

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK CORPORATION and DISH NETWORK L.L.C.,
Petitioner,

v.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,
Patent Owner.

Case IPR2017-00454
Patent 8,719,090 B2

Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”) filed a Petition requesting *inter partes* review of claims 1–8, 17, and 23 of U.S. Patent No. 8,719,090 B2 (Ex. 1001, “the ’090 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6.

Pursuant to 35 U.S.C. § 314(a), we instituted *inter partes* review on the following grounds:

Ground	Claims	Prior Art
§ 102	1–8, 17, and 23	Hite ¹
§ 103	1–8, 17, and 23	Hite and Hill ²
§ 103	1–8, 17, and 23	Hite and Picco ³
§ 103	1–8, 17, and 23	Hite, Hill, and Picco ⁴

Paper 10 (“Inst. Dec.”); Paper 44, 2.

After institution, Patent Owner filed a Patent Owner’s Response (Paper 24, “PO Resp.”) and a supplement to the Patent Owner’s Response (Paper 46). Petitioner filed a Reply to the Patent Owner’s Response (Paper 35, “Pet. Reply”) and declined to file a reply to the supplement to the Patent Owner’s Response (*see* Paper 45).

¹ U.S. Patent No. 5,774,170 (issued June 30, 1998) (Ex. 1009).

² U.S. Patent No. 4,607,346 (issued Aug. 19, 1986) (Ex. 1010).

³ U.S. Patent No. 6,029,045 (filed Dec. 9, 1997) (Ex. 1011).

⁴ After the Supreme Court’s decision in *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we modified our Institution Decision to institute the ground of claims 1–8, 17, and 23 as unpatentable under 35 U.S.C. § 103 over Hite, Hill, and Picco. Paper 44.

An oral argument was held March 5, 2018. A transcript of the hearing is included in the record. Paper 43 (“Tr.”).

This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims. Based on the complete record, we determine that claims 1–3, 5–8, and 23 of the ’090 patent are unpatentable.

B. Related Proceedings

The ’090 patent is the subject of *Customedia Technologies, L.L.C. v. DISH Network Corp.*, Case No. 2:16-cv-00129 (JRG) in the United States District Court for the Eastern District of Texas. *See* Pet. 1; Paper 5, 2.

Petitioner also filed a petition requesting a covered business method patent review of the ’090 patent. That petition is the subject of CBM2017-00023. *See* Paper 5, 2. In CBM2017-00023, Petitioner challenges claims 1, 5, and 7 of the ’090 patent as being anticipated by Hite and as obvious over Hite and Hill, while in this *inter partes* review, Petitioner does the same, but also challenges claims 2–4, 6, 8, 17, and 23 on the same grounds. We issue a final written decision in CBM2017-00023 simultaneously with this final written decision.

C. The ’090 Patent

The ’090 patent is titled “System for Data Management and On-Demand Rental and Purchase of Digital Data Products” and issued on May 6, 2014. Ex. 1001, (45), (54). The ’090 patent claims priority as a continuation of Application No. 09/383,994 (“the ’994 application”), which was filed on August 26, 1999. *Id.* at (63). The ’994 application claims priority as a continuation-in-part to Application No. 08/873,584 (“the ’584

application”), which was filed on June 12, 1997. *Id.* Petitioner asserts that claims 1–8, 17, and 23 of the ’090 patent are not entitled to priority to the ’584 application, because it does not provide sufficient support for the advertising-related elements of claims 1–8, 17, and 23. Pet. 9–11. Patent Owner does not dispute this assertion.

The ’090 patent discloses a digital data management system having a remote Account-Transaction Server (“ATS”) and a local host Data Management System and Audio/Video Processor Recorder-player (“VPR/DMS”) unit. *Id.* at 4:15–19. The ’090 patent discloses various objects of the digital data management system. *See id.* at 3:32–16. One object is to “[r]ent/lease storage space in users Data Box to personalize and target advertising to the individual preferences of the user.” *Id.* at 4:10–12; *see also id.* at 30:50–33:41 (detailed disclosure of product advertising operations). This object is the focus of the challenged claims. *See id.* at claim 1.

Figure 16 of the ’090 patent is reproduced below.

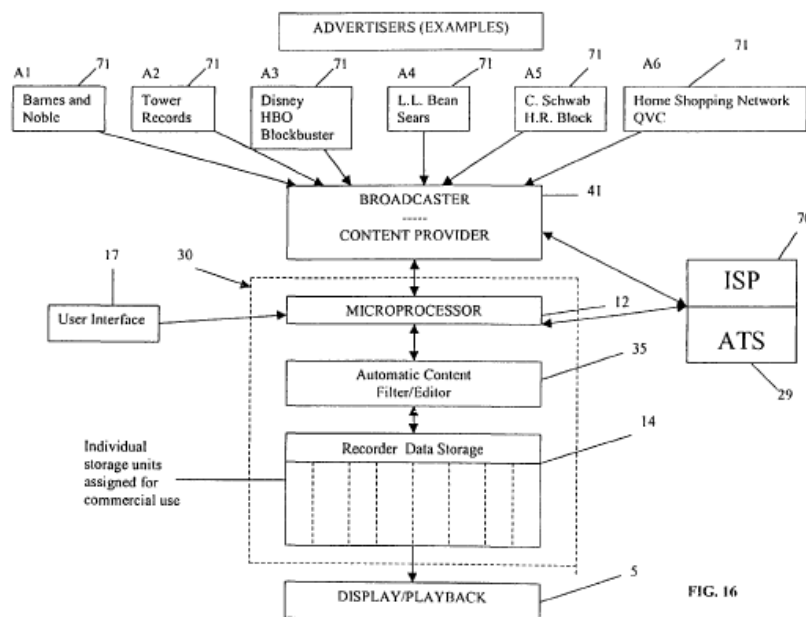


Figure 16 “illustrates the communication pathways between advertisers 71, a broadcaster content provider 41, and VPR/DMS.” *Id.* at 30:61–64.

Broadcaster content provider 41 transmits advertising data to VPR/DMS 30 via ATS 29, and the advertising data is recorded on individual data boxes on built-in, non-movable storage device 14. *Id.* at 31:1–15. “Advertising ‘sections’ or ‘spaces’ or ‘data boxes’ may be reserved, rented, leased or purchased from end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies 1.” *Id.* at 31:60–64. For example, a cable distributor may provide a customer with a cable set-top box and reserve certain areas to sell or lease to advertisers. *Id.* at 31:64–32:4.

Advertising data may be recorded selectively based on customer selection or activity history monitoring. *Id.* at 32:7–21. Based on customer profile data, an advertiser can place an advertising order, for example, to place an advertisement within a video magazine for selected customers. *Id.* at 32:22–33:3.

D. Illustrative Claim

Claim 1 is independent, and claims 2–8, 17, and 23 depend directly or indirectly from claim 1. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers, the system comprising:
 - a remote account transaction server for providing multimedia data products to an end user, at least one of the multimedia data products being specifically identified advertising data; and

a programmable local receiver unit for interfacing with the remote account transaction server to receive one or more of the multimedia data products and for processing and automatically recording the multimedia data products, said programmable local receiver unit including at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data, said at least one advertising data storage section being monitored and controlled by said remote account transaction server and such that said specifically identified advertising data is delivered by said remote account transaction server and stored in said at least one individually controlled and reserved advertising data storage section.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the Specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable construction approach). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Other than the limitation below, no other claim terms need explicit construction. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy.’” (Citation omitted)).

Claim 1 recites the following limitation: “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” Ex. 1001, 46:23–26. In our Institution Decision, we determined that the broadest reasonable construction, in light of the Specification of the ’090 patent, of this limitation is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” Inst. Dec. 7–10. This construction is essentially Petitioner’s proposed construction and the same as the construction adopted by the district court, applying the claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), in the related proceedings. See Inst. Dec. 7–10; Pet. 15; Ex. 1025, 6, 9–18.

Patent Owner acknowledges our construction in the Institution Decision and states, “[f]or the purposes of this IPR, Patent Owner **adopts** the Board[’]s construction.” PO Resp. 9 (emphasis added). Patent Owner, however, then argues that, based upon the prosecution history, this limitation is “a negative limitation that cannot be disclosed in the prior art by omission,” and that this limitation requires the *exclusive* allocation of a uniquely identified portion of storage. *Id.* at 16–18. According to Patent Owner, *exclusive* allocation means “the section is ‘*adapted* specifically for storing *only* the specifically identified advertising data.’” *Id.* at 17 (quoting Ex. 1002, 313). In addressing the prior art, Patent Owner implies that the reserved advertising data storage section must have some structure that actively precludes or prevents the reserved advertising data storage section from storing anything other than specifically identified advertising data. See *generally* PO Resp. 17–23. For example, Patent Owner asserts that the prior art must teach that video, other than the specifically identified advertising

data, is precluded from being stored on the reserved advertising data storage section, as opposed to the prior art teaching merely the storing of specifically identified advertising data on the reserved advertising data storage section and remaining silent as to storing anything else. *See id.* Patent Owner, thus, seeks to narrow further our construction, which it adopts, purportedly.

Patent Owner does not persuade us to modify further our construction based upon the portions of the prosecution history cited in the Patent Owner's Response. To the contrary, the cited portions of the prosecution history do not support Patent Owner's argument, but instead confirm that our construction is correct. First, Patent Owner points out that it amended the limitation to recite, "the section is '*adapted* specifically for storing *only* the specifically identified advertising data'" to overcome the prior art cited by the Examiner. PO Resp. 17–18 (quoting Ex. 1002, 313). The Examiner, however, rejected the amended limitation as lacking written description support in the Specification, and Patent Owner, subsequently, again amended the limitation, to its current form, by removing the word "only" and including the word "reserved" earlier in the claim *See* Ex. 1002, 313, 338, 375–76, 398–99. Patent Owner stated that this latter amendment rendered the rejection "moot." *See id.* at 398–399. Second, Patent Owner points to a dictionary's definitions of "reserve" and "reserved" that it cited during prosecution. PO Resp. 17 (citing Ex. 1002, 365). Those dictionary definitions are:

"Reserve" is defined by The Random House Dictionary of the English Language, Unabridged Edition, 1967, as "3. To set apart for a particular use, purpose, service, etc.: ground reserved for gardening", and **"reserved"** is similarly defined as "1. Kept or set apart for some particular use or purpose".

Ex 1002, 365. Contrary to Patent Owner’s argument, these definitions are consistent with our construction in the Institution Decision, in that they do not include anything concerning active preclusion or prevention. Third, Patent Owner states: “In a Notice of Allowability, the Examiner found that the patentee used ‘reserved’ in this context to refer to *exclusive* allocation of a uniquely identified portion of storage.” PO Resp. 18 (citing Ex. 1002, 432–433). Our review of pages 432 through 433 of Exhibit 1002, however, show no such thing. The Examiner makes no mention of the allocation being exclusive. *See* Ex. 1002, 432–433; Pet. 17 (discussing the same Examiner’s statements to support its proposed construction).

We determine that the broadest reasonable construction, in light of the Specification of the ’090 patent, of “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data” is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” *See* Inst. Dec. 7–10.

B. Anticipation by Hite

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Petitioner contends that Hite anticipates claims 1–8, 17, and 23. Pet. 20–57; Pet. Reply 1–17.

i. Overview of Hite

Hite is titled “System and Method for Delivering Targeted Advertisements to Consumers” and issued on June 30, 1998 from an

application filed on December 13, 1994. Ex. 1009, [22], [45], [54]. Hite discloses a system that delivers TV and radio commercials targeted to individual viewers. *Id.* at 1:7–10. Hite’s Figure 1 is reproduced below.

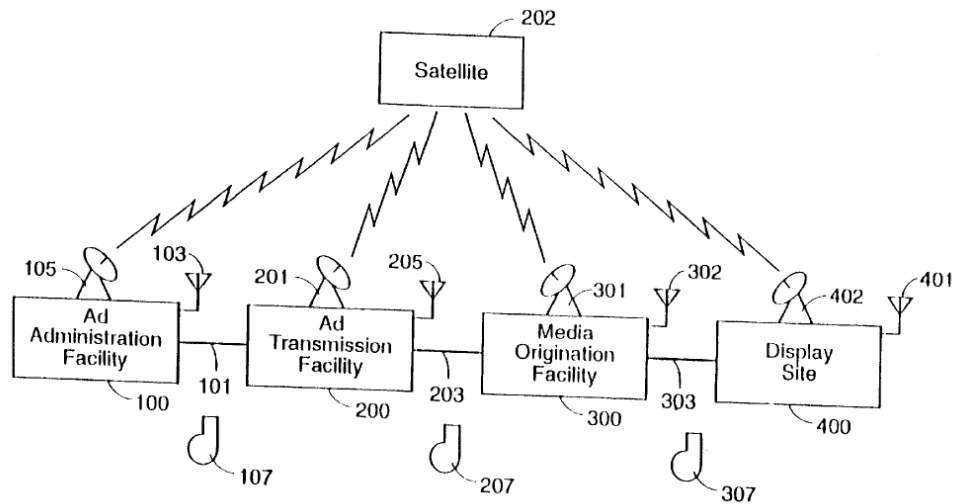


Figure 1 depicts “a basic block diagram of the system.” *Id.* at 8:52. Hite’s system includes Ad Administration Facility 100, Ad Transmission Facility 200, Media Origination Facility 300, and Display Site 400. *Id.* at Fig. 1. Hite discloses that, alternatively, Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 “may be co-located.” *Id.* at 9:39–42. Display Site 400 has an individually addressable digital recording device (“RD”), such as a set-top-box associated with a media or cable provider. Ex. 1009, 5:42–45.

Hite’s Figure 5 is reproduced below.

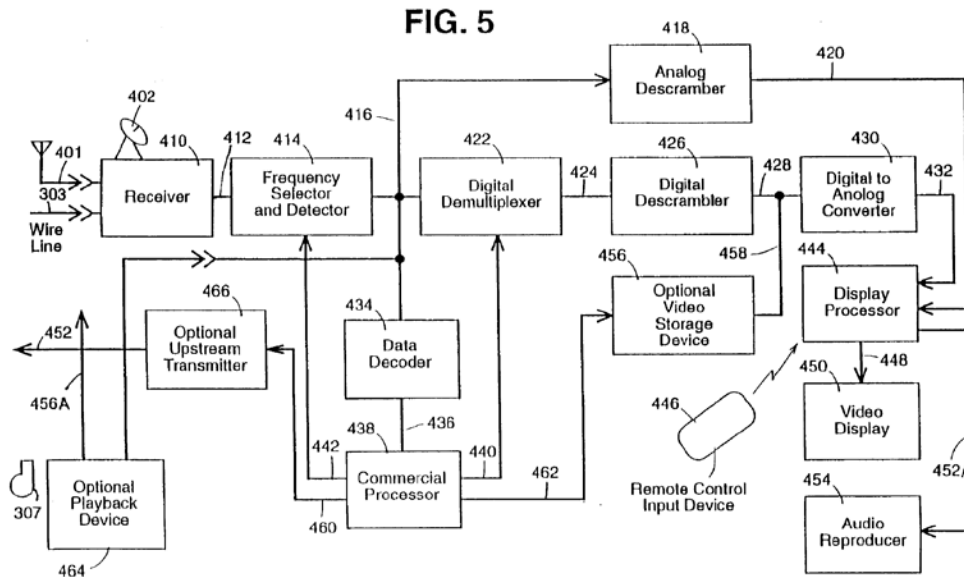


Figure 5 is a block diagram of Display Site 400. *Id.* at 13:58–59. The RD at the display site includes Commercial Processor 438 and Optional Video Storage Device 456. *Id.* at 14:12–13, 14:28–30. Receiver 410 receives broadcast signals, processes the signal, and conveys the signals to Frequency Selector and Detector 414, which then further conveys the signals to Data Decoder 434, Analog Descrambler 418, or Digital Demultiplexer 422. *Id.* at 13:59–14:10. Data Decoder 434 extracts data need by Commercial Processor 438. *Id.* at 14:3–4, 14:31–17. Analog Descrambler 418 descrambles analog signals the viewer is authorized to receive and passes them to Display Processor 444. *Id.* at 14:4–8, 14:47–51. Digital Demultiplexer 442, under the control of Commercial Processor 438, selects digital signals the viewer is authorized to receive, and passes them to Digital Descrambler 426, which then conveys the signals to Digital to Analog Converter 430, which in turn conveys the signals to Display Processor 444. *Id.* at 14:33–41.

Also, the signals from the Digital Descrambler [426] are optionally conveyed by electrical and/or optical connection 458 to an Optional Video Storage Device 456 which can either store

or playback certain commercials under the control of signals conveyed by electrical and/or optical connection 462 from the Commercial Processor 438.

Id. at 14:41–46; *see also id.* at 7:38–42 (“Appropriate storage is provided at the display site to store one or more of the commercials selected by matching the commercial’s CID with that CID determined as appropriate for the display site.”), 20:6–19 (claim 63 including “a storage device for storing the plurality of advertisements”).

Hite uses commercial identifier (“CID”) codes to target commercials to individual viewers. *Id.* at 3:42–43. At Ad Administration Facility 100, CID codes are appended to commercials, based on their nature and focus. *See id.* at 3:43–44. A set of CID codes also are assigned to a viewer. *Id.* at 3:65–4:2. Prior to a commercial broadcast, a viewer’s CID codes are transmitted to the RD and stored in a storage device known as an Ad Que in commercial processor 438. *Id.* at 4:1–2, 5:46–448, 6:66–7:3, 7:12–14; 7:35–42. Hite states:

CID codes chosen for a particular display site (consumer) are transmitted to and stored in an in-home storage at the display site. *Commercials are subsequently transmitted to the in-home storage device with sufficient capacity to hold one or more commercials prior to display.* The commercials could be in analog form, but it is more efficient of transmission and storage capacity to digitize and compress the commercials prior to transmission and storage. Attached to each commercial are codes indicating the conditions and rules required to display the commercial, e.g., date, day-part, network, program context, etc. The codes of the commercials transmitted are first compared to the codes previously stored. *The commercial transmitted that is found to match is stored in the storage at the display site.* Note that the CIDs and display rules would be stored in a storage known as an Ad Queue in the commercial processor.

Id. at 6:66–7:14 (emphases added). During a broadcast program, Commercial Processor 438 looks for CID codes in the program’s commercials, and replaces the program’s commercials with the commercials stored in Optional Video Storage Device 456, if the program’s commercial’s CID code matches the viewer’s CID code. *See id.* at 7:15–51, 20:6–19.

Additionally, Commercial Processor 438 can optionally cause signals to be transmitted upstream through Optional Upstream Transmitter 466. *Id.* at 14:21–28. Registration or certification codes are appended to the CID codes, and when the commercial displays, it can be transmitted upstream. *Id.* at 4:62–5:27. The commercial can then be replaced with another. *Id.* at 7:46–51.

ii. Claim 1

a. Parties’ Contentions

Relying upon the testimony of Dr. Negus (Ex. 1008) for support, Petitioner contends that Hite describes all of the limitations of claim 1. Pet. 20–36; Pet. Reply 2–10. In particular, Petitioner argues that Hite’s co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 meet the claimed “account transaction server” limitation, and that Hite’s RD at Display Site 400 meets the claimed “programmable local receiver unit” limitation. Pet. 22–28. As a part of that limitation, Petitioner contends that the RD’s Optional Video Storage Device 456 meets the claimed “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” *Id.* at 30–31. Specifically, Petitioner argues that Hite only discloses storing digital commercial signals, having associated CID codes in Optional Video Storage Device 456, and, thus, Optional Video

Storage Device 456 is reserved for advertising data. *Id.* at 31; Pet. Reply 4–5.

Patent Owner disputes that Optional Video Storage Device 456 is an “individually controlled and reserved advertising data storage section” for a number of reasons. PO Resp. 16–23. First, Patent Owner argues Optional Video Storage Device 456 is not reserved just for storing specifically identified advertising data, because “there is nothing in *Hite* to prevent the Optional Video Storage Device from storing video other than commercials.” *Id.* at 18–22. Second, Patent Owner argues that Optional Video Storage Device 456 is not individually controlled. *Id.* at 23. Third, Patent Owner argues that the co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 do not monitor and control Video Storage Device 456. *Id.* at 23–30.

b. Analysis

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 1 is anticipated by Hite.

First, Patent Owner argues Optional Video Storage Device 456 is not reserved just “for specifically identified advertising data,” because “there is nothing in *Hite* to prevent the Optional Video Storage Device from storing video other than commercials.” PO Resp. 18. According to Patent Owner’s Declarant, Dr. Kesan, because Hite discloses the Media Origination Facility 300 transmitting a package of programming and associated commercials to Display Site 400, the disclosed programming *could* be stored in Optional Video Storage Device 456. *Id.* at 19–20 (citing Ex. 2003 ¶ 42; Ex. 1009, 9:16–20, 9:28–33, 14:66–15:2). Patent Owner contends that Petitioner’s

Declarant, Dr. Negus, also agrees that Optional Video Storage Device 456 *could* store digital video other than commercials. PO Resp. 20–21 (citing Ex. 2005, 29:19–25, 23:15–23, 29:7–12, 29:22–23). Patent Owner further points out that Hite states, “it will be apparent to one skilled in the art that variations and modifications are contemplated within the spirit and scope of the invention” to further bolster its argument that Optional Video Storage Device 456 could store video data other than commercials. *Id.* at 19–20 (citing Ex. 1009, 14:66–15:2; Ex. 2003 ¶ 43). Patent Owner, thus, argues that because Optional Video Storage Device 456 *could* store digital video other than commercials, Optional Video Storage Device 456 is not a reserved advertising data storage section. We disagree.

As set forth above, the broadest reasonable construction, in light of the Specification, of “at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data” is an individually controlled data storage section set apart just for storing the specifically identified advertising data. *See supra* 7–9. This construction does not require an advertising data storage section that actively precludes or excludes anything other than the specifically identified advertising data. Patent Owner’s argument is unpersuasive because it is not commensurate with this construction.

Under this construction, Hite’s Optional Video Storage Device 456 meets the aforementioned limitation because it store commercials, targeted to an individual viewer, and does not store any other data. *See* Ex. 1009, 6:66–7:14, 14:28–32; Ex. 1008 ¶¶ 252–258, 260; Pet. 22–32. Dr. Negus testifies, “I don’t see Hite excluding the storage of other information on there. But I also don’t see Hite describing the storage of other information on that video storage device.” Ex. 2005, 29:23–25. We, thus, are persuaded

that Hite's Optional Video Storage Device 456 describes a "reserved advertising data storage section adapted specifically for storing the specifically identified advertising data," as claimed. *See* Ex. 1008 ¶¶ 252–258, 260.

Patent Owner also argues that claim 1 requires the "specifically identified advertising data" to be multimedia that is downloaded, and that "[t]here is no allegation that the viewer CID codes or display rules are multimedia." PO Resp. 22. Patent Owner, thus, contends that viewer CID codes or display rules are not "specifically identified advertising data" that may be stored on the "reserved advertising data storage section." *Id.* at 22. Patent Owner's arguments are inapposite because Hite describes the viewer CID codes or display rules as stored in "an Ad Queue in" Commercial Processor 438, not stored on Optional Video Storage Device 456. Ex. 1009, 7:12–14. Claim 1 does not preclude the RD from storing non-multimedia data somewhere other than Optional Video Storage Device 456.

Similarly, Patent Owner argues that frequency indicator codes appended to a commercial's CID code is not multimedia specifically identified advertising data that may be stored on the reserved advertising data storage section. PO Resp. 22–23. Hite discloses appending a CID code, which may include a frequency indicator code, registration code, certification code, or other code, to commercials that are stored in Optional Video Storage Device 456. *See* Ex. 1009, 3:39–45; 4:19–5:16, 9:47–50. Contrary to Patent Owner's argument, Dr. Kesan testified, "[w]hen the control information is associated with those multimedia ad content, then that's part of the advertising data because it's still being set aside just for advertising data." Ex. 1026, 107:14–17. Dr. Kesan's testimony indicates that commercials, with appended CID codes, are downloaded multimedia

specifically identified advertising data that may be stored in Optional Video Storage Device 456.⁵ We, thus, are persuaded that Optional Video Storage Device 456 is a reserved advertising data storage section. See Pet 31; Pet. Reply 4–5; see Ex. 1008 ¶¶ 252–258, 260.

Second, Patent Owner argues that Optional Video Storage Device 456 is not individually controlled. PO Resp. 23 (citing Ex. 2003 ¶ 99). Dr. Kesan testifies that individual controls requires “control over the reserved advertising data storage section aside from other storage sections. For example, the network can control the size or functionality of the reserved advertising storage area control and leave the other data storage sections the same.” Ex. 2003 ¶ 99.

Patent Owner’s argument is unpersuasive because it is not commensurate with the scope of claim 1. Claim 1 does not require Optional Video Storage Device 456 to have multiple storage sections. See Pet. Reply 7; Inst. Dec. 7–9 (rejecting Patent Owner’s argument that claim 1 requires the individually controlled data storage section to be a portion of a data storage device set apart from other portions). Optional Video Storage Device 456 is part of the RD, which is an “individually addressable digital recording device . . . with a unique address.” Ex. 1009, 6:61–63, Fig. 5. The RD’s Commercial Processor 438 controls Optional Video Storage Device 456 using the CID codes targeted to the viewer. *Id.* at 14:28–30. We, thus, are persuaded that Hite describes an individually controlled

⁵ At oral argument, Patent Owner agrees that Dr. Kesan admitted that control data stored with commercials are specifically identified “advertising data.” Tr. 108:10–109:18. Given that a CID code appended to a commercial determines whether the commercial is displayed, we are unclear as to how such a CID code is not “control data.”

advertising data storage section. *See* Pet. 28–32; Pet. Reply 6–7; Ex. 1008 ¶¶ 252–260.

Third, Patent Owner argues that Hite’s co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 does not monitor and control Optional Video Storage Device 456, as required by claim 1. PO Resp. 23–30. Patent Owner argues that Commercial Processor 438 controls Optional Video Storage Device 456 only, and not co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300. *Id.* at 23–26.

Patent Owner’s argument is unpersuasive because, although Hite discloses Commercial Processor 438 controlling Optional Video Storage Device 456, Commercial Processor 438 controls Optional Video Storage Device 456 according to data, including viewer CID codes, received from co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300. *See* Ex. 1009, 6:10–13, 6:61–63, 6:66–7:1, 14:3–4, 14:13–17, 14:27–32, 14:41–46; Ex. 1008 ¶¶ 246, 268; Pet. 32–33. Hite targets the CID codes to the viewer at the RD. *See id.* at 3:65–4:2. We, thus, are persuaded that Hite describes co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 controlling Optional Video Storage Device 456.

Patent Owner also argues that co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 does not monitor Optional Video Storage Device 456. PO Resp. 27–30. Patent Owner acknowledges that Hite describes an upstream communication path in which monitoring could be possible, but argues that Hite does not explicitly disclose monitoring of the Optional Video Storage Device 456. *Id.*; Ex. 1009, 14:21–28.

Patent Owner’s argument is unpersuasive because Hite describes communicating registration codes and certification codes, which indicate that a commercial has been played, from Optional Video Storage Device 456, “back upstream to the signal origination site.” Ex. 1009, 4:63–5:28; Ex. 1008 ¶¶ 271–273. Hite explicitly teaches that Commercial Processor 438, via Optional Upstream Transmitter 466, conveys signals upstream on wire line 303. Ex. 1009, 14:21–26. Wire line 303 connects Media Origination Facility 300 to the RD. *See id.* at 13:58–66, Figs. 4, 5. We, thus, are persuaded that Hite describes co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 monitoring Optional Video Storage Device 456.

For the reasons discussed above, we determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 1.

iii. Claim 2

Claim 2 depends from claim 1, and additionally recites, “wherein said multimedia data products are received via Network TV broadcast, Cable TV broadcast, or Satellite TV broadcast.” Ex. 1001, 46:33–35. Petitioner contends Hite describes the additional limitation of claim 2, and relies upon the testimony of Dr. Negus for support. Pet. 36 (citing Ex. 1009, 5:35–37, 6:63–66, Fig. 1; Ex. 1008 ¶¶ 285, 287). Patent Owner does not dispute that Hite describes the additional limitation. *See generally* PO Resp. Hite states, “[c]ommercials can be delivered to specified homes or displays via either over-the-air broadcast or wired delivery systems.” Ex. 1009, 5:35–37. Hite’s Figure 5, reproduced above, show that the RD’s receiver has a radio receiver 401, satellite antenna 402, and wire line 303.

We determine Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 2.

iv. Claim 3

Claim 3 depends from claim 1 and additionally recites:

wherein the specifically identified advertising data is customer specific advertising data and the customer specific advertising data is recorded in raw form by said programmable local receiver unit and subsequently processed or edited by a content filter according to preprogrammed user suitability criteria.

Ex. 1001, 46:36–41.

First, Patent Owner argues that Hite does not describe customer specific advertising data, because Hite sends the same set of advertisements with the same CID codes to all customers, and does not target the local receiver of a specific customer or the local receivers of a specific group of customers. PO Resp. 31–32.

Patent Owner’s argument is unpersuasive because it is not commensurate with the scope of claim 3. Claim 3 does not require targeting the specifically identified advertising data to a customer’s receiver or a group of customer’s receivers. Claim 3 requires the specifically identified advertising data to be customer specific advertising data. Hite describes appending a CID code to target prospective viewers. Ex. 1009, 3:43–44, 3:65–4:3; Ex. 1008 ¶ 292; Pet. 37. We are persuaded that Hite’s CID code is “customer specific advertising data.”

Second, Patent Owner argues that Hite does not describe subsequently processing or editing by a content filter. PO Resp. 31–33. Patent Owner argues that this limitation requires processing or editing after recording the customer specific advertising data, and that Hite’s disclosure of selecting an appropriate commercial, by matching CID codes, does not occur after recording the commercials. PO Resp. 31–33.

Patent Owner's argument is misplaced. Patent Owner's argument focuses on Hite's description of matching CID codes to determine commercials to store in Optional Video Storage Device 456. *See id.* Petitioner, however, points to Hite's description of Commercial Processor 438 determining a commercial, already stored in Optional Video Storage Device 456, to playback during a broadcast. Pet. 37–38 (citing Ex. 1009, 7:24–30; Ex. 1008 ¶ 293). Commercial Processor 438 matches the CID code in the stored commercial with the CID code in the broadcast. Ex. 1009, 7:24–30. We, thus, are persuaded that Hite describes subsequent processing and editing by a content filter.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 3.

v. Claim 4

Claim 4 depends from claim 3 and additionally recites:

wherein the customer specific advertising data is processed or edited in multiple versions by said programmable local receiver unit which are either played in real time or stored in said at least one individually controlled and reserved advertising data storage section for subsequent playback.

Ex. 1001, 46:42–47. Petitioner relies upon Hite's disclosure of playing back a commercial multiple time using a frequency indicator code or in a series using a sequencing code. Pet. 40–41 (citing Ex. 1009, 4:24–32, 4:45–51); *see also* Pet. Reply 12. Patent Owner argues that playback of a commercial multiple times is not processing or editing multiple versions of the commercial, which are then later stored. PO Resp. 33–35.

It is Petitioner's burden to show by a preponderance of the evidence that Hite anticipates claim 4. 35 U.S.C. § 316(e). Claim 4 requires that the programmable local receiver unit processes or edits a particular customer

specific advertising data in multiple versions. Petitioner fails to show sufficiently how playing the same commercial multiple times, or playing a series of different commercials, describes processing or editing multiple versions of a particular commercial. Petitioner relies upon the testimony of Dr. Negus. *See* Pet. 40–42 (citing Ex. 1008 ¶ 306). Dr. Negus’s testimony indicates that Hite describes playback of a commercial multiple times using a frequency indicator code, but does not explain why that describes processing or editing of multiple versions of a particular commercial. *See* Ex. 1008 ¶ 306.

We determine that Petitioner fails to show, by a preponderance of the evidence, that Hite anticipates claim 4.

vi. Claims 5 and 6

Claim 5 depends from claim 1 and additionally recites:

wherein the specifically identified advertising data is customer specific advertising data and wherein custom software automatically analyzes one or more optimal advertising format scenarios based on one or more selected factors including total number of customers, customer profile data, customer demographics, program schedules, product showