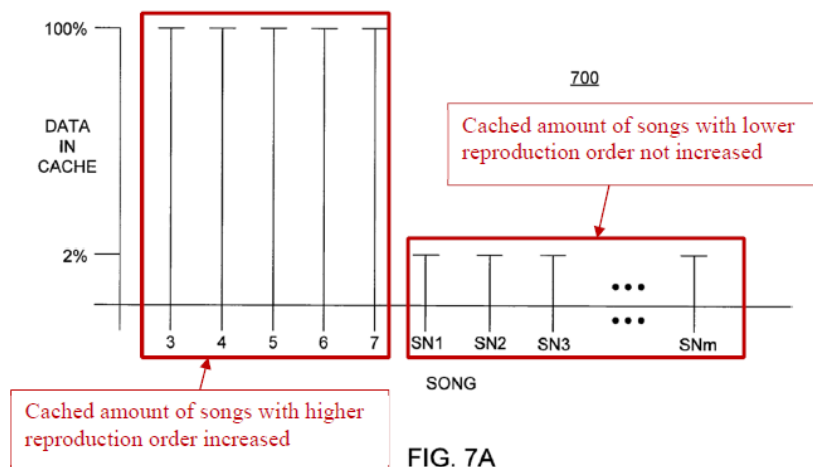
Claim 2 recites “[t]he content reproduction apparatus according to claim 1, wherein the circuitry determines an advance acquisition amount so as to increase the advance acquisition amount in a content, which has a higher reproduction order, of the plurality of contents.” Ex. 1001, 13:27–31. Petitioner contends that Hodge teaches this limitation. Pet. 33–35. Petitioner asserts that “as shown in FIG. 7B, during the first phase of media data storage to the cache memory, ‘the identified songs to be stored in the cache memory each have their initial portions stored in the cache memory.’” *Id.* at 33 (citing Ex. 1005 ¶ 60).

Petitioner annotates Hodge’s Figure 7B as shown below.



Pet. 34. Petitioner annotated Figure 7B with a red box around the graph and identifies the cached 2% of each song from song 3 to song SNm as “[i]nitial portions of all songs cached during first phase.” *Id.*

Additionally, Petitioner asserts that, “in the final stage of media data storage shown in FIG. 7A, ‘songs 3 through 7 are fully stored within the cache memory, wherein as subsequent songs, denoted snippets SN1 through SNm, are only partially stored (*e.g.*, 2%) in the cache memory.[’]” Pet. 34. Petitioner annotates Hodge’s Figure 7A as shown below.



Id. at 35. Petitioner annotated Figure 7A with one box around the graph of songs 3–7, identified as “[c]ached amount of songs with higher reproduction

order increased,” and a second box around the graph of songs SN1–SNm, identified as “[c]ached amount of songs with lower reproduction order not increased.” *Id.*

Patent Owner contends that Hodge does not render this limitation obvious. Prelim. Resp. 23–24. In particular, Patent Owner asserts that Hodge’s first phase “does not meet this limitation, as it requires increased amounts for content with higher reproduction order, and Hodge discloses only equal amounts.” *Id.* at 24. Additionally, Patent Owner contends that Petitioner cannot rely on the second phase of Hodge because Petitioner contends that the second phase of Hodge “is the ‘redetermines’ element, not the ‘determines’ element as claimed in Claim 2.” *Id.* (citing Pet. 33; Ex. 1005 ¶ 60). Patent Owner notes that Petitioner “asserts that phase two of Hodge, where the remaining portions of the first five songs are cached, is the ‘redetermines’ element.” *Id.* (citing Pet. 28).

As noted above, claim 2 depends from claim 1. Similar to limitation [6.2.2], claim 1 recites “circuitry that” “determines advance acquisition amounts in a plurality of contents to be reproduced after the content being reproduced according to a reproduction order.” Ex. 1001, 13:8, 13:13–15; *see* Pet. iv (referring to this clause of claim 1 as limitation [1.3]). Similar to limitation [6.4], claim 1 also recites “wherein after acquiring the part of the plurality of contents in advance based on the determined advance acquisition amounts, the circuitry redetermines advance acquisition amounts in the plurality of contents so as to increase the advance acquisition amounts in the plurality of contents.” Ex. 1001, 13:19–23; *see* Pet. iv (referring to this clause of claim 1 as limitation [1.5.1]). Adding the language of claim 2 results in the additional requirement that “the circuitry

determines an advance acquisition amount so as to increase the advance acquisition amount in a content, which has a higher reproduction order, of the plurality of contents.” Ex. 1001, 13:28–31.

In response to Patent Owner’s arguments, we first note that it does not appear that Petitioner relies on Hodge’s first phase as satisfying claim 2; rather, Petitioner identifies Figure 7A (second phase) as showing “[c]ached amount of songs with higher reproduction order increased.” Pet. 35 (annotated Ex. 1005, Fig. 7A). Second, at this stage of the proceeding, we see no reason why Hodge’s second phase could not teach both the “redetermining” clause of claim 1 *and* the language recited by claim 2. In particular, in Petitioner’s combination, Hodge teaches the redetermining step via its second phase where songs 3–7 are cached in full. As Petitioner contends, Hodge’s second phase appears to teach circuitry that determines an advance acquisition amount so as to increase the advance acquisition amount in a content that has a higher production order because songs 3–7 have a higher reproduction order than songs SN1–SNm, for which the pre-cached amount is not changed in Hodge’s second phase. See Pet. 34–35 (explaining the same).

Additionally, claim 2 recites, “to increase the advance acquisition amount in *a* content, which has a higher reproduction order, of the plurality of contents.” Ex. 1001, 13:29–31 (emphasis added). It is not immediately clear from the claim language that claim 2 modifies claim 1’s “determines” clause (limitation [1.3]) because claim 1 recites “determines advance acquisition amounts *in a plurality of contents*” whereas claim 2 “increase[s] the advance acquisition amount *in a content . . .* of the plurality of contents.” Compare Ex. 1001, 13:13–15 (claim 1), with *id.* at 13:29–31 (claim 2).

Thus, claim 2’s “determines” applies to “a content” whereas claim 1’s “determines” applies to “a plurality of contents.”¹⁴ This difference also supports our understanding, as set forth above, that Hodge’s second phase can teach claim 1’s “redetermines” clause *as well as* the subject matter of claim 2.

Accordingly, on the present record at this stage of the proceeding, we find Petitioner’s evidence and argument sufficient to establish that the combination of Loomis and Hodge teaches the subject matter of claim 2 for the reasons provided by Petitioner and as explained in our discussion above.

d. Claim 3

Claim 3 recites the content reproduction apparatus of claim 1, “wherein the circuitry determines an advance acquisition amount in a content to be reproduced after the plurality of contents according to a reproduction order, and acquires in advance a part of the content to be reproduced after the plurality of contents based on the determined advance acquisition amount.” Ex. 1001, 13:32–38. In addressing claim 3, Petitioner includes only a cross-reference to its discussion of limitations [6.2.2] and [6.3] without any discussion. See Pet. 35 (stating, for claim 3, “[s]ee Ground 1A [6.2.2], [6.3]). Patent Owner, for its part, includes a similar cross-reference in its Preliminary Response to its arguments directed to limitations [6.2.2] and [6.3], also without any discussion. See Prelim. Resp. 23 (stating “[s]ee Sec. VI.A.1, 2”).

In light of the parties’ reliance on their prior arguments and evidence, our discussion and analysis above, for limitations [6.2.2] and [6.3], appears

¹⁴ It would be helpful for the parties, in future briefing, to explain how we should understand claim 2 in this particular regard.

to apply to our consideration of Petitioner’s challenge to claim 3.

Nonetheless, we observe that claim 3 is directed to content to be reproduced *after* the plurality of contents and so it appears to apply to songs further down a playlist as compared to the plurality of contents that are the focus of claims 1 and 6. Thus, some additional clarification may be needed as to how the language of claim 3 is met by the combination of Loomis and Hodge. At this stage of the proceeding, however, we need not make an express finding as to claim 3 because the information presented in the Petition shows that there is a reasonable likelihood that Petitioner will prevail with respect to its challenge to claim 6 based on Loomis and Hodge. *See* 35 U.S.C. § 314(a); *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“Section 314(a) does not require the Director to evaluate every claim individually. Instead, it simply requires him to decide whether the petitioner is likely to succeed on ‘at least 1’ claim. Once that single claim threshold is satisfied, it doesn’t matter whether the petitioner is likely to prevail on any additional claims; the Director need not even consider any other claim before instituting review.”); 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (interpreting the relevant statutory provisions, in light of *SAS*, to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

e. Claims 4 and 5

Claim 4 recites the apparatus of claim 1 “wherein the circuitry corrects the advance acquisition amounts in the plurality of contents

