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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK L.L.C. AND DISH TECHNOLOGIES L.L.C.,
Petitioner,

v.

DIGITAL BROADCASTING SOLUTIONS, LLC,
Patent Owner.

IPR2023-00976
Patent 8,929,710 B2

Before ST. JOHN COURTENAY, III, SHEILA F. MCSHANE, and JOHN D. HAMANN, *Administrative Patent Judges*.

MCSHANE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background

DISH Network L.L.C. and DISH Technologies L.L.C. (collectively, "Petitioner") filed a Petition for *inter partes* review of claims 1–19 of U.S. Patent No. 8,929,710 B2 (Ex. 1001, "the '710 patent"), along with the Declaration of Dr. Kevin Jeffay. Paper 2 ("Pet."); Ex. 1002. Digital Broadcasting Solutions, LLC ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

On December 11, 2023, the Board instituted an *inter partes* review of the challenged claims pursuant to 35 U.S.C. § 314. Paper 8 ("Dec.").

After institution, Patent Owner filed a Patent Owner Response (Paper 11, "PO Resp."), along with the Declaration of Dr. Immanuel Freedman (Ex. 2006). Petitioner filed a Reply (Paper 14, "Pet. Reply"), along with the Reply Declaration of Dr. Jeffay (Ex. 1014). Patent Owner filed a Sur-reply (Paper 15, "PO Sur-reply"). The parties presented oral arguments at a hearing on September 10, 2024, and a transcript of it has been entered into the record (Paper 22, "Tr.").

For the reasons set forth in this Final Written Decision pursuant to 35 U.S.C. § 318(a), we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–16, 18, and 19 of the '710 patent are unpatentable but has not demonstrated, by a preponderance of the evidence, that claim 17 is unpatentable.

B. Real Party in Interest

DISH Network L.L.C. identifies itself as the real party in interest. Pet. 5. Petitioner states that DISH Network L.L.C. "is directly or indirectly owned" by DISH Network Corporation. *Id*. Patent Owner Digital

Broadcasting Solutions, LLC identifies itself as the sole real party in interest. Paper 6, 1.

C. Related Matters

The parties indicate this Petition is related to the district court litigation, *Digital Broadcasting Solutions, LLC v. DISH Network, L.L.C.,* 2:22-cv-00335-JRG (E.D. Tex.). Pet. 5; Paper 6, 1.

D. The '710 Patent

The '710 patent is titled "System and Method for Time Shifting at least a Portion of a Video Program," and issued on January 6, 2015, from an application filed October 24, 2011, claiming priority to Provisional Application No. 61/408,759, filed November 1, 2010. Ex. 1001, codes (22), (45), (60).

The '710 patent states that it "relates to the storage and play back of time-shifted data," which "allows the recorded data (in its original form) to be played back at a later time." Ex. 1001, 1:16–25. This "allows the user to skip commercials, or paid advertisements, which can decrease the value of the program to the content owner, the content provider, and advertisers." *Id.* at 1:43–49.

The '710 patent identifies a need for adding data which is current to time-shifted data at the time the data is being played. Ex. 1001, 2:5–11. The '710 patent thus "provides a system and method for adding auxiliary data (e.g., advertisements, news tickers, 'crawlers,' etc.) to data that has been time-shifted." *Id.* at 2:15–18. "[A]t the time the time-shifted data is being played, the receiver may be configured to acquire auxiliary data, and insert the auxiliary data into the time-shifted data, so that both the time-shifted data and the auxiliary data are displayed to the user on the display." *Id.* at 2:39–

44. Specifically, "time-shifted data is broken down into a plurality of segments, and auxiliary data is added between the individual segments." *Id.* at 2:58–60. "By receiving the auxiliary data when (or shortly after) the time-shifted data has been played, advertisements that are played between segments can be tailored to the date and/or time the time-shifted data is played." *Id.* at 6:54–57. Figure 6, reproduced below, depicts individual segments 610, 620, and 630, and commercial breaks 640 and 650, and, more specifically, illustrates time-shifted data that includes a plurality of commercial breaks, wherein auxiliary data is played during the commercial breaks. *Id*. at 3:49–52, 7:6–9.

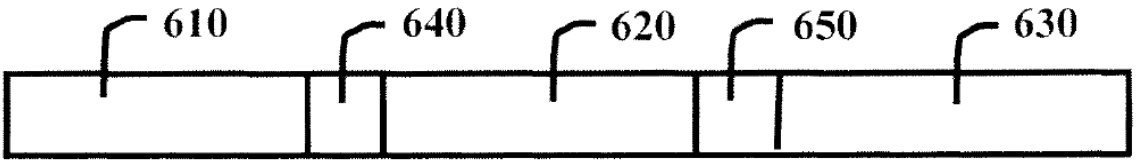

Figure 6, above, shows a stored single program that includes three segments 610, 620, and 630 and two commercial breaks 640 and 650. Ex. 1001, 7:6–9.

The '710 patent also discloses that "the receiving device could be configured to disable at least the fast forwarding feature of the DVR while commercials are being played. This would allow a user to time-shift data without being able to skip commercials." *Id.* at 7:18–25. The patent also states that in an embodiment, "the auxiliary data is removed only after its value has diminished." *Id*. at code (57).

E. Illustrative Claim

Petitioner challenges claims 1–19 of the '710 patent. Claims 1, 9, and 18 are independent claims. Claim 1, which is illustrative, is reproduced below, with bracketed letters added to limitations for reference purposes.

1[pre]. A digital video recorder ("DVR") for time shifting at least a portion of a transmitted video program, comprising:

[a] a tuner for receiving said video program as transmitted, said video program including at least first, second and third portions, wherein said second portion as transmitted is configured to follow said first portion, and said third portion as transmitted is configured to follow said second portion;

[b] a memory device for storing said video program, allowing at least a portion of said video program to be played back at a later time;

[c] a controller configured to receive commands from a user of said DVR, wherein a first command changes said DVR from a first playback state to a second playback state, and a second command initiates playback of said video program from said memory device; and

[d] at least one processor configured to (i) provide said video program in its entirety to a display device in response to receiving said second command regardless of a playback state of said DVR if said second command is received during a first period of time, (ii) provide said video program in its entirety to said display device in response to receiving said second command if said second command is received during a second period of time and said DVR is in said first playback state, and (iii) provide only a portion of said video program to said display device in response to receiving said second command if said second command is received during said second period of time and said DVR is in said second playback state, said portion of said video program including at least said first and third portions of said video program, wherein said third portion of said video program is provided to said display device immediately following said first portion of said video program if said second command is received during said second period of time and said DVR is in said second playback state;

[e] wherein said second period of time is a period of time after said first period of time.

Ex. 1001, 11:46–12:16.

F. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–19 are unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C §	Reference(s)/Basis
1–19	103(a)[1]	Casagrande,[2] Russ [3]
1–5, 7–13, 16–19	102[4]	Dow[5]
1–19	103(a)	Dow, Russ

Pet. 13.

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Relying on the testimony of Dr. Jeffay, Petitioner proposes that a person of ordinary skill in the art at the time of the '710 patent would "have been someone with at least a bachelor of science in one of electrical

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[1] The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) ("AIA"), amended 35 U.S.C. §§ 102, 103, and was effective on March 16, 2013. Because the '710 patent has an effective filing date prior to the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102, 103.
[2] US 8,510,771 B2, filed May 4, 2009, issued August 13, 2013 (Ex. 1006, "Casagrande").
[3] US 2006/0225105 A1, published October 5, 2006 (Ex. 1008, "Russ").
[4] Petitioner asserts that Dow is prior art under §§ 102(a), (b), and (e). Pet. 18.
[5] US 7,251,413 B2, filed April 26, 2002, issued July 31, 2007 (Ex. 1007, "Dow").

engineering, computer engineering, computer science, or a similar technology degree, as well as two years of relevant industry experience, including Internet networking architectures, digital programming delivery in broadcast, cable, or television networks, and set-top boxes [('STB')]." Pet. 14 (citing Ex. 1002 ¶ 42). Dr. Jeffay testifies that a "higher degree of education could compensate for less work experience and *vice versa*." Ex. 1002 ¶ 42.

Patent Owner states that "[f]or the purposes of the Response only, Patent Owner does not dispute the level of skill of a person of ordinary skill in the art ('POSITA') identified in the Petition." PO Resp. 4 (citing Pet. 14).

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art is also reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). We adopt the assessment offered by Petitioner, without the qualifier "at least" because its use introduces vagueness, for the purposes of this Final Written Decision because it is consistent with the '710 patent and the asserted prior art.

B. 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). 37 C.F.R. § 42.100(b) (2021). Under the principles set forth by our reviewing court, the "words of a claim 'are

generally given their ordinary and customary meaning,'" as would be understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). "In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

The parties present disputes related to two claim terms: "a first period of time" and "first command."

1. "a first period of time"

Patent Owner contends that the term "first period of time," recited in limitation 1[d][i], would be understood "to start <u>after</u> transmission of the entire 'video program' to the DVR." PO Resp. 5 (citing Ex. 2006 ¶ 47). Patent Owner refers to claim 1 and its recital that the video program is provided "in its entirety." *Id.* (citing limitation 1[d][ii]). Patent Owner argues that "[i]n order to 'provide said video program in its entirety' from 'said memory device,' the entire 'video program' must be stored in the 'memory device,' which is only possible <u>after</u> transmission of the entire 'video program' to the DVR." *Id.* (citing Ex. 2006 ¶ 47). Patent Owner contends that in light of dependent claims 6 and 14, the "first period of time" must start after the transmission of the entire video program. *Id.* at 5–6 (quoting claim 6 ("wherein said first period of time is a period of time that is less than one week from said transmission of said video program"); claim 14

("wherein said first period of time is a first day after said video program has been transmitted.")).

Additionally, Patent Owner refers to the prosecution history of the '710 patent:

> a digital video recorder ("DVR") that stores a video program and plays at least a portion of the video program back at a later time (e.g., a time more convenient to the user of the DVR, etc.) . . . In a first state, the DVR is configured to play the program as it was originally recorded (e.g., with both the program and auxiliary data). In a second state, the DVR is configured to play the program data without the auxiliary data (or a portion thereof) . . . To this end, the claimed invention provides that if the video program is being watched within a first period of time (e.g., within a day or two of the video program being transmitted to the DVR, etc.), then the video program will be played back in its entirety (e.g., including both program and auxiliary data).

PO Resp. 6 (quoting Ex. 1003, 108–109). Based on this passage, Patent Owner asserts that the "first period of time" must start after transmission of the entire video program. *Id*. (citing Ex. 2006 ¶ 49). Patent Owner argues that the referenced statement in the prosecution history is "clear and unambiguous." PO Sur-reply 3.

Petitioner contends that Patent Owner's interpretation of the term "departs from the term's plain and ordinary meaning and is inconsistent with the specification and claims." Pet. Reply 3. Petitioner argues that Patent Owner's proposed construction improperly excludes embodiments of the '710 patent. *Id*. at 3–4. Specifically, Petitioner refers to the '710 patent Specification that refers to DVR buffering, stating:

> It should be appreciated that the term ***"time-shifted data," as used herein is not limited to data that is recorded and watched hour or days later***. For example, most DVRs include a buffer, which buffers data that is being viewed in real-time. The buffer is use so that ***live data can be paused*** for a predetermined period

> of time (determined by the size of the buffer). However, ***pausing a program and then pressing "play," results in a program that is time-shifted, if only by a couple of seconds.***

Pet. Reply 4 (quoting Ex. 1001, 5:1–9[6]). Petitioner further asserts that Patent Owner "has not presented any evidence that supports limiting the claims to only embodiments displaying videos that have been entirely transmitted." *Id*. Petitioner contends that dependent claims 6 and 14 do not support Patent Owner's proposed limitation to the term because the dependent claims include limitations that do not appear in independent claim 1. *Id*. In response, Patent Owner asserts that, in contrast to the Specification's "live" or buffered content, the independent claims require that "the 'first period of time' is *before* 'said second period of time'. . . and *after* 'receiving said video program' and 'storing said video program,'" and "the limitation cannot be met until 'said video program [is received and stored] in its entirety.'" PO Sur-reply 4 (citing Ex. 1001, 11:62–66).

Patent Owner's position is that in order to "provide said video program in its entirety" under the limitations of the independent claims, the "first period of time" cannot start until after the transmission of the entire video program to the DVR. We do not agree. As Petitioner asserts, the Specification of the '710 patent discloses that DVRs with buffers are used "so that live data can be paused for a predetermined period of time . . . [and] pausing a program and then pressing 'play,' results in a program that is time-shifted." *See* Ex. 1001, 5:3–8. In light of the disclosed buffering, Patent Owner does not point us to any evidence or reasoning as to why an incoming program could not be buffered, with playback then started upon receipt of a

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[6] Petitioner cites to Exhibit 1001 at column 5 at lines 1 through 13 for the quotation, but this appears to be a typographical error.

second command, and where the remainder of the entire program subsequently would be received and displayed. That is, Patent Owner does not explain why playback of the entire program could not occur, even if the entire program had not been transmitted when playback was started.

Patent Owner's arguments that are based upon dependent claims 6 and 14 also do not support the adoption of limiting "a first period of time" to a start after the transmission of the entire video program. We agree with Petitioner that claims 6 and 8 have additional respective limitations to those in independent claim 1, so the dependent claims do not serve to limit the claim term interpretation. *Phillips*, 415 F.3d at 1315 ("[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim."); *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) ("[W]here the limitation that is sought to be 'read into' an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.").

Finally, the Federal Circuit has stated that the standard for disavowal of full claim scope through prosecution history disclaimer is "exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature." *Poly-America, L.P. v. API Industries, Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016) (citations omitted); *see also Grober v. Mako Prods., Inc.*, 686 F.3d 1335, 1341 (Fed. Cir. 2012) ("[W]hile the prosecution history can inform whether the inventor limited the claim scope in the course of prosecution, it often produces ambiguities created by ongoing negotiations between the inventor and the PTO . . . Therefore, the doctrine of prosecution disclaimer only applies to unambiguous disavowals."). We do not discern that the prosecution history

reflects the disavowal that Patent Owner argues. Rather, the applicant's remarks that the DVR "stores a video program and plays at least a portion of the video program back at a later time" and to "play the program as it was originally recorded" is consistent with playback from a program that is being buffered, which would not require the entire program to have been stored before "a first period of time" starts. *See* Ex. 1003, 108–109. Additionally, although an example is cited in the prosecution history where a video program is watched within a day or two of the video program being transmitted, a mere example does not serve as a disclaimer of scope.

Accordingly, we do not adopt Patent Owner's proposed construction. We use the plain and ordinary meaning of the term here.

2. "first command"

Patent Owner proposes that the claim term "first command" should be interpreted to mean a command that changes a DVR from a first playback state to a second playback state, but "[t]he 'first command' alone never initiates playback of the video program in independent claim 1." PO Resp. 7 (citing Ex. 1001, 11:62–12:9). Patent Owner argues that in claim 1 "the 'first command' and the 'second command' are used <u>together</u> to control operation of the DVR," with the "first command" setting the playback state, "while the 'second command' is used to initiate playback of the video program after the playback state of the DVR has been set by the 'first command.'" *Id*. (citing Ex. 1001, 11:62–12:9). Patent Owner contends, with supporting testimony from Dr. Freedman, that if the "first command" also initiated playback of the video program, then the "'second command' [would be] redundant and [would] render claim 1 illogical." *Id*.; Ex. 2006 ¶ 51. In Sur-reply, Patent Owner similarly asserts that Petitioner is trying to conflate the meanings of "first command" and "second command" and

"Petitioner's proposed construction should be rejected because it would render superfluous the explicit differentiation" between the terms. PO Sur-reply 5.

Petitioner responds that Patent Owner is arguing that the "first command" excludes the initiation of playback. Pet. Reply 5. Petitioner asserts that under Patent Owner's proposed interpretation, "the first command must ***only*** change the playback state and do nothing more[,] [b]ut the challenged claims do not recite such restrictive terms." *Id*. Petitioner contends that the "first command" "must at least change the DVR from a first playback state to a second playback state," but Patent Owner's "proposed restrictions are unfounded, and the Board should reject [Patent Owner's] improperly narrow construction." *Id*.

Patent Owner advocates that we should import a limitation, albeit a negative limitation, into the construction of the term "first command." Patent Owner argues that the language of the independent claims requires this importation. We do not agree. "[I]t is important not to import into a claim limitations that are not part of the claim." *SuperGuide Corp. v. DirecTV Enter., Inc*., 358 F.3d 870, 875 (Fed. Cir. 2004). Although Patent Owner argues that Petitioner is conflating the meaning of "first command" and "second command," thus rendering the terms redundant, claim 1 recites that a "first command changes said DVR from a first playback state to a second playback state" and a "second command initiates playback of said video program from said memory device." Even if the "first command" were to initiate playback, the "first command" would also have to change

playback states, so the "first command" and "second command" terms would still have different meanings.

Further, although Patent Owner and Dr. Freedman argue that if the "first command" also initiated playback of the video program, the "second command" would be redundant and claim 1 would be illogical, we do not agree. Patent Owner's arguments are premised on the contention that the "first command" and "second command" are exclusively tied together in claim 1, with the "first command" used to set the playback state and the "second command" used to initiate playback. PO Resp. 7. Dr. Freedman's testimony relies on the language of claim 1 only (Ex. 2006 ¶ 51), but there is no indication in claim 1 that the "first command" and "second command" are so related or linked. Additionally, even if the "first command" changed the playback state and initiated playback, we discern nothing in the claim precluding that there could be intervening events—like playback being paused—wherein the "second command" would nonetheless be used to initiate playback in accordance with limitations 1[d][i]–[iii]. Thus, we are not persuaded by Patent Owner's arguments.

Accordingly, we decline to include the limitation that the "first command" can never initiate playback of the video program and instead, we use the plain and ordinary meaning of the term.

3. Other Terms

We determine that we need not expressly construe any other claim terms to resolve the parties' disputes. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) ("[W]e need only construe 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))).

C. Principles of Law

A claim is unpatentable under 35 U.S.C. § 102 if a prior art reference discloses each and every limitation of the claimed invention, either explicitly or inherently. *Glaxo Inc. v. Novopharm Ltd.,* 52 F.3d 1043, 1047 (Fed. Cir. 1995); *see MEHL/Biophile Int'l Corp. v. Milgraum,* 192 F.3d 1362, 1365 (Fed. Cir. 1999) ("To anticipate, a claim a prior art reference must disclose every limitation of the claimed invention . . .;" any limitation not explicitly taught must be inherently taught and would be so understood by a person experienced in the field); *In re Baxter Travenol Labs.,* 952 F.2d 388, 390 (Fed. Cir. 1991) (the dispositive question is "whether one skilled in the art would reasonably understand or infer" that a reference teaches or discloses all of the limitations of the claimed invention).

A patent claim is unpatentable as obvious "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and

(4) when in evidence, objective indicia of nonobviousness.[7] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Asserted Obviousness of Claims 1–19 over Casagrande and Russ

Petitioner contends that claims 1–19 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Casagrande and Russ. Pet. 22–51. In support, Petitioner also relies upon the Jeffay Declaration and the Reply Jeffay Declaration. Ex. 1002; Ex. 1014. Patent Owner argues that the combination of Casagrande and Russ does not teach all the limitations of the claims and that the rationale to combine the references is insufficient. PO Resp. 8–32. Patent Owner relies upon the Freedman Declaration. Ex. 2006.

We begin our discussion with brief summaries of Casagrande and Russ, and then address the evidence and arguments presented.

1. Casagrande (Ex. 1006)

Casagrande discloses "methods and apparatus for the identification of locations in a presentation stream based on metadata associated with the presentation stream." Ex. 1006, code (57). Casagrande uses "signature data" to identify various "locations" within a presentation stream. *Id.* Then, "identified locations within a presentation stream may be utilized to identify boundaries of segments within the presentation stream, such as segments of a show and interstitials (e.g., commercials) of the show." *Id.* The identified portions of a presentation stream may be utilized for filtering segments of content during presentation. *Id.*

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[7] No evidence of objective indicia of nonobviousness has been presented by Patent Owner. *See generally* Prelim. Resp.

Casagrande describes that video recorded for later playback on digital video recorders may allow a viewer to skip over commercial breaks, but the viewer performs this function manually, such as with a fast-forward button. Ex. 1006,1:18–28. To improve upon this approach, Casagrande discloses:

> the identification of locations in a presentation stream based on metadata associated with the presentation stream. Identified locations within a presentation stream may be utilized to identify boundaries of segments within the presentation stream, such as segments of a show and interstitials (e.g., commercials) of the show. In various embodiments, identified portions of a presentation stream may be utilized for skipping segments of content during presentation, insertion of supplemental or substitute content within various locations of the presentation stream, selective presentation of specific segments of the presentation stream, presentation of segments of content in non-sequential order and the like.

Id. at 2:35–47. Figure 8, reproduced below, is a representation of a first stream received, and second stream outputted after filtering interstitials. *Id*. at 13:8–11.

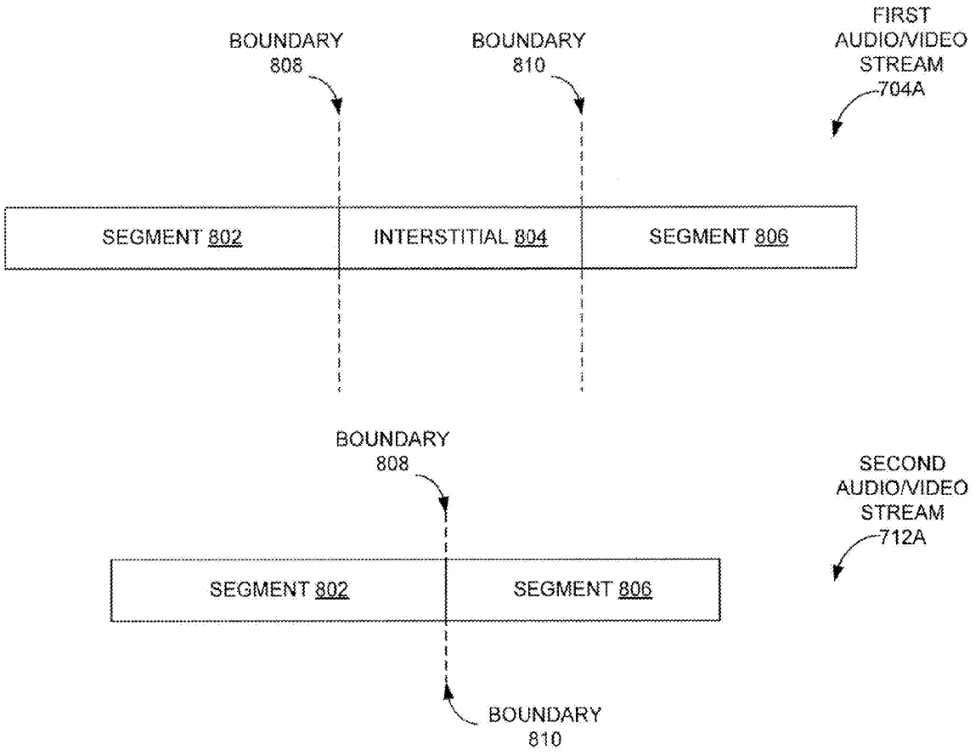

Figure 8, above, shows a first audio/video stream 704A, comprising segment 802 and 806, separated by interstitial 804, which is filtered out to create a second audio/video stream 712A. Ex. 1006, 13:8–11.

Casagrande discloses that "a user may be restricted from temporally moving through particular identified segments of a presentation stream at a non-real time presentation rate of the A/V stream." Ex. 1006, 4:20–23. Thus, "a receiving device may automatically output particular segments of a presentation stream without skipping over or otherwise fast forwarding through the segments, regardless of whether a user provides input requesting fast forwarding or skipping through the segments." *Id.* at 4:23–32.

Casagrande discloses that a user may select whether the first (full) or second (filtered) audio/video stream is presented to the display device. Ex. 1006, 19:63–66. In some embodiments, this function is prevented by the content provider of the first audio/video stream. *Id.* at 19:66–20:2.

2. Russ (Ex. 1008)

Russ is directed "to the insertion of advertisements into presentations of networked multi-room systems." Ex. 1008 ¶ 2.

Russ describes that in newer networked multimedia systems, such as in satellite and cable television systems, users have the capability to record and replay broadcast content. Ex. 1008 ¶ 3. Users also have the ability to fast-forward through recorded advertisements, which "removes a potentially important source of information from the user and reduces the attractiveness of subscriber television systems as media for advertising." *Id.* ¶ 6.

Russ discloses that while watching a previously recorded presentation, a "program identifier" (PID) associated with the presentation can be altered, so that the presentation has a new advertisement inserted. Ex. 1008 ¶¶ 25, 28.

Russ also introduces the concept of "trick play functionality." Ex. 1008 ¶ 32. This involves a user's use of "pause, fast forward, rewind, skip ahead, or skip back" playback control functions "while watching a presentation 410 made up of a program 420 and a commercial 430." *Id.* However, "a user's trick play functionality could be restricted while viewing a portion of a presentation, such as commercials. The trick play functionality, such as fast forward, would not work for certain commercials as specified, for example, by the local cable operator or the presentation programmer." *Id.* ¶ 33. This could also apply to new commercials inserted into a presentation. *Id.* A tag inserted in the presentation could control "which commercials should preclude trick play." *Id.* ¶ 34. Russ discloses other options as well, such as that a "commercial slot could also preclude trick play for only a specified length of time, such as two weeks." *Id.* ¶ 35.

3. Discussion

a. Claim 1

The Petition asserts that the combination of Casagrande and Russ teaches all the limitations of claim 1 and that there is a rationale to combine the references. Pet. 20–39. Below we consider the claim 1 limitations and rationale to combine in turn.

i. Limitation 1[pre]

Petitioner asserts that Casagrande teaches the preamble of claim 1 by its disclosure of a digital video recorder (DVR), in a cable or satellite set-top box (STB), which allows viewers to record digital video for later playback, and perform time shifting and commercial skipping functions. Pet. 22 (citing Ex. 1006, 1:17–25).

Patent Owner presents no arguments specifically related to preamble 1[pre]. *See generally* PO Resp.

On this complete record, we agree with Petitioner that Casagrande teaches the preamble of claim 1.[8]

ii. Limitation 1[a]

Petitioner asserts that Casagrande's set-top box with communication interface receives a video stream that includes segments and "interstitials (e.g., commercials)," which the receiver identifies. Pet. 23–24 (citing Ex. 1006, 17:62–64, 3:1–5; Ex. 1002 ¶¶ 89–90, 94). Petitioner contends that Casagrande discloses that its receiving device receives a presentation stream with segments and interstitials in them, and with first, second, and third portions in the stream. *Id*. at 24–26 (citing, *inter alia*, Ex. 1006, Figs. 2, 8).

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[8] We need not determine whether the preamble of claim 1 is limiting because Petitioner has shown that Casagrande teaches the preamble.

Petitioner argues that a person of ordinary skill in the art would have understood that Casagrande's set-top box uses a tuner to receive data from a satellite transponder via the antenna. *Id*. at 26–27 (citing Ex. 1002 ¶¶ 91, 93).

Petitioner also contends that Russ explains that "[b]roadband communications systems, such as satellite and cable television systems, are now capable of providing many services in addition to analog broadcast video." Pet. 27 (citing Ex. 1008 ¶ 3; Ex. 1002 ¶ 92). Petitioner asserts that Russ further explains that the set-top box is used for accessing various video services, and the set-top box "includes a processor, a tuner system, a storage device, a modulator, and a remote device communications receiver." *Id*. (citing Ex. 1008 ¶¶ 3, 20; Ex. 1002 ¶¶ 92–93).

Patent Owner presents no arguments specifically related to limitation 1[a]. *See generally* PO Resp.

On this complete record, we agree with Petitioner that Casagrande teaches limitation 1[a].

iii. Limitation 1[b]

Petitioner asserts that Casagrande teaches a storage unit 1516 to store audio/video streams. Pet. 28 (citing Ex. 1006, 18:18–29, 18:64–67, Fig. 15; Ex. 1002 ¶¶ 98–100). Petitioner contends that Casagrande's storage unit allows for playback of earlier-stored video programs. *Id*. at 29 (citing Ex. 1006, 18:26–29; Ex. 1002 ¶ 100).

Patent Owner presents no arguments specifically related to limitation 1[b]. *See generally* PO Resp.

On this complete record, we agree with Petitioner that Casagrande teaches limitation 1[b].

iv. Limitation 1[c]

Petitioner asserts that Casagrande teaches that users provide commands using a remote control through a user interface to "control logic 1520," which executes the commands. Pet. 29 (citing Ex. 1006, 18:45–60; Ex. 1002 ¶¶ 92, 101–102). Petitioner contends that Casagrande teaches the claimed "first command" in a user selection of a "first A/V stream 1504 or the second A/V stream 1512," which correspond to the claimed first and second playback states, where stream 1512 "has the interstitials (e.g., commercials) removed." *Id*. at 30 (citing Ex. 1006, 19:63–66; Ex. 1002 ¶¶ 104–105). Petitioner argues that Casagrande teaches the claimed "second command" where a user is presented a menu of available segments of a program, from which a particular segment is selected. *Id*. at 31 (citing Ex. 1006, 4:4–8; Ex. 1002 ¶¶ 106, 177).

In support, Dr. Jeffay testifies that for the teaching of the "first command," "Casagrande explains that 'a user may select by way of the user input 1523 whether the first A/V stream 1504 or the second A/V stream 1512 is outputted to the display device 1514 by way of the A/V interface 1518.'" Ex. 1002 ¶ 105 (quoting Ex. 1006, 19:63–66). Dr. Jeffay testifies that by this disclosure, Casagrande "teaches a user selecting between a first playback state (i.e., selecting to play the first A/V stream) and a second playback state (i.e., selecting to play the second A/V stream)." *Id*.

In support of the teaching of a "second command," Dr. Jeffay testifies that "Casagrande discloses 'a menu of available segments of [a] television program, and [a user] may select one or more of the available segments for the presentation . . . . Based upon user selection of particular segments from the selection menu, the receiving device responsively outputs the selected

segments," which teaches a second command that initiates playback of said video program. Ex. 1002 ¶ 106 (quoting Ex. 1006, 4:1–8).

Patent Owner contends that the Petition asserts that "the 'first playback state' and 'second playback state' correspond to whether the first A/V stream or the second A/V stream is displayed to the user" and that Casagrande's "first command" "toggles between which stream is displayed," but it is the "second command" that initiates playback under the claim. PO Resp. 11 (citing Pet. 30; Ex. 1001, 11:62–12:14). Patent Owner asserts that the "first command," which places the DVR in the respective first or second playback states, is "associated with time-based limitations on navigation through a program." *Id*. at 12. Patent Owner argues that the combination of Casagrande and Russ does not teach limitation 1[c] because Casagrande's selection of the first A/V stream or second A/V steam "<u>does</u> initiate playback." *Id*. Patent Owner argues that "*Casagrande* is silent on any additional step the user must take to initiate playback after selecting 'the first A/V stream 1504 or the second A/V stream 1514.'" *Id*. (citing Ex. 1006, 19:63–7:2; Ex. 2006 ¶ 61).

There is evidentiary support that Petitioner has demonstrated that Casagrande teaches the "first command." Dr. Jeffay testifies that "Casagrande explains that the 'first A/V stream include[es] at least one segment of a show, at least one interstitial of the show and text data, e.g., closed captioning data (operation 1802)'" and there is a "second A/V stream" that is filtered, so a person of ordinary skill in the art would understand that the "'second A/V stream' that has the interstitials (e.g., commercials) removed from the first A/V stream." Ex. 1002 ¶ 104 (citing Ex. 1006, 15:30–34, 19:10–14, 21:28–32). Dr. Jeffay's testimony is supported by the cited disclosures of Casagrande, and Casagrande depicts

and describes the first A/V stream with interstitials (commercials) and a second A/V stream with the interstitials removed. Ex. 1006, 13:5–11, Fig. 8. Casagrande also discloses that the respective A/V streams may be stored. *Id*. at 19:44–45.

Additionally, Petitioner asserts that in Casagrande, a user is presented with a menu of available segments and "upon user selection of particular segments from the selection menu, the receiving device *responsively outputs* the selected segments . . . ." Pet. Reply 7; Ex. 1006, 4:1–7 (emphasis added). As an example, Casagrande explains that "a user may select particular news stories that they desire to view, and the recording device may output the selected news stories back-to-back, skipping *presentation* of undesignated segments." Ex. 1006, 4:8–12 (emphasis added). Thus, Dr. Jeffay's testimony is supported by Casagrande, which discloses that, with the selection of selected segments, there is presentation of the selected segments, i.e., playback is initiated. *See* Pet. 31; Ex. 1002 ¶ 61; Ex. 1006, 4:1–12.

Thus, we agree with Petitioner that Casagrande discloses that users may designate whether they want to watch a complete stream or a stream with portions removed, which is the claimed "first command" that changes playback states. *See* Ex. 1006, 19:63–66; Pet. 30–31; Ex. 1002 ¶ 105. We also agree that Casagrande discloses that a user may pick program segments and begin playback, which is the claimed "second command" that initiates playback of a video program. Ex. 1006, 4:1–8; Pet. 31; Ex. 1002 ¶ 106.

As discussed above, we decline to import a limitation, as Patent Owner proposes, wherein the "first command" would exclude the initiation of playback, so most of Patent Owner's arguments fail on that basis. Patent Owner also contends that the respective first or second playback states are

associated with time-based limitations on navigation through a program. This issue does not relate to limitation 1[c], which recites no temporal limitations. We address temporal issues below in the discussion of limitations 1[d][i]–[iii].

On this complete record, we agree with Petitioner that Casagrande teaches limitation 1[c].

v. Limitation 1[d][i]

Petitioner asserts that Casagrande teaches that control logic 1520 (which includes a processor) executes the software to perform the claimed functions to control the output of A/V streams from its receiving device 1510 to a display device 1514 for viewing. Pet. 31 (citing Ex. 1006, 18:26–29, 18:42–49; Ex. 1002 ¶¶ 108–109). Petitioner argues "that Casagrande teaches that the entirety of the A/V presentation (e.g., the first A/V stream) may be presented in some cases, even when the user requests the shortened version without commercials (the second A/V stream)." *Id*. at 32 (citing Ex. 1002 ¶ 110). Petitioner contends that Casagrande teaches that "a content provider of the first A/V stream 1504 *may prevent the user from maintaining such control*," where "commercials within a television program may be associated with *restrictions against fast forwarding or skipping,* and a recording device *may automatically present the commercial segments regardless of the receipt of user input requesting non-presentation of the segments*." *Id*. (citing Ex. 1006, 19:66–20:2, 5:66–6:3, 4:28–32; Ex. 1002 ¶ 110). Petitioner also asserts that the combination of Casagrande in combination with Russ "would entail [Casagrande's] restrictions on skipping/etc. being limited to a particular time period." *Id*.

Patent Owner contends that Petitioner cites to portions of Casagrande that "show that the first A/V stream may be shown in its entirety even if the

user desires to see the second A/V stream 'by way of additional information delivered to the receiving device' by the 'content provider.'" PO Resp. 16 (citing Ex. 1006, 19:66–20:2, 5:66–6:3). Patent Owner argues that "that limitation by the 'content provider' remains the same—there is no determination [that] 'said second command is received during the first period of time' as is required by the claim." *Id*. (citing Ex. 2006 ¶ 68). Dr. Freedman further testifies that the Petition cites only to Casagrande for the disclosure of the first scenario of limitation 1[d][i], and there is no argument that it would have been obvious to modify Casagrande to satisfy this claim limitation. Ex. 2006 ¶ 68.

In Sur-reply, Patent Owner asserts that the "shortcoming" of Casagrande is that the "'identified restrictions' are not based on time, but the claims require specific timing (i.e., 'if said second command is received during a first period of time')." PO Sur-Reply 9–10. Patent Owner contends that the Petition for this limitation "contains <u>no reference to *Russ* (EX1008).</u>" *Id*. at 10 (citing Pet. 31–32). Patent Owner also argues that "*Russ* uses 'ad-insertion tags' to 'differentiate between the program and commercials.'" *Id*. (citing Ex. 1008 ¶ 26). Patent Owner contends that the tags can specify an expiration date, and upon expiry the commercial would be no longer viewable or would be replaced with a different commercial. *Id*. (citing Ex. 1008 ¶ 35). Patent Owner asserts that "*Russ* does not disclose providing 'said video program in its entirety . . . during a first period of time'" because "it is the 'tag' that determines whether the commercial can be skipped—not the time at which the video program is played back." *Id*. at 11.

In the discussion of this limitation, the Petition specifically cites Russ, stating that "as discussed below," Russ is relied upon in combination for the

teaching of "restrictions on skipping/etc. being limited to a particular time period" in the discussion of limitation 1[d][i]. *See* Pet. 32. In other words, Petitioner specifically incorporates its Russ arguments—which are discussed in detail for the following limitation—for this limitation. This refutes Patent Owner's contention that Russ is never referenced, and, as Petitioner states, Russ's disclosures on restricting commercial skipping (trick play) in the first period of time are further discussed in the Petition. *Id*. at 32–36. For instance, the Petition explains that Russ teaches the restriction of skipping commercials during playback, such as "for only a specified length of time, such as two weeks." *Id*. at 32–33 (citing Ex. 1008 ¶¶ 34–35; Ex. 1002 ¶ 114). Petitioner asserts that, thus, "Russ discloses the desirability of having a *first period of time* wherein the user must watch the entire A/V stream, including commercials, regardless of whether the user requested playback of a commercial-free stream." *Id*. at 33 (citing Ex. 1002 ¶ 114) (emphasis added).

Petitioner contends that a person of ordinary skill in the art "would have found it obvious to apply the time-based nature of the restrictions on trick-play taught in Russ as a way to implement the various 'playback restrictions' found in Casagrande, including the restriction on skipping commercials entirely." Pet. 34 (citing Ex. 1002 ¶¶ 114–118). Petitioner further asserts that Casagrande and Russ disclose restrictions on removing interstitials which are linked to the first and second periods of time. *Id*. (citing Ex. 1002 ¶ 117). Petitioner argues that a person of ordinary skill in the art would have been motivated to use Russ's time-based restrictions in Casagrande "to obtain the predictable result of restricting automatically skipping of interstitials for a finite period of time," which would increase the broadcaster's financial value of the interstitial content. *Id*. at 35 (citing

Ex. 1002 ¶ 116). Petitioner contends that a person of ordinary skill in the art considering Casagrande's teachings would have looked to Russ for additional details regarding implementations in functionality. *Id*. at 20–21 (citing Ex. 1002 ¶ 86). Petitioner also asserts that one of skill in the art would have had a reasonable expectation of success in the combination—that is, incorporating Russ's techniques into Casagrande—because the incorporation would have required "simple software/user interface modifications" that were known to those of skill in the art and because similar techniques worked in similar systems in Russ. *Id*. at 35.

In support, Dr. Jeffay testifies that a person of ordinary skill in the art would be motivated to combine Casagrande and Russ in order to restrict "temporally moving through particular identified segments," as discussed in Casagrande. Ex. 1002 ¶ 115 (citing Ex. 1006, 4:20–21). Dr. Jeffay testifies that a person of ordinary skill in the art "would have found it obvious . . . to apply the time-based nature of the restrictions on trick-play found in Russ to the various 'playback restrictions' found in Casagrande, including the restriction on skipping commercials entirely." *Id*. Dr. Jeffay testifies that both Casagrande and Russ disclose restrictions on removing interstitials that are directly linked to periods of time, with Casagrande disclosing that "a user may be restricted from temporally moving through particular identified segments of a presentation stream," with Russ disclosing trick-play preclusion for a specified length of time. *Id*. (citing Ex. 1006, 4:20–27; Ex. 1008 ¶ 35). Dr. Jeffay refers to Casagrande's disclosure concerning replacing commercials with timelier ones, and testifies that because Casagrande acknowledges a concern with the decreasing value of interstitial content over time, a person of ordinary skill in the art would have been motivated to implement Russ's time-based limits on restrictions in

Casagrande. *Id*. ¶ 117 (citing Ex. 1006, 10:5–13). Dr. Jeffay further testifies that a person of skill would understand "that some users would be willing to accept restrictions on commercial skipping soon after distribution of content" and "would understand that combining Russ's techniques with Casagrande would successfully allow the content provider to obtain additional revenue from advertisements shown to viewers who value watching the program during the initial release period while still appealing to viewers who are willing to delay watching the program in order to avoid commercials." *Id*. ¶ 118.

Patent Owner argues that, although Petitioner asserts that Casagrande and Russ discuss the general concept of restricting the ability to skip commercials, "the Petition does not identify any specific reasoning to combine or modify the references according to the claimed invention." PO Resp. 23–24 (citing Pet. 33–36). Patent Owner contends that the only support is from the declaration of Dr. Jeffay, and that restates Petitioner's argument, and the majority of his opinions cite no supporting evidence. *Id*. at 24 (citing Pet. 33–34; Ex. 1002 ¶¶ 114–118; Ex. 2006 ¶ 83). Patent Owner asserts that Petitioner's obviousness rationale is driven by hindsight. *Id*. (citing Ex. 2006 ¶ 84).

We find that Petitioner has demonstrated that the combination of Casagrande and Russ teaches limitation 1[d][i] and that there is rationale to combine the references. We agree with Petitioner that Casagrande teaches playing a video program in its entirety for display, that is, where a user is restricted from fast-forwarding through commercials, for instance. As identified by Petitioner, Casagrande discloses:

> In some embodiments, a user may be restricted from temporally moving through particular identified segments of a

> presentation stream at a non-real time presentation rate of the A/V stream. In other words, a receiving device may automatically output particular segments of a presentation stream without skipping over or otherwise fast forwarding through the segments, regardless of whether a user provides input requesting fast forwarding or skipping through the segments. For example, commercials within a television program may be associated with restrictions against fast forwarding or skipping, and a recording device may automatically present the commercial segments regardless of the receipt of user input requesting non-presentation of the segments.

Ex. 1006, 4:20–32; *see* Pet. 32. Additionally, we agree with Petitioner, and find persuasive Dr. Jeffay's testimony, that there is motivation to combine Russ with Casagrande in view of Casagrande's recognition of the decreasing value of interstitial content over time, and the implementation of Russ's time-based limits on restrictions in Casagrande would offer the benefit of increasing a broadcaster's financial value of the interstitial content. *See* Ex. 1002 ¶¶ 86, 113–118; Ex. 1006, 10:5–13; Ex. 1008 ¶ 35. We further credit Dr. Jeffay's testimony that there would be success in the combination of Casagrande and Russ because a person of skill would understand, based on Russ's disclosures, that users would be willing to accept restrictions on commercial skipping. Ex. 1002 ¶ 118. Further, in view of the similarities of Casagrande and Russ, as Petitioner discusses, there would have been a reasonable expectation of success of the combination. *See* Pet. 34–35; Ex. 1002 ¶¶ 115–118.

We do not find persuasive Patent Owner's contention that there is no determination that "said second command is received during the first period of time" because Casagrande only teaches that the restriction on full playback is by way of information sent by the content provider. PO Resp. 16; PO Sur-reply 9–10. This argument attacks Casagrande individually, but,

as discussed above, the Petition relies on the combination of Casagrande and Russ, not just Casagrande, for teaching this limitation. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981). Further, the evidence of record supports that Russ teaches restricting skipping commercials during playback for a certain initial time, so in combination with Casagrande, we find that this teaches providing a video program in its entirety for a first period of time. *See* Pet. 32–34; Ex. 1008 ¶¶ 34–35. We also do not find persuasive Patent Owner's argument that Russ uses tags that determine whether a commercial can be skipped, and that it is the tag that determines whether the commercial can be skipped and not the time at which the video program is played back. PO Sur-reply 11. Again, Patent Owner attacks Russ individually. Petitioner relies on Russ's teaching of the desirability of having a first period of time where the user must watch the entire program, so it is this known time-based limit in Russ that would have been implemented in Casagrande. *See* Pet. 33–36.

We also do not find Patent Owner's arguments on the alleged lack of specific reasoning to combine Casagrande and Russ to be persuasive. *See* PO Resp. 23–24. Dr. Jeffay testifies that "Casagrande acknowledges that one concern expressed by content providers is the decreasing value of interstitial content over time, particularly because commercials may become less relevant to the user or may expire." Ex. 1002 ¶ 117 (citing Ex. 1006, 10:5–13 ("[T]he supplemental content 602 may also be selected to replace a commercial with a timelier commercial from the same advertiser. For example, a department store may have originally advertised a sale during the original broadcast of the show, but that particular sale may have since ended.")). Accordingly, the evidence supports that Casagrande identifies that the earlier playback of commercials has value, which provides support

that there would be additional revenues from commercials that are watched during the initial release period, which supports that a person of skill in the art would have been motivated to implement Russ's time-based restrictions on playback in the first period of time. *Id.* ¶¶ 117, 118.

Accordingly, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of limitation 1[d][i] by the combination of Casagrande and Russ or Petitioner's asserted rationale to combine the references.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches limitation 1[d][i] and we find a rationale to combine the references has been demonstrated.

vi. Limitation 1[d][ii]

As noted above, Petitioner asserts that Russ teaches the restriction of skipping commercials during playback, such as "for only a specified length of time, such as two weeks." Pet. 32–33 (citing Ex. 1008 ¶¶ 34–35; Ex. 1002 ¶ 114). Petitioner further contends "Russ discloses the desirability of having a first period of time wherein the user must watch the entire A/V stream, including commercials, regardless of whether the user requested playback of a commercial-free stream," and "the desirability of having a second period of time (i.e., once the restriction expires) in which the user may elect to skip the commercials or not." *Id.* at 33 (citing Ex. 1002 ¶ 114). Thus, Petitioner contends "Casagrande and Russ both disclose restrictions on removing interstitials that are directly linked to first and second periods of time." *Id.* at 34 (citing Ex. 1002 ¶ 117). Petitioner asserts that a person of skill in the art would have appreciated that a user would select playback of the first A/V stream (the entire video program), even after the period of restriction on commercial skipping had ended, with an example that a user

may opt to watch the Super Bowl with commercials. *Id*. at 36 (citing Ex. 1002 ¶ 104).

Patent Owner contends that, similar to its arguments for limitation 1[d][i], Casagrande does not disclose the second scenario because it does not make a determination based upon whether "said second command is received during a second period of time"; rather, it is the "content provider" that determines whether a commercial can be skipped. PO Resp. 18 (citing Ex. 1006, 19:66–20:2, 5:66–6:3; Ex. 2006 ¶ 71). Patent Owner asserts that the DVR must determine whether the second command was received during the second period of time in order to determine whether the user can skip portions. *Id*. at 18–19 (citing Ex. 2006 ¶ 72). Patent Owner also argues that the "first command" must be received before the "second command" initiating playback is received. *Id*. at 19 (citing Ex. 2006 ¶ 73). Patent Owner further contends that Casagrande fails to disclose that its selection of A/V streams is used with the "selection of particular segments from a selection menu," "much less in the sequence required by the second scenario." *Id*. (citing Ex. 2006 ¶ 73).

Patent Owner additionally argues that, similar to its contentions for the first scenario, Russ also fails to teach the second scenario because its commercial-related functionality is "driven by 'tags.'" PO Resp. 19 (citing Ex. 1008 ¶ 26). Patent Owner asserts that the tags have an expiration date, and then the tags become inactive or replaceable, so at the time of the expiration of the tag, the commercial would no longer be viewable or it would be replaced. *Id*. at 20 (citing Ex. 1008 ¶ 35). Patent Owner contends that "it is the 'tag' that determines whether the commercial can be skipped—not the time at which the video program is played back." *Id*. at 20

As we discuss for limitation 1[d][i], and as Petitioner asserts, Russ discloses that trick play functionality is restricted for only a specified period of time. *See* Ex. 1008 ¶¶ 34–35. Accordingly, we find support for Dr. Jeffay's testimony that, in the view of one of ordinary skill in the art, Casagrande in combination with Russ teaches that after the expiry of the first period of time there is a second period of time in which commercials may be skipped or not, depending on the playback state. Ex. 1002 ¶ 114; *see also* Pet. 32–33. We also agree that Casagrande teaches that a playback state, which may include commercials, could have been selected. Ex. 1006, 19:63–66, 21:28–32; Ex. 1002 ¶¶ 104, 114; Pet. 36. Additionally, we agree that Petitioner has demonstrated a rationale to combine Casagrande and Russ with a reasonable expectation of success of the combination. *See* Ex. 1002 ¶¶ 115–118.

For similar reasons to those discussed above for limitation 1[d][i], we do not find persuasive Patent Owner's argument that there is no determination that "said second command is received during the second period of time" because in Casagrande it is the "content provider" that determines whether a commercial can be skipped. This argument attacks Casagrande individually, but the Petition relies on the combination of Casagrande and Russ, not just Casagrande, for the teaching of this limitation. Petitioner relies on Russ's teaching of restricting skipping commercials during playback for a certain time and this teaching is combined with Casagrande, wherein once the restriction expires the user may elect to skip the commercials or not. *See* Pet. 33. Thus, in combination, upon the expiry of the first period of time, there is a second period of time, and the playback state determines whether commercials are played (or not). Similarly, we do not find persuasive Patent Owner's

argument that Russ's teachings do not apply because it is its "tag" that determines whether the commercial can be skipped and not the time at which the video program is played back. PO Resp. 18–19. Again, Petitioner relies on Russ's teaching of restricting skipping commercials during playback for a certain time combined with Casagrande, wherein once the restriction expires the user may elect to skip the commercials or not. Pet. 33. Thus, Patent Owner argues Russ individually, where, in combination, it is the time of restriction expiry, and the status of the playback state, that determines whether a commercial can be skipped or not.

Patent Owner also argues that the "first command" must be received before the "second command" initiating playback is received, that is, that a certain sequence is required. PO Resp. 19. Patent Owner asks too much. As discussed *supra* in the discussion on claim construction for the term "first command," there is no indication in the claim that the "first command" and "second command" are exclusively linked or related. Limitation 1[c] requires that there be a controller configured to receive a "first command" that changes a DVR from a first playback state to a second playback state; limitation 1[d][ii] requires that the DVR be in a first playback state. Under limitation 1[c], the "first command" may, for instance, be set by a switch that is set to the respective playback states. Under limition1[c], the switch could be used to set the playback state, which is received by the controller of the DVR, and under limitation 1[d][ii], the system would only make a determination of whether the DVR is set in a first playback state. Accordingly, the switch could be set to certain playback state and it could remain at that setting through repeated intervening playback events under limitations 1[c] and 1[d][ii], which would not require the specific timing sequence that Patent Owner argues is required.

Further, Patent Owner argues that Casagrande fails to disclose that its selection of A/V streams is used with the selection of particular segments from a selection menu, and does not disclose the sequence required by the second scenario. PO Resp. 19. As discussed for limitation 1[c] above, Casagrande discloses that a user may select a certain playback stream, that is, a certain playback that may or may not contain commercials, and the user may choose and playback specific video segments. Ex. 1006, 4:1–8, 19:63–66. We determine that these disclosures are sufficient, in combination with Russ and its disclosure of the expiry of trick play restrictions, to teach that there is a certain playback state that is set, which would include a first playback state, and that there is a teaching of a command from a user to play back a video program in a second period of time, which is all that the claim requires.

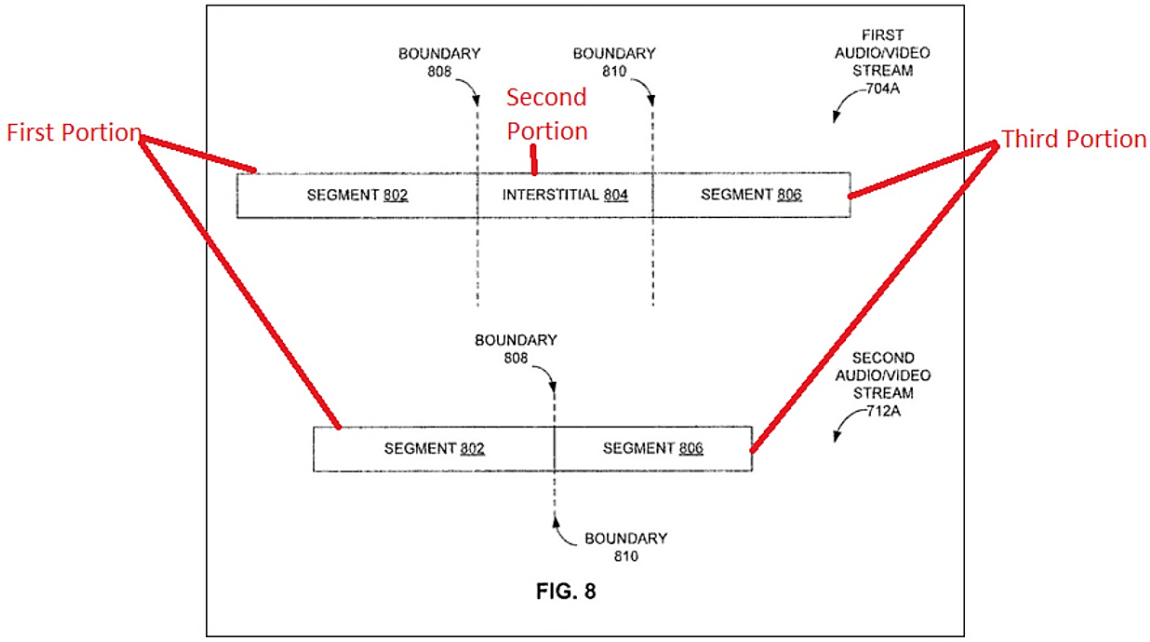
Accordingly, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of limitation 1[d][ii] by the combination of Casagrande and Russ. Further, we find that Petitioner has provided sufficient rationale to combine the references.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches limitation 1[d][ii] and a rationale to combine the references has been demonstrated.

vii. Limitation 1[d][iii]

Petitioner asserts that Casagrande's "second A/V stream" includes a subset of segments in the original temporal order of the first A/V stream without the identified interstitial content. Pet. 36. Petitioner contends that "Casagrande teaches that a user 'may effectively view a subset of the segments of an A/V stream in the original temporal order of the segments, skipping output of undesignated segments of the A/V stream.'" *Id*. at 37

(citing Ex. 1006, 24:23–26; Ex. 1002 ¶ 121). Thus, according to Petitioner, "in the combination with Russ, once the commercial skipping inhibition period (i.e., the claimed first period of time) expires, the combination would permit the user to request playback of the 'second A/V stream' where the commercial is removed." *Id*. at 38 (citing Ex. 1002 ¶¶ 122–123). Figure 8 of Casagrande, reproduced below, is a graphical representation of a first A/V stream that is received and a second output stream that is outputted. Ex. 1006, 1:59–61.



Pet. 37. Consistent with Petitioner-annotated Figure 8 of Casagrande, above, Petitioner asserts that "the boundary 808 (e.g., the ending boundary of segment 802) is the starting point at which the interstitial 804 is to be filtered from the first A/V stream 704A" and that "the boundary 810 (e.g., the beginning boundary of segment 806) is the ending point at which the interstitial 804 is to be filtered from the first A/V Stream 704A," and "[a]s a result of the filtering . . . the second segment 806 [third portion] is outputted

immediately following the first segment 802 [first portion]." Pet. 37–38 (citing Ex. 1006, 13:29–31; Ex. 1002 ¶ 121).

Patent Owner contends that in Casagrande, it is the content provider that determines whether the transmitted commercial can be skipped, and there is no determination based on a second command in a second period of time. PO Resp. 21 (citing Ex. 2006 ¶ 77). Patent Owner further argues that in Russ, because the tag for a commercial can become inactive, "the preclusion of trick play in *Russ* is commercial-dependent, not time-dependent." *Id*. at 22–23 (citing Ex. 2006 ¶ 80). Patent Owner asserts that Casagrande fails to disclose that its selection of A/V streams is used with the selection of segments from a selection menu, and fails to disclose the sequence required by the limitation. *Id*. at 23 (citing Ex. 2006 ¶ 81).

As discussed for limitation 1[d][i], and as Petitioner asserts and we agree, Russ discloses that trick play functionality is restricted for only a specified period of time. *See* Ex. 1008 ¶¶ 34–35. Accordingly, we find support for Dr. Jeffay's testimony that, in the view of one of ordinary skill in the art, Casagrande in combination with Russ teaches that after the expiry of the first period of time there is a second period of time in which commercials may be skipped. Ex. 1002 ¶ 122; *see also* Pet. 37. Additionally, we agree that Petitioner has demonstrated a rationale to combine Casagrande and Russ with a reasonable expectation of success of the combination. *See* Ex. 1002 ¶¶ 115–118.

We do not find Patent Owner's arguments on Casagrande and Russ to be persuasive for the reasons discussed above for limitation 1[d][ii]. Accordingly, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of limitation 1[d][iii] by the

combination of Casagrande and Russ. Further, we find that Petitioner has provided sufficient rationale to combine the references.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches limitation 1[d][iii] and a rationale to combine the references has been demonstrated.

viii. Limitation 1[e]

Petitioner asserts that in the combination of Casagrande and Russ "the second period of time wherein skipping of commercials is allowed begins once the restriction expires." Pet. 39 (citing Ex. 1002 ¶ 126). Dr. Jeffay testifies that "Russ clearly defines a first period of time where trick play is 'preclude[d],'" where "during the first period of time, the combination of Casagrande and Russ teaches that only the 'first A/V stream' of Casagrande . . . containing the first portion (e.g., segment 802) followed by the second portion (e.g., interstitial 804) followed by the third portion (e.g., segment 806)" and "[t]he second period of time wherein skipping of commercials is allowed begins once the restriction expires." Ex. 1002 ¶ 125.

Patent Owner presents no arguments specifically related to limitation 1[e]. *See generally* PO Resp.

We agree with Petitioner that the combination of Casagrande and Russ teaches a second period of time following a first period of time where trick play has been precluded.

On this complete record, we agree with Petitioner that the combination of Casagrande and Russ teaches limitation 1[e] and a rationale to combine the references has been demonstrated.

ix. Conclusion

Patent Owner presents no evidence of objective indicia of nonobviousness. *See generally* PO Resp. Weighing the record as a whole in

view of the findings and analysis above, we conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that independent claim 1 would have been obvious over Casagrande and Russ.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable.

b. Independent Claims 9 and 18

Claim 9 is an independent method claim and claim 18 is an independent apparatus claim. Ex. 1001, 12:52–13:26, 14:18–46. Petitioner relies on the same arguments and evidence in support of obviousness for these claims as that relied upon for claim 1. Pet. 22–39. We are persuaded by Petitioner's arguments as to claims 9 and 18 and find they are supported by the cited evidence. *Id*. Accordingly, we adopt Petitioner's analysis as our own. Petitioner has shown sufficiently that the combination of Casagrande and Russ teaches or suggest each limitation of independent claims 9 and 18, and sufficient reasoning with rational underpinning has been provided for the motivation to combine the references.

Patent Owner asserts that Petitioner fails to show that the combination of Casagrande and Russ renders claims 9 and 18 unpatentable. PO Resp. 26–27, 29–32. For the issues of the teaching of the "first command" and "second command," Patent Owner relies on its arguments presented for limitation 1[c]. *Id*. at 26–27, 31. We do not find these arguments persuasive for the reasons explained for limitation 1[c] above. Patent Owner also contends that Petitioner fails to demonstrate that limitations 9[f] and 18[d] are met by the prior art, and relies on its arguments directed to limitation 1[d]. *Id*. at 27, 31–32. We do not find these arguments persuasive for the reasons discussed above for limitations 1[d][i]–[iii]. Accordingly, we do not

find that Patent Owner's arguments undermine Petitioner's showing of the teaching of the limitations of claims 9 and 18 by the combination of Casagrande and Russ.

We conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that independent claims 9 and 18 would have been obvious over Casagrande and Russ. Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claims 9 and 18 are unpatentable.

c. Dependent Claims 3 and 12

Claim 3 depends from claim 1 and further recites:

> wherein said video program includes at least primary and secondary video content, and said portion of said video program that is provided to said (*sic*) to said display device if said second command is received during said second period of time and said DVR is in said second playback state includes said primary video content and *only a portion of said secondary video content*.

Ex. 1001, 12:20–26 (emphasis added). Claim 12 depends from claim 9 and recites additional limitations that are essentially the same as claim 3. *Id*. at 13:38–44.

Petitioner asserts that Casagrande teaches the additional limitations of claims 3 and 12. Pet. 40–42. Petitioner states explicitly that it is the multiple segments of the video frames that correspond to the "primary content" of claims 3 and 12, and it is the interstitials that correspond to the claimed "secondary content." *Id*. at 40 (citing Ex. 1002 ¶ 133). Petitioner contends that Casagrande discloses that the interstitials can be skipped during output of an A/V stream. *Id*. at 40–41 (citing Ex. 1006, 16:4–12; Ex. 1002 ¶ 134). Petitioner refers to Casagrande's teachings of user selection of certain segments for presentation, and its disclosure that presentation of

undesignated segments is skipped. *Id*. at 41 (citing Ex. 1006, 4:4–8; Ex. 1002 ¶ 135). Petitioner also relies on Casagrande's teaching of restrictions against fast forwarding and or skipping through commercials segments, "regardless of the receipt of user input requesting non-presentation of the segments." *Id*. at 41–42 (citing Ex. 1006, 24:34–43; Ex. 1002 ¶ 135).

In Reply, Petitioner additionally asserts that Casagrande does not suggest the restrictions against skipping apply to all commercials, as confirmed by Russ, which discloses commercial segments organized by slot, with time-based restriction specific to the slot. Pet. Reply 15 (citing Ex. 1008 ¶ 35). Petitioner contends that some commercials may be skipped and others may not. *Id*. at 15–16 (citing Ex. 1002 ¶ 85). Petitioner argues that "the limitations may change based on the commercial slot, with some commercials having longer time restrictions on skipping than others (i.e., commercials in some slots can be skipped after two weeks, while others only after a month from first broadcast)." *Id*. at 16 (citing Ex. 1015 ¶¶ 10–11).

Patent Owner argues that claim 3 falls within limitation 1[d][iii]. PO Resp. 25. Patent Owner asserts that Petitioner mapped Casagrande's interstitials (commercials) to the "secondary video content." *Id*. (citing Pet. 40). Patent Owner contends that in Petitioner's assertions for limitation 1[d][iii], the Petitioner relied upon a Casagrande embodiment where commercials are skipped in their entirety. *Id*. (citing Pet. 37). Patent Owner argues that for claim 3, Petitioner cites to Casagrande's embodiment where the DVR "automatically present[s] the commercial segments regardless of the receipt of user input requesting non-presentation of the segments." *Id*. at 25–26 (citing Pet. 41–42). Patent Owner contends that Petitioner's mapping is flawed because the two embodiments (commercials entirely skipped, commercials presented) are mutually exclusive and there is also a failure to

teach presenting "only a portion" of the commercials. *Id*. at 26 (citing Ex. 1006, 24:34–43).

Additionally, Patent Owner asserts that Casagrande states that "commercials within a television program may be associated with restrictions against fast forwarding or skipping," and does not teach or suggest that a subset of the commercials can be associated with restrictions. PO Sur-reply 14 (citing Ex. 1006, 24:38–40). Patent Owner further asserts that Petitioner's arguments in Reply regarding Russ are improper because the Petition does not contain any reference to Russ for claims 3 and 12. *Id*. (citing Pet. 40–42). Patent Owner also contends that Petitioner fails to provide any support in Russ other than the unsupported opinions of Dr. Jeffay. *Id*. at 14–15 (citing Pet. Reply 15–16).

We agree with Patent Owner that Petitioner fails to demonstrate the prior art teaching claims 3 and 12. The claims require that "the portion of said video program that is provided to said [] display device" "includes said primary video content and only a portion of said secondary video content." In other words, the claim requires that the entire primary video content is provided, but only portions of the secondary video content be provided. In the Petition, Petitioner relies only upon Casagrande for the limitations specific to claims 3 and 12. *See* Pet. 40–42; Ex. 1002 ¶¶ 133–135. Petitioner asserts that the multiple segments of the video frames correspond to the "primary content" and *the interstitials correspond to the claimed* "*secondary content.*" Pet. 40 (emphasis added). In its assertions for limitation 1[d][iii], Petitioner identifies that the "second A/V stream," that is the stream selected for a "second playback state," is "a subset of segments in the original temporal order of the first A/V stream *without the identified interstitial content*." Pet. 30–31, 36 (emphasis added). However, as Patent

Owner points out, Petitioner's mapping of limitation 1[d][ii] with removal of all interstitial content conflicts with that asserted for claims 3 and 12, wherein Petitioner contends that certain undesignated interstitial portions are not presented. That is, Petitioner relies on Casagrande's teaching that there are no interstitials in playback under limitation 1[d][iii], but for claim 3, which depends from claim 1 and includes all its limitations, Petitioner relies upon Casagrande's playing undesignated segments of the secondary content, where Petitioner asserts the second content is the interstitials only. The reliance on teachings of skipping all the interstitials and also skipping only some of the interstitials are inconsistent and mutually exclusive, and given the interdependencies of claim 1 and claim 3, this represents Petitioner taking inconsistent positions on the respective claims. Further, Petitioner points to Casagrande's disclosure that a user can select certain segments for presentation, and not others (*see* Pet. 41 (citing Ex. 1006, 4:4–8)), but as discussed for limitation 1[c] above, as Petitioner maps the "first command" and the "second command," it is the "first command" that determines whether the interstitials will be presented. Petitioner asserts that it is the "second command" that initiates playback, and Petitioner maps this to Casagrande's selection of segments, not to choosing an A/V stream with or without interstitials. Petitioner also refers to Casagrande's teaching that there can be restrictions against skipping through commercials segments, "regardless of the receipt of user input requesting non-presentation of the segments," but this does not address why Casagrande teaches "only a portion of said secondary video content" (interstitials). *See* Pet. 41. That is, Casagrande discloses restrictions on skipping all commercials, but does not disclose that this would be applied to only some commercials. Ex. 1006, 24:34–43.

In Reply, Petitioner asserts that "Casagrande does not suggest that the restrictions against fast forwarding or skipping apply equally to all commercial segments, and Russ confirms that not every commercial would be subject to the same restrictions as others." Pet. Reply 15. Casagrande does disclose that there can be restrictions on skipping commercials, but does not indicate or suggest that restrictions would be applied to some commercials and not others. *See* Ex. 1006, 24:34–43. Although Petitioner suggests that Russ provides "confirm[ation]" of an alleged teaching of Casagrande, we do not agree with this characterization, because, as stated, Casagrande does not indicate or suggest application of a restriction to some commercials and not others.

Petitioner then turns to Russ's disclosures, alleged to "confirm[] that not every commercial would be subject to the same restrictions or not." Pet. Reply 15–16 (citing Ex. 1008 ¶ 35). We decline to consider Russ's disclosures for the teaching of these claims. Specifically, Petitioner's newly-raised reliance on Russ's teachings is directed to a new theory of unpatentability, that is, Russ's disclosure of commercial segments organized by slot, with time-based restriction specific to the slot, and that different time restrictions would be used for the respective slots. *Id*. at 15. The Petition does not contain any reference to Russ for teachings related to claims 3 and 12. *See* Pet. 40–42. "The 'newness' restriction prohibits the petitioner from raising, in reply, 'an entirely new theory of *prima facie* obviousness absent from the petition,' even if the new theory is responsive to the patent owner's response or the Board's institution decision." *Corephotonics, Ltd. v. Apple Inc*., 84 F.4th 990, 1008 (Fed. Cir. 2023) (quoting *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.,* 853 F.3d 1272, 1286 (Fed. Cir. 2017)). As discussed above, we do not find that the evidence of

record demonstrates that Casagrande teaches the limitations of these claims, so Petitioner appears to be relying on the new arguments and evidence related to Russ to demonstrate *prima facie* obviousness that are not in the Petition.[9] Nor is there an explanation as to why this is a fair extension of a previously-raised argument, and we do not discern that the new arguments are related to those previously made in the Petition. *See Corephotonics*, 84 F. 4th at 1009. In our view, Petitioner's Reply "contention crosses the line from the responsive to the new." *Ariosa Diagnostics v. Verinata Health, Inc*., 805 F.3d 1359, 1386 (Fed. Cir. 2015). Therefore, we disregard Petitioner's arguments based on Russ for claims 3 and 12 made in reply.

Petitioner also refers to another new reference (Ex. 1015) for the teaching of this element of the claims, but this is also not referred to in the Petition, so we disregard this argument. Pet. Reply 16; Ex. 1015 ¶¶ 10–11; *see* Consolidated Trial Practice Guide,[10] 74 (A contention in reply "that raises a new issue or belatedly presents evidence may not be considered.").

Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that claims 3 and 12 are unpatentable based on the combination of Casagrande and Russ.

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[9] We do not discern that the situation here is due to circumstances like a new claim construction Board ruling arising in a Final Written Decision that Petitioner did not have the opportunity to address, nor does it relate to the same prior art identified in the Petition. *See*, e.g, *Axonics, Inc. v. Medtronic, Inc*., 75 F.4th 1374, 1380–84 (Fed. Cir. 2023); *Corephotonic*s, 84 F. 4th at 1010.

[10] Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), available at https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf.

d. Dependent Claim 17

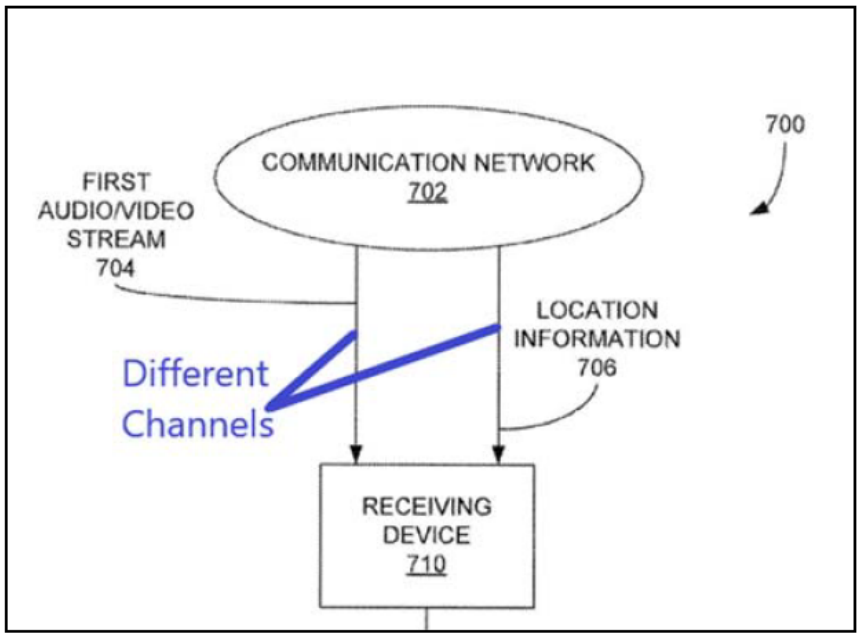
Claim 17 depends from claim 11 (which depends from claim 9) and further recites:

> wherein said step of receiving said video program further comprises receiving said video program, said at least one time of when said second portion of said video program begins, and said at least one time of when said second portion of said video program ends from a satellite, wherein each one of said at least one times is received by said DVR after said video program is stored on said memory device.

Ex. 1001, 14:10–17.

Petitioner asserts that Casagrande discloses that "[t]he location information 706 may be transmitted to the receiving device 710 together or separately from the first A/V stream 704." Pet. 49 (citing Ex. 1006, 12:52–56; Ex. 1002 ¶ 203). Petitioner contends that a person of ordinary skill in the art "would have understood that the location information that includes 'each one of said at least one times' may be received after storage of the video stream and/or that receiving the location information after storage of the video stream would be obvious." *Id*. (citing Ex. 1002 ¶ 204).

Patent Owner argues that a person of ordinary skill in the art would understand Casagrande's disclosure that "[t]he location information 706 may be transmitted to the receiving device 710 together or separately from the first A/V stream 704" means that "separately" is "on a different channel," not "at a different time." PO Resp. 29 (citing Ex. 2006 ¶ 94). In support of its contention, Patent Owner refers to annotated Figure 7 of Casagrande, reproduced below.



Annotated Figure 7 of Casagrande depicts some components of a system, with Patent Owner identifying signal lines as "Different Channels." PO Resp. 29.

In Reply, Petitioner asserts that Patent Owner's reading of "location information 706 may be transmitted to the receiving device 710 together or separately from the first A/V stream 704" to mean "at a different time" is strained and narrow. Pet. Reply 16 (citing PO Resp. 29; Ex. 1006, 12:52–54). Petitioner contends that Casagrande teaches "the communication interface 1502 may receive the supplemental content 1506 and the location information 1508 ***by employing the same technology used to receive the first A/V stream***" and this information can be separate from the first A/V stream. *Id*.

We find that Petitioner has not met its burden to demonstrate unpatentability of claim 17. In claim 17 there are times recited in the claim: "at least one time of when said second portion of said video program begins" and "at least one time of when said second portion of said video program

ends." Ex. 1001, 14:10–17. The claim further requires "wherein each one of said at least one times is received by said DVR *after said video program is stored on said memory device*." *Id*. at 14:15–17 (emphasis added). Petitioner has not demonstrated that the evidence of record provides support that the video program storage is at an earlier time relative to the receiving of the times relating to the second portion of a video stream. Rather, as Patent Owner asserts, the evidence suggests that Casagrande instead transmits the location information in a separate signal than the A/V stream. Ex. 1006, Fig. 7.

At oral hearing, Petitioner argued that whether Casagrande discloses that the location information is sent with the program or is transmitted later could go "either way." Tr. 22:24–26. Petitioner asserted that Dr. Jeffay testified that "a person of ordinary skill in the art reading that, you know, separately language would understand that could be separate in time" and "separate in time certainly includes the possibility of sending it later." *Id*. at 23:5–9. Petitioner first newly raised evidence at oral hearing as to why one of ordinary skill in the art would view Casagrande to support a separate in time teaching. Specifically, Petitioner identified a portion of Casagrande (Ex. 1006, 20:18) that was not previously identified or discussed in the Petition or Petitioner's Reply in association with this claim.[11] *Id*. at 23:12–17. The issue of Petitioner's failure to show the teaching of the temporal aspect of this claim was raised in Patent Owner's Response (PO Resp. 29) and the proper time to respond to this issue was in Petitioner's Reply, not at

[11] We note that the demonstrative slides that Petitioner referred to for claim 17 during the hearing (Ex. 1021, slides 36, 40) do not show the citation to Casagrande referenced at oral hearing or the specific reference to a portion of Dr. Jeffay's declaration. Tr. at 23:12–17.

the hearing. We therefore do not consider Petitioner's newly-raised argument made at the oral hearing.

Petitioner bears the burden to demonstrate unpatentability, and we do not find that Petitioner has carried its burden. Petitioner was required to demonstrate by a preponderance of the evidence that Casagrande teaches that the location information it relies upon was sent after the storage of the video stream. The evidence relied upon by Petitioner, even if it were to arguably demonstrate that location information could be sent after the video stream, is insufficient. As discussed above, the evidence of record shows only that Casagrande transmits the location information in a separate signal than the A/V stream (Ex. 1006, Fig. 7), and Dr. Jeffay's testimony on claim 17 is conclusory (Ex. 1002 ¶¶ 201–205).

Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that claim 17 is unpatentable.

e. Dependent Claims 2, 4–8, 10, 11, 13–16, and 19

Petitioner asserts that the combination of Casagrande and Russ teaches all the limitations of dependent claims 2, 4–8, 10, 11, 13–16, and 19 and that there is a rationale to combine the references. Pet. 39–40, 42–50.

Patent Owner presents no arguments specific to these claims, except that they depend from independent claims 1, 9, and 18, which Patent Owner asserts have not been demonstrated to be unpatentable. PO Resp. 32. As discussed above, we disagree with Patent Owner and find that Petitioner has demonstrated by a preponderance of the evidence that independent claims 1, 9, and 18 are unpatentable.

We are persuaded by Petitioner's arguments as to claims 2, 4–8, 10, 11, 13–16, and 19 and find they are supported by the cited evidence. Pet. 39–40, 42–50. Accordingly, we adopt Petitioner's analysis as our own.

Petitioner has shown sufficiently that the combination of Casagrande and Russ teaches or suggests each limitation of dependent claims 2, 4–8, 10, 11, 13–16, and 19 and sufficient reasoning with rational underpinning has been provided for the motivation to combine the references.

Accordingly, Petitioner has shown by a preponderance of the evidence that claims 2, 4–8, 10, 11, 13–16, and 19 are unpatentable as obvious over Casagrande and Russ.

E. Asserted Obviousness of Claims 1–19 Over Dow and Russ

Petitioner contends that claims 1–19 are rendered obvious by Dow in combination with Russ. Pet. 67–74. In support, Petitioner relies upon the Jeffay Declaration and the Reply Jeffay Declaration. Ex. 1002; Ex. 1014. Patent Owner argues that the combination of Dow and Russ does not teach all the limitations of the claims and Petitioner has provided insufficient rationale to combine the references. PO Resp. 50–58. Patent Owner relies upon the Freedman Declaration. Ex. 2006.

We begin our discussion with brief summary of Dow, and then address the evidence and arguments presented.

1. Dow (Ex. 1007)

Dow describes "a digital video recorder that detects and stores black field and silent frame events for use in locating commercial groups. The commercial groups may be skipped or otherwise navigated based upon data pointers linking the stored events to corresponding locations in the video data file." Ex. 1007, code (57). Dow discloses "improved methods of detecting commercials and automatically skipping them." *Id.* at 3:47–48.

Specifically, Dow discloses its system "may identify transitions between program content and commercials or commercial groups and

provide a navigation function for automatically skipping the commercials or commercial groups during playback." *Id.* at 22:37–41. Dow's "navigation function module 814 may provide the logic for a commercial skipping feature." *Id.* at 23:29–30. Dow discloses:

> The control interface module 818 may provide menu options for selecting whether or not the commercial skip function is active when playback is selected from a playback menu. The control interface module 818 may define that the commercial skip is always inactive in live view mode or delayed view mode (a form of playback) where there is insufficient time to buffer and process events for identifying commercial groups (e.g., a time delay of less than two minutes).

Id. at 24:40–48.

2. Discussion

a. Claim 1

i. Limitation 1[pre]

For the teaching of the preamble, Petitioner asserts that "Dow teaches a DVR that 'provide[s] a large number of enhancements for receiving, storing, and viewing video content,' including 'enhanced navigation options, such as slow motion, fast-forwarding, and rewinding," as well as "methods for skipping entire portions of a presentation." Pet. 51 (citing Ex. 1007, 3:2–26, 6:53–7:6).[12]

Patent Owner presents no arguments specifically related to limitation 1[pre]. *See generally* PO Resp.

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[12] For the teaching of the preamble, Petitioner relies upon the argument and evidence provided under its anticipation challenge based on Dow. Pet. 67.

On this complete record, we agree with Petitioner that Dow teaches the preamble of claim 1.[13]

ii. Limitation 1[a]

For the teaching of limitation 1[a], Petitioner asserts that Dow discloses an "A/V input module," with tuner, that receives sequential portions of presentation content. Pet. 52–53 (citing Ex. 1007, 9:49–52, 12:28–32).[14]

Patent Owner presents no arguments specifically related to limitation 1[a]. *See generally* PO Resp.

On this complete record, we agree with Petitioner that Dow teaches limitation 1[a].

iii. Limitation 1[b]

For the teaching of limitation 1[b], Petitioner asserts that Dow teaches data storage 550 stores content files and other data used in the operation of the DVR. Pet. 54 (citing Ex. 1007, 12:11–17, Fig. 5).[15]

Patent Owner presents no arguments specifically related to limitation 1[b]. *See generally* PO Resp.

On this complete record, we agree with Petitioner that Dow teaches limitation 1[b].

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[13] We need not determine whether the preamble of claim 1 is limiting because Petitioner has shown that Dow teaches the preamble.
[14] For the teaching of limitation 1[a], Petitioner relies upon the argument and evidence provided under its anticipation challenge based on Dow. Pet. 67.
[15] For the teaching of limitation 1[b], Petitioner relies upon the argument and evidence provided under its anticipation challenge based on Dow. Pet. 67.

iv. Limitation 1[c]

For the teaching of limitation 1[c], Petitioner asserts that Dow teaches the use of a remote control receiving user commands for controlling the DVR system, where the commands are passed to and executed by processor.[16] Pet. 55–56. Petitioner further asserts that Dow teaches that the "control interface module 'define[s] one or more control signals for toggling the commercial skip function between active and inactive modes, such as a button on (and corresponding control signal from) a remote control,' thereby defining a first command for changing from disabled commercial skipping (first playback state) to enable commercial skipping (second playback state)." *Id*. at 56 (citing Ex. 1007, 24:29–32). Petitioner further asserts that Dow teaches "a second command to initiate playback of the program stored in memory," using its "play button." *Id*. at 56–57 (citing Ex. 1007, 24:37–40 ("The control interface module 818 may provide a global default through a menu system for defining whether the commercial skip function is active or inactive at the start of playback (e.g., when the play button is pressed.")).

Patent Owner argues that, although Petitioner asserts that Dow's toggle button setting corresponds to a functionality where the commercial skip is either active or inactive, the "first playback state" and "second playback state" require more than this functionality. PO Resp. 35–36 (citing Pet. 56). Patent Owner asserts that the playback states also place time-based limitations on navigation through a program. *Id*. at 36 (citing Ex. 2006 ¶ 105); *see also* PO Sur-reply 17.

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[16] For the teaching of limitation 1[c], Petitioner relies upon the argument and evidence provided under its anticipation challenge based on Dow. Pet. 67.

We agree with Petitioner that the evidence supports that Dow teaches the "first command" which sets different playback states (commercial skipping or no commercial skipping), as well as "second command" that initiates playback. *See* Ex. 1007, 24:29–40. We are not persuaded by Patent Owner's argument concerning a time-based limitation because limitation 1[c] does not have such a requirement.

On this complete record, we agree with Petitioner that Dow teaches limitation 1[c].

v. Limitation 1[d][i]

For the teaching of limitation 1[d][i], Petitioner refers to Dow's description of a control interface module that defines "variables governing the activation of the navigation function when the DVR is in a particular state, such as playback mode, playback menu mode, live view mode, program guide menu mode, etc."[17] Pet. 58 (citing Ex. 1007, 24:24–27). Petitioner asserts that Dow discloses that the "control user interface defines 'control signals for toggling the commercial skip function between active,' when the user may skip commercials, 'and inactive modes,' when the user may not skip any commercials." *Id*. (citing Ex. 1007, 24:30–31). Petitioner contends that "Dow teaches that '[t]he control interface module 818 may define that commercial skip is always inactive in live view mode or in delayed view mode (a form of playback) where there is insufficient time to buffer and process events for identifying commercial groups (e.g., a time delay of less than two minutes).'" *Id*. (citing Ex. 1007, 24:43–48).

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[17] For the teaching of limitation 1[d][i] under its obviousness assertions, Petitioner relies upon the argument and evidence provided under its anticipation challenge based on Dow. Pet. 67.

Patent Owner argues that, although Petitioner's citations to Dow "disclose that different operational modes of *Dow's* DVR affect whether the user can skip commercials," they "do not disclose any of those modes being affected by time." PO Resp. 39 (citing Ex. 1007, 24:24–27). Patent Owner asserts that Petitioner's reference to Dow's commercial skip inactive state in live or delayed view mode indicates that "the 'commercial skip' is disabled based on what mode the DVR is in, not by time." *Id*. (citing Ex. 1007, 24:43–48; Ex. 2006 ¶¶ 111). Patent Owner further argues that "*Dow* does not determine whether a 'second command' was received during a 'first period of time,'" as the claim limitation requires. *Id*. at 39–40. Patent Owner also contends that Dow cannot "provide said video in its entirety," as claimed, in a "live view mode" because the "'second portion' has not been fully received and the third portion has not yet been received, let alone stored in a memory device." *Id*. at 40–41 (citing Ex. 1007, 24:43–48; Ex. 2006 ¶ 112). Patent Owner asserts that Petitioner's mapping is "flawed" because "the 'second portion' has not been fully transmitted and the 'third portion' has not yet been transmitted." *Id*. at 41 (citing Ex. 2006 ¶ 113).

In Sur-Reply, Patent Owner asserts that in the Petition there is no reference to Russ in the discussion of limitation 1[d][i]. PO Sur-reply 10. Patent Owner also argues that Russ's tags expire and, therefore, that commercials would no longer be viewable. *Id*. at 10–11.

Petitioner's obviousness challenge relies upon the combination of Dow and Russ. Pet. 67–74. Although the Petition states that it relies on the anticipation assertions for this limitation (Pet. 67), the Petition also states that, in the combination, Russ explains "[t]he commercial slot could also preclude trick play for only a specified length of time, such as two weeks" and that "Russ discloses the desirability of having a *first time period* wherein

the user must watch the entire A/V stream, including commercials, such as when the operator or programmer has placed a two-week restriction on skipping commercials." *Id*. at 68–69 (citing Ex. 1002 ¶ 343–344; Ex. 1008 ¶ 35) (emphasis added). We find that this reference back to "the first period of time" shows that Petitioner relies on the combination of Dow and Russ for the teaching of limitation 1[d][i]. We find also find that this assertion, with the reliance on Russ to teach a restriction on commercial skipping in a first period of time, teaches the limitation that a video program would be played in its entirety in a first period of time. Thus, contrary to Patent Owner's arguments, we find that the Petition's arguments and evidence provide support of the teaching that the "commercial skip" is disabled based on time, not on the mode set in the combination Dow with Russ. We also do not find persuasive Patent Owner's argument that Russ uses tags which determine whether a commercial can be skipped, and that it is the tag that determines whether the commercial can be skipped and not the time at which the video program is played back. PO Sur-reply 11. As to this argument, Patent Owner attacks Russ individually and not the combination of references. Petitioner relies on Russ's teaching of the desirability of having a first period where the user must watch the entire program, so it is this known time-based limit in Russ that would be implemented in Dow. *See* Pet. 68–69.

Additionally, we do not find persuasive Patent Owner's arguments that the claim is not taught in Dow because the transmission of a program may be incomplete. As discussed in the claim construction section, *supra*, we have not adopted Patent Owner's proposed construction that the "a first period of time" has "to start after transmission of the entire 'video program' to the DVR."

Additionally, we agree with Petitioner, and we find persuasive Dr. Jeffay's testimony, that a person of ordinary skill "would have been motivated to combine Dow and Russ in order to effectuate the desired result of restricting navigation in order to avoid 'reduc[ing] the attractiveness of subscriber television systems as media for advertising.'" Ex. 1002 ¶ 344 (quoting Ex. 1008 ¶ 6); *see also* Ex. 1002 ¶ 345. More specifically, Russ states that when users fast-forward through commercials this "removes a potentially important source of information from the user and reduces the attractiveness of subscriber television systems as media for advertising." Ex. 1008 ¶ 6. Accordingly, the evidence of record supports that one of skill would look to Russ's techniques, including an initial period of playback time when commercial skipping would be restricted in order to maintain attractiveness for advertising. Dr. Jeffay testifies that a person of ordinary skill in the art would have combined Russ's techniques with Dow to "allow the content provider to obtain additional revenue from advertisements shown to viewers who value watching the program during the initial release period while still appealing to viewers who are willing to delay watching the program in order to avoid commercials." Ex. 1002 ¶ 345. Further, we agree with Petitioner that Dow and Russ relate to utilizing DVRs to view audio-video content and to time-shifting functionality when viewing content on DVRs, and the references teach the use of restrictions to prevent users from performing trick-play or skipping over content such as advertisements, which supports that one of ordinary skill of art viewing the teachings of Dow would have looked to Russ. Pet. 20–21 (citing Ex. 1007, Abstract, 9:37–39, 24:44–48; Ex. 1008 ¶¶ 3, 32, 33; Ex. 1002 ¶ 86). Further, in view of the similarities of Dow and Russ, we find that there would have been a reasonable expectation of success of the combination.

Patent Owner argues that neither Petitioner nor Petitioner's expert provide evidence that Dow suffers from reduced ad revenues because of Dow's ad-skipping feature or would experience an increase in ad revenues if Dow's system was modified. PO Resp. 52 (citing Ex. 2006 ¶ 136). We do not find Petitioner's arguments persuasive because Dow discloses that a user can set a toggle switch to skip commercials. Ex. 1007, 24:29–32. Because Dow discloses that a user could skip commercials, this provides support for Petitioner's assertions that there was a need for in Dow to restrict the commercial skipping by the combination with Russ. Further, Russ discloses that commercial skipping reduces the attractiveness of subscriber television systems as media for advertising, indicating the desirability to restrict commercial skipping. *See* Ex. 1008 ¶ 6. Thus, we do not find Patent Owner's arguments persuasive.

Accordingly, on this complete record, we agree with Petitioner that the combination of Dow and Russ teaches limitation 1[d][i] and there is rationale to combine the references.

vi. Limitation 1[d][ii]

Petitioner asserts "a user of Dow's DVR may disable the commercial skip feature in a second period of time," such as using "control signals for toggling the commercial skip function between active and inactive modes, such as a button on (and corresponding control signal from) a remote control." Pet. 58 (citing Ex. 1007, 24:29–32). Petitioner refers to Russ's disclosure of restrictions on commercial skipping in a first period of time and argues that "Russ discloses the desirability of having a second time period (i.e., once the restriction expires) in which the user may elect to skip the commercials or not." *Id*. at 68–69 (citing Ex. 1002 ¶¶ 344–345). Dr. Jeffay testifies that "Russ discloses a second period of time (i.e., once the

restriction expires) in which the user may elect to skip the commercials or not." Ex. 1002 ¶ 343. Petitioner asserts that a person of ordinary skill in the art "would have found it obvious to implement the time-based restrictions of Russ in Dow's DVR." Pet. 69 (citing Ex. 1002 ¶ 345). Petitioner also asserts, with supporting testimony from Dr. Jeffay, that some users are willing to accept restrictions on commercial skipping soon after distribution of content during a first period time, while other users are willing to wait weeks to watch the program to allow for availability of commercial skipping. *Id*. (citing Ex. 1002 ¶ 345). Petitioner also asserts that a person of ordinary skill in the would have understood that the combination would "allow[] the content provider to obtain additional revenue from showing advertisements to users who value watching the program during the initial release period while still appealing to viewers who are willing to delay watching the program until commercial skipping becomes available." *Id*. (citing Ex. 1002 ¶ 343).

Patent Owner argues that "*Russ* does not disclose 'providing said video program in its entirety' (i.e., including commercials under Petitioner's argument) 'during a second period of time.'" PO Resp. 53 (citing Ex. 2006 ¶ 137). Patent Owner asserts that Russ's tags expire and so it does not teach providing a video program in its entirety. *Id*. at 53–54. Patent Owner also contends that Petitioner's obviousness rationale is only supported by Dr. Jeffay's declaration, which should be afforded no weight, because it only restates Petitioner's argument without additional supporting evidence or reasoning. *Id*. at 54.

We find that Petitioner has demonstrated that the combination of Dow and Russ teaches limitation 1[d][ii]. We credit Dr. Jeffay's testimony that after the first restriction period expires, Russ discloses a second period of

time. Ex. 1002 ¶ 343. Russ in combination with Dow would allow a user to enable or disable the commercial skip feature in a second period of time. Ex. 1007, 24:29–32. As Dr. Jeffay testifies, and we agree, some users may opt to not skip commercials for longer periods of time. Ex. 1002 ¶ 345.

We do not find persuasive Patent Owner's argument concerning Russ's tags for the reasons discussed, *supra*, for limitation 1[d][i]. We also do not find persuasive Patent Owner's argument that Russ does not teach the playback of the entire video program in the second period of time; the Petition relies on the combination of Dow and Russ, not just Dow, for the teaching of this limitation. Finally, as to Patent Owner's arguments that Dr. Jeffay's declaration is unsupported, we do not agree. Dr. Jeffay provides references to the prior art, with explanations as to how the art teaches the claims, and also provides rationale for the combination, as supported by the prior art disclosures. *See* Ex. 1002 ¶¶ 324–351.

Thus, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of limitation 1[d][ii] by the combination of Dow and Russ or Petitioner's asserted rationale to combine the references.

Accordingly, on this complete record, we agree with Petitioner that the combination of Dow and Russ teaches limitation 1[d][ii] and there is rationale to combine the references.

vii. Limitation 1[d][iii]

Petitioner asserts that "Dow discloses the use of the DVR's 'enhanced navigation features to view recorded content with substantially reduced commercials.'" Pet. 70 (citing Ex. 1007, 9:37–39). Petitioner refers to Dow's Figure 3, reproduced below, to show where the commercial skip feature is enabled. *Id*. (citing Ex. 1007, 9:45–47, Fig. 3).

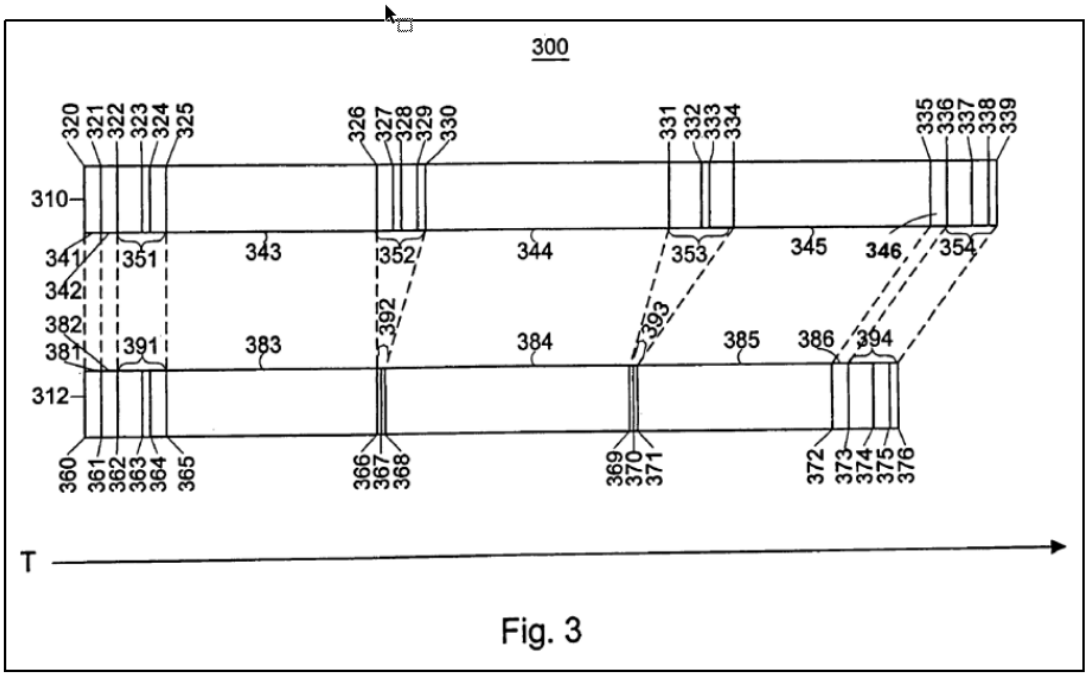

Fig. 3

Figure 3 of Dow, reproduced above, depicts first timeline 310 that corresponds to how a video program was originally presented and stored and second timeline 312 is the program viewed with the commercial skipping feature enabled. Ex. 1007, 9:39–45. Petitioner asserts that "Dow explains that '[p]rogram segments 383–385 would be presented sequentially without any interruption or other indication that commercials had been skipped.'" Pet. 70 (citing Ex. 1007, 10:45–47). Dr. Jeffay testifies that a person of ordinary skill in the art POSA "would have understood based on Dow that a shortened presentation disclosed in the second timeline of Figure 3 would include the sequential presentation of program content segments, leading to the presentation of the third segment of claim element 1[d][iii] being presented immediately following the claimed first segment." Ex. 1002 ¶ 347. Dr. Jeffay further testifies that a person of ordinary skill "would have understood that Dow and Russ disclose all limitations of claim element 1[d]." *Id.* ¶ 348.

Patent Owner asserts that for limitation 1[d][iii], "Petitioner merely restates its anticipation arguments for *Dow*, and its previous arguments for *Russ* (where trick play is precluded)" and these features of the limitation are not disclosed in the prior art. PO Resp. 55. Patent Owner argues that "[i]n *Dow*, there are no time-based restrictions on commercial skipping after the video program has been received and stored on a memory device" and "[i]n *Russ*, the commercial skipping restrictions are commercial based, not time-based." *Id*. Patent Owner contends that "[t]he transmitted commercial can either be skipped or it cannot (based on its 'tag'.)." *Id*. (citing Ex. 2006 ¶ 141).

We find that Petitioner has demonstrated that the combination of Dow and Russ teaches limitation 1[d][iii]. We agree with Petitioner that Russ in combination with Dow would allow for a user to enable or disable the commercial skip feature in a second period of time, and with commercial skip enabled, the presentation of the third segment of a video program would be presented immediately following the claimed first segment. *See* Pet. 58–59; Ex. 1007, 24:29–32.

We do not find persuasive Patent Owner's argument that Dow does not teach time-based restrictions on commercial skipping because Petitioner relies on Russ in combination with Dow. As to this argument, as well as the arguments that Russ's commercial skipping restrictions are commercial-based with tagging, Petitioner relies on Russ's teaching of the desirability of having a first period where the user must watch the entire program, so it is this known time-based limit in Russ that would be implemented in Dow. *See* Pet. 68–69. Thus, we are not persuaded by Patent Owner's arguments.

Thus, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of limitation 1[d][iii] by the combination of Dow and Russ or Petitioner's asserted rationale to combine the references.

Accordingly, on this complete record, we agree with Petitioner that the combination of Dow and Russ teaches limitation 1[d][iii] and there is rationale to combine the references.

viii. Limitation 1[e]

Petitioner asserts that "Russ clearly defines a first period of time where trick play is 'preclude[d]'" where "during the first time period, the Dow-Russ combination would have resulted in the ability to play only the first timeline of Dow's Figure 3" and "[d]uring the second time period, after the commercial skip or trick play restrictions are lifted, the Dow-Russ combination would have result[ed] in a user being permitted to view the program according to the second timeline of Dow's Figure 3, with abbreviated or no commercials." Pet. 71 (citing Ex. 1007, Fig. 3; Ex. 1002 ¶ 348).

Patent Owner presents no arguments specifically related to limitation 1[e]. *See generally* PO Resp.

We agree with Petitioner that the combination of Dow and Russ teaches a second period of time following a first period of time where trick play has been precluded.

On this complete record, we agree with Petitioner that the combination of Dow and Russ teaches limitation 1[e] and a rationale to combine the references has been demonstrated.

ix. Conclusion

Patent Owner presents no evidence of objective indicia of nonobviousness. *See generally* PO Resp. Weighing the record as a whole in view of the findings and analysis above, we conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that independent claim 1 would have been obvious over Dow and Russ.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claim 1 is unpatentable.

b. Independent Claims 9 and 18

Claim 9 is an independent method claim and claim 18 is an independent apparatus claim. Ex. 1001, 12:52–13:26, 14:18–46. Petitioner relies on the same arguments and evidence in support of obviousness for these claims as that relied upon for claim 1. Pet. 67–72. We are persuaded by Petitioner's arguments as to claims 9 and 18 and find they are supported by the cited evidence. *Id*. Accordingly, we adopt Petitioner's analysis as our own. Petitioner has shown sufficiently that the combination of Dow and Russ teaches or suggest each limitation of independent claims 9 and 18, and sufficient reasoning with rational underpinning has been provided for the motivation to combine the references.

Patent Owner alleges that Petitioner does not provide independent analysis for claims 9 and 18 and that Petitioner "contends that the same disclosures in *Dow* and *Russ* are relevant to each of the independent claims," so "the Petition fails to show that the combination" of references renders the claims obvious. PO Resp. 56. Patent Owner does not identify any deficiencies of Petitioner's evidence and arguments specific to claims 9 and 18 and our review of the evidence indicates that Petitioner's argument and

evidence is applicable to claims 9 and 18, as well as to claim 1. Further, we do not find Patent Owner's arguments for claim 1 persuasive for the reasons explained above. Accordingly, we do not find that Patent Owner's arguments undermine Petitioner's showing of the teaching of the limitations of claims 9 and 18 by the combination of Dow and Russ.

We conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that independent claims 9 and 18 would have been obvious over Dow and Russ.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claims 9 and 18 are unpatentable.

c. Dependent Claims 3 and 12

Claim 3 depends from claim 1 and further recites:

> wherein said video program includes at least primary and secondary video content, and said portion of said video program that is provided to said to said display device if said second command is received during said second period of time and said DVR is in said second playback state includes said primary video content and only a portion of said secondary video content.

Ex. 1001, 12:20–26. Claim 12 depends from claim 9 and recites additional limitations that are essentially the same as claim 3. *Id*. at 13:38–44.

Petitioner relies upon Dow for teaching the limitations of claims 3 and 12. Pet. 60–61, 72. Petitioner asserts that Dow discloses that a video program contains varying content, "for example, program segments and commercials." *Id*. at 60 (citing Ex. 1007, 9:48–49). Petitioner contends that Dow teaches that content portions "are viewed sequentially in a normal presentation, such as during a television broadcast or standard replay from a recorded source" and are viewed without commercials in presentations using Dow's commercial skip function. *Id*. (citing Ex. 1007, 9:49–52). Petitioner

refers to Dow's disclosures that users may utilize the DVR's "enhanced navigation features to view recorded content with substantially reduced commercials" and its DVR "may provide an indicator in order to notify the user that the commercial skip function has skipped commercial content" where "the content navigation module 540 may play a small portion of one or more commercials in a skipped commercial group." *Id*. at 60–61 (citing Ex. 1007, 9:37–39,16:5–9; Ex. 1002 ¶ 250). In support, Dr. Jeffay testifies that the limitations of claim 3 are disclosed in Dow. Ex. 1002 ¶ 250.

Patent Owner presents the argument that to meet the requirements of limitation 1[d][iii] Petitioner relied on the embodiment in Dow where commercials are skipped in their entirety. PO Resp. 44–45 (citing Pet. 59, Ex. 1007, 10:45–47). For claim 3, Patent Owner argues, Petitioner cites to Dow's disclosure "where the DVR still plays 'a small portion of one of more commercials,'" and Petitioner relies upon mutually exclusive embodiments. *Id*. at 45 (citing Pet. 61, Ex. 1007, 16:5–9; Ex. 2006 ¶ 118); *see also* PO Sur-reply 20–21 (asserting that the combination of the embodiments would not have been immediately apparent). Patent Owner contends that Petitioner fails to explain how a commercial can be skipped in its entirety, but a small portion of the commercial is still played. PO Resp. 45.

In Reply, Petitioner contends that "[d]uring a second time period, when the commercial skip feature is enabled, Dow discloses users utilizing the DVR's 'enhanced navigation features to view recorded content with substantially reduced commercials.'" Pet. Reply 24 (citing Ex. 1007, 9:37–39; Ex. 1002 ¶ 250). Further, Petitioner notes that Dow discloses that "the content navigation module 540 may play a small portion of one or more commercials in a skipped commercial group." *Id*. (citing Ex. 1007, 16:5–9; Ex. 1002 ¶ 250) (emphasis omitted).

We find that Petitioner has provided sufficient evidence that Dow teaches the limitations of claim 3. Petitioner relies upon the commercial skipping in Dow for the teaching of both limitation 1[d][iii] (Pet. 59) and for claim 3 (*id*. at 60–61). We do not agree with Patent Owner's arguments alleging inconsistencies in Petitioner's assertions. For limitation 1[d][iii] Petitioner relies upon Dow's teaching of "commercial skipping" with automatic commercial skipping enabled. Pet 59 (citing Ex. 1007, 9:40–45, 10:47– 50,[18] Fig. 3). Although Figure 3 of Dow shows all the commercials skipped in its second timeline, Petitioner does not assert that it is relying on all commercials being skipped for the teaching of limitation 1[d][iii], nor does the limitation require this (providing a "portion of said video program"). *See* Pet. 59. For the teaching of claim 3, Petitioner refers to Dow's disclosure that the "content navigation module 540 may play a *small portion of one or more commercials in a skipped commercial group*." Ex. 1007, 16:5–9 (emphasis added). This supports Petitioner's position that Dow discloses that commercial skipping may include playing a portion of a commercial in a skipped commercial group, and we discern no inconsistency of this with Petitioner's limitation 1[d][iii] contentions. *Id*.

We also do not find persuasive Patent Owner's argument that Petitioner relies upon mutually exclusive embodiments with no apparent reason. As discussed, Petitioner relies upon commercial skipping for the teaching of limitation 1[d][iii], and the teaching of content navigation module 540 for playing a small portion of commercials for claim 3.

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[18] The quoted portion of Dow in the Petition (Pet. 59) is in this citation, rather than the citation of "10:45–47" in the Petition, so the citation in the Petition appears to be a typographical error.

Ex. 1007, 16:5–9. Dow describes that "the content navigation module 540 may include a commercial skip function that operates during playback" (*id*. at 15:43–45), and goes on to explain that the content navigation module may play a small portion of commercials. *Id*. at 16:5–9. Given that Petitioner relies on commercial skipping for the teaching of limitation 1[d][iii], Dow discloses that the content navigation module 540 may have a commercial skip function, and Dow discloses that the play of portions of commercials is by operation of the content navigation module 540, we discern that the embodiments are related. Thus, we are not persuaded by Patent Owner's arguments.

Therefore, we conclude that Petitioner has met its burden to show, by a preponderance of the evidence, that dependent claims 3 and 12 would have been obvious over Dow and Russ.

Accordingly, we determine that Petitioner has shown by a preponderance of the evidence that claims 3 and 12 are unpatentable.

d. Dependent Claim 17

Claim 17 depends from claim 11 (which depends from claim 9) and further recites:

> wherein said step of receiving said video program further comprises receiving said video program, said at least one time of when said second portion of said video program begins, and said at least one time of when said second portion of said video program ends from a satellite, wherein each one of said at least one times is received by said DVR after said video program is stored on said memory device.

Ex. 1001, 14:10–17.

Petitioner asserts that Dow discloses that "video programs may be broadcast with metadata indicating video events" so a person of ordinary skill in the art "would have understood that the metadata affiliated with

video events could be transmitted to the DVR separately, or after the video program has been transmitted." Pet. 74. Petitioner contends that Dow's commercial skip feature "is always inactive in live view mode or delayed view mode (a form of playback) where there is insufficient time to buffer and process events for identifying commercial groups" and a person of ordinary skill "would have found it obvious to have Dow's DVR store the video program in memory separately or before receiving the times when the second portion begins and ends." *Id*. (citing Ex. 1002 ¶¶ 424, 425; Ex. 1007, 24:44–48).

Patent Owner argues that claim 17 requires that "the start time and the end time of the second portion are received from the satellite after the video program is stored on the memory device of the DVR." PO Resp. 56 (citing Ex. 2006 ¶ 144). Patent Owner asserts that Petitioner maps Dow's metadata to "one of said at least one times," but even if that were proper, "*Dow* still fails to disclose the specific timing required by claim 17." *Id*. at 57 (citing Ex. 2006 ¶ 145). Patent Owner contends that neither the Petition nor the Petitioner's expert provide any evidence or reasoning for its conclusions. *Id*. (citing Pet. 74; Ex. 1002 ¶¶ 423–425).

In Reply, Petitioner asserts that Patent Owner's Response "is conclusory and fails to articulate why Dow's 'event data or other metadata' would not include the times recited in claim 17." Pet. Reply 25 (citing Ex. 1007, 14:17–19; Ex. 2006 ¶ 125). Petitioner refers to Dow's metadata table that can include "program name, one or more categories, program description, rating information, running time, recording quality, source, data/time of recording, etc." *Id*. (citing Ex. 1007, 17:9–11). Petitioner also refers to the disclosure that the metadata table includes "the location of a corresponding content file, corresponding index file (time-based index file

and/or commercial index file), a data pointer for where the last viewing left off, etc." *Id*. (citing Ex. 1007, 17:14–17). Petitioner argues that Dow discloses that "in ***some*** embodiments, some or all of the index data ***may*** be received with a broadcast or transfer of a video program," so "Dow describes other embodiments in which some or all of the index data may be communicated at other times, such as after the broadcast or transfer of a video program." *Id*. at 25–26 (citing Ex. 1007, 17:64–65).

We find that Petitioner has not met its burden to demonstrate unpatentability of claim 17. In claim 17 there are times recited in the claim: "at least one time of when said second portion of said video program begins" and "at least one time of when said second portion of said video program ends." Ex. 1001, 14:10–17. The claim further requires "wherein each one of said at least one times is received by said DVR *after said video program is stored on said memory device*." *Id*. at 14:15–17 (emphasis added). Here, Petitioner relies upon Dow's disclosure of metadata as the claimed "second portion." Pet. 74. Although Petitioner's refers to Dow's disclosure of time-related data being included in a metadata table (Ex. 1007, 17:9–11, 17:14–17), this does not teach or suggest that metadata is sent after the video program is stored. Further, while Petitioner refers to Dow's storage of index files being received with the video program in *some* embodiments (Ex. 1007, 17:64–65), we agree with Patent Owner (PO Sur-reply 22) that Dow's disclosure is taken out of context. In the fuller context, Dow discloses that the index data may be generated by the indexing logic and the event indexer module, and in some embodiments the index data may be received with the video program—but this disclosure does not teach or suggest that index data may be sent at different times than the video program or that the index data is sent after the video program is stored. *See* Ex. 1007, 17:61–65.

Additionally, the Petition and Dr. Jeffay's testimony for the teaching of this limitation is conclusory and does not provide any explanation of why one of skill in the art would interpret Dow as teaching that metadata is received after the video program is stored. *See* Pet. 74, Ex. 1002 ¶¶ 423–426. Thus, Petitioner has not demonstrated by a preponderance of the evidence that Dow teaches the limitations of claim 17.

Accordingly, we determine that Petitioner has not shown by a preponderance of the evidence that claim 17 is unpatentable.

e. Dependent Claims 2, 4–8, 10, 11, 13–16, and 19

Petitioner asserts that the combination of Dow and Russ teaches all the limitations of dependent claims 2, 4–8, 10, 11, 13–16, and 19 and that there is a rationale to combine the references. Pet. 60–67, 72–73.

Patent Owner presents no arguments specific to these claims, except that they depend from independent claims 1, 9, and 18, which Patent Owner asserts have not been demonstrated to be unpatentable. PO Resp. 58. As discussed above, we disagree with Patent Owner and find that Petitioner has demonstrated by a preponderance of the evidence that independent claims 1, 9, and 18 are unpatentable.

We are persuaded by Petitioner's arguments as to claims 2, 4–8, 10, 11, 13–16, and 19 and find they are supported by the cited evidence. Pet. 60–67, 72–73. Accordingly, we adopt Petitioner's analysis as our own. Petitioner has shown sufficiently that the combination of Dow and Russ teaches or suggests each limitation of dependent claims 2, 4–8, 10, 11, 13–16, and 19, and sufficient reasoning with rational underpinning has been provided for the motivation to combine the references.

Accordingly, Petitioner has shown by a preponderance of the evidence that claims 2, 4–8, 10, 11, 13–16, and 19 are unpatentable as obvious over Dow and Russ.

F. Asserted Anticipation of Claims 1–5, 7–13, and 16–19 By Dow

Petitioner contends that claims 1–5, 7–13, and 16–19 are anticipated by Dow. Pet. 51–67. Patent Owner argues that Dow does not disclose all the limitations of the claims. PO Resp. 32–49.

a. Claim 1

We focus on limitations 1[d][i]and 1[d][iii]. Petitioner asserts for limitation 1[d][i] that Dow discloses that "[t]he control interface module 818 may define that commercial skip is always inactive in live view mode or in delayed view mode (a form of playback) where there is insufficient time to buffer and process events for identifying commercial groups (e.g., a time delay of less than two minutes)." Pet. 58 (citing Ex. 1007, 24:43–48). Neither the Petition nor Dr. Jeffay identifies why Dow discloses providing the entirety of a video program in a first period of time. Pet. 58; Ex. 1002 ¶¶ 237–239.

Patent Owner argues that commercial skipping is disabled based on what mode the DVR is in, but not by time. PO Resp. 39–40 (citing Ex. 2006 ¶ 111). In Reply, Petitioner asserts that "Dow's commercial skipping toggle is made possible by a commercial indexer and an already-known companion index file containing the ***time index*** of the video file." Pet. Reply 20 (citing Ex. 1007, 6:45–51). Petitioner also contends that "'DVRs may use the data from the index file to enable ***time-based manipulation of the video stream during playback***,' which Dow says includes commercial skipping." *Id*. (citing Ex. 1007, 3:20–22, 6:64–67).

In Sur-Reply, Patent Owner argues that in Dow "[t]he time index is a file that cross-references portions of an MPEG video stream to the elapsed time of the video." PO Sur-reply 17–18. In support, Patent Owner cites to Dow, which discloses:

> Most DVRs store video content as compressed video files using a digital compression standard, such as MPEG. In order to provide time-based access to and navigation of the video files, DVRs may generate a companion index file containing a time index of the video file. For example, the index file may correlate GOPs (Group of Pictures, a unit of MPEG compressed data) to elapsed time. DVRs may use the data from the index file to enable time-based manipulation of the video data stream during play back.

Ex. 1007, 3:14–22 (quoted at PO Sur-Reply 18). Patent Owner further contends that the use of the time index "does nothing more than allow the DVR to skip to specific times within the video stream," and "does not provide any time-based limitations on navigation through a program." PO Sur-reply 18 (citing Ex. 1007, 3:14–22, 6:64–67).

Petitioner has not sufficiently demonstrated that Dow discloses limitation 1[d][i]. The Petition does not identify any Dow disclosure that supports that there would be playback of the entire video program in a first period of time. In Reply, Petitioner points to the use of an index file but does not identify why the index file specifically discloses the time-based limitation, and we do not discern a sufficient disclosure of that limitation in Dow. Further, there is no supporting expert testimony on this issue. *See generally* Ex. 1002; Ex. 1014. Accordingly, we find that Petitioner has not met its burden to demonstrate the disclosure of limitation 1[d][i] in Dow.

For limitation 1[d][iii], Petitioner asserts that Figure 3 of Dow shows two timelines, with the second timeline showing the commercial skipping

feature enabled. Pet. 59. Dr. Jeffay similarly refers to the two timelines shown in Figure 3 in Dow. Ex. 1002 ¶¶ 241–242.

Patent Owner asserts that Figure 3 of Dow "depicts the program as originally presented, whereas timeline 312 depicts how the program will be displayed with the commercial-skip feature active." PO Resp. 42–43 (citing Ex. 1007, 9:37–47). Patent Owner argues that Figure 3 and associated disclosure "are silent about the commercial-skip feature becoming available during a 'second period of time' when it was not available during 'a first period of time,' and where the 'first period of time' started after transmission of the entire video program." *Id*. at 43 (citing Ex. 2006 ¶ 115).

In Reply, Petitioner refers to an index file that contains the time index of the video file. Pet. Reply 22 (citing Ex. 1007, 6:61–64). Petitioner further refers to Figure 3 of Dow and related disclosures. *Id*. at 23 (citing Ex. 1007, 9:40–45, 10:45–47, Fig. 3). In Sur-reply, Patent Owner asserts that the time index of the video file "does nothing more than allow the DVR to skip to specific times within the video stream." PO Sur-reply 19–20 (citing Ex. 1007, 3:14–22).

Dow explains Figure 3 as follows:

> FIG. 3 shows a timeline of a program 300 that has been recorded on a DVR, such as the DVR 100. The first timeline 310 is the program 300 as it may be viewed in correspondence with how it was originally presented and stored on DVR 100. The second timeline 312 is the program 300 viewed with one embodiment of an automated commercial skipping feature enabled. The second timeline 312 provides a substantially different viewing experience, including a shortened total running time for the presentation.

Ex. 1007, 9:39–47. According to this disclosure, and as Patent Owner asserts, Figure 3 depicts the program as originally presented in the first

timeline, and in the second timeline it shows how the program will be displayed with the commercial-skip feature active. We discern nothing in Dow that discloses that commercial-skip feature would be employed in a "second period of time." In Reply, Petitioner points to the use of an index file, but does not identify why the index file discloses this time-based limitation, and we do not discern a sufficient disclosure for this limitation in Dow. Further, there is no supporting expert testimony on this issue. *See generally* Ex. 1002; Ex. 1014. Thus, we find that Petitioner has not met its burden to demonstrate that Dow discloses limitation 1[d][iii].

Accordingly, Petitioner has not shown by a preponderance of the evidence that claim 1 is unpatentable as anticipated by Dow.

b. Claims 2–5, 7–13, and 16–19

Petitioner relies upon the same evidence and argument for its anticipation challenges to independent claims 9 and 18. Pet. 51–60. We do not find that the arguments and evidence are sufficient to demonstrate the disclosure of the limitations of claims 9 and 18 for the reasons discussed for claim 1 above. Thus, we find that Petitioner has not met its burden to demonstrate the disclosure of the limitations of claims 9 and 18 in Dow.

Petitioner asserts that dependent claims 2–5, 7, 8, 10–13, 16, 17, and 19 are anticipated by Dow. *Id*. at 60–67. The argument and evidence for these claims do not cure the deficiencies discussed above for the independent claims. Thus, the anticipation challenge to the dependent claims also fails.

Accordingly, Petitioner has not shown by a preponderance of the evidence that claims 2–5, 7, 8, 10–13, 16, 17, and 19 are unpatentable as anticipated by Dow.

IV. CONCLUSION[19]

The outcome for the challenged claims of this Final Written Decision follows. In summary:

Claim(s)	**35 U.S.C. §**	**Reference(s) /Basis**	**Claim(s) Shown Unpatentable**	**Claim(s) Not Shown Unpatentable**
1–19	103(a)	Casagrande, Russ	1, 2, 3–11, 13–16, 18, 19	3, 12, 17
1–5, 7–13, 16–19	102	Dow		1–5, 7–13, 16–19
1–19	103(a)	Dow, Russ	1–16, 18, 19	17
Overall Outcome			1–16, 18, 19	17

V. ORDER

It is, therefore,

ORDERED that Petitioner has demonstrated by a preponderance of the evidence that claims 1–16, 18, and 19 of the ’710 patent are unpatentable

[19] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*, 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

and Petitioner has not demonstrated by a preponderance of the evidence that claim 17 of the ’710 patent is unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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