according to evaluation results that evaluate user's preference to the contents" (Ex. 1001, 13:39–42), and claim 5 recites the apparatus of claim 4 "wherein the circuitry corrects the advance acquisition amounts in the plurality of contents so as to increase the advance acquisition amount in the content having the higher evaluation result" (*id.* at 13:43–14:3). Petitioner relies on the same argument to address claims 4 and 5. Pet. 35–36 (cross-referencing Petitioner's argument for claim 4 in the discussion of claim 5). Specifically, Petitioner contends that "Hodges teaches, that '**the size of the snippets**' (*i.e.*, the advance acquisition amounts, *see* [6.2.2], *supra*) '**can be controlled or adaptable**.'" *Id.* at 35 (citing Ex. 1005 ¶ 59; Ex. 1003 ¶ 103). And, Petitioner points to Hodges' teaching "that 'the size of the snippets can . . . adapt to user behavior.'" *Id.* (citing Ex. 1005 ¶ 59).

In the Preliminary Response, Patent Owner does not challenge Petitioner's arguments directed to claims 4 or 5 aside from the arguments raised in response to Petitioner's challenge to independent claim 1, from which claims 4 and 5 depend. *See generally* Prelim. Resp.

On the present record at this stage of the proceeding, we find Petitioner's evidence and argument sufficient to establish that the combination of Loomis and Hodges teaches the subject matter of claims 4 and 5 for the reasons provided by Petitioner

*f. Motivation to Combine and
Reasonable Expectation of Success*

Petitioner contends that one of ordinary skill in the art would have been motivated "to modify Loomis to include an additional amount of some of the next consecutive tracks from the playlist to further support skip operations for uninterrupted playback of consecutive adjacent tracks in the

playlist (for example, in the event that the data stream is interrupted).”
Pet. 18 (citing Ex. 1003 ¶ 61). Petitioner provides an extensive discussion of motivation to combine and why one of ordinary skill in the art would have had a reasonable expectation of success in combining the teachings of Loomis and Hodge. *See id.* at 18–21. At this stage of the proceeding, Patent Owner does not challenge Petitioner’s discussion as to motivation and reasonable expectation of success. *See generally* Prelim. Resp. We have reviewed Petitioner’s argument and we find, on the present record, that it is supported by sufficient evidence.

4. *Objective Indicia of Nonobviousness*

Neither Petitioner nor Patent Owner directs us to any objective indicia of nonobviousness.

5. *Weighing the Graham Factors*

“Once all relevant facts are found, the ultimate legal determination [of obviousness] involves the weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan.” *Arctic Cat*, 876 F.3d at 1361. On balance, considering the record presently before us, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that the combination of Loomis and Hodge would have rendered the subject matter of at least claims 1, 2, and 4–7 of the ’244 patent obvious to one of ordinary skill in the art at the time of the invention.¹⁵

¹⁵ As noted above, we have not made a determination at this stage regarding claim 3.

C. *Ground 1B: Obviousness over Loomis and Harris;*
Ground 2: Obviousness over Parekh and Harris

Petitioner contends that (a) the combination of Loomis and Harris would have rendered the subject matter of claims 1–3, 6, and 7 obvious and (b) the combination of Parekh and Harris would have rendered the subject matter of claims 1, 3, 6, and 7 obvious to one of ordinary skill in the art at the time of the invention. Pet. 1, 37–74. Patent Owner contests several of Petitioner’s assertions. See Prelim. Resp. 25–34. Because we have determined above that, at this stage of the proceeding and on the present record, the information presented in the Petition and Preliminary Response shows that there is a reasonable likelihood that Petitioner will prevail with respect to its challenge to at least one claim based on Loomis and Hodge, we need not address, in this Decision, Petitioner’s additional challenges and Patent Owner’s preliminary arguments. See 35 U.S.C. § 314(a); *SAS Inst.*, 138 S. Ct. at 1356 (“Section 314(a) does not require the Director to evaluate every claim individually. Instead, it simply requires him to decide whether the petitioner is likely to succeed on ‘at least 1’ claim. Once that single claim threshold is satisfied, it doesn’t matter whether the petitioner is likely to prevail on any additional claims; the Director need not even consider any other claim before instituting review.”); 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–60 (Fed. Cir. 2018) (interpreting the relevant statutory provisions, in light of *SAS*, to require “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

IV. CONCLUSION

For the foregoing reasons, Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the '244 patent is unpatentable. Our analysis is based on the preliminary record developed thus far and may change after the record is developed fully, during trial.

V. ORDER

Accordingly, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is instituted as to claims 1–7 of the '244 patent on each of the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '244 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

IPR2022-01547
Patent 9,313,244 B2

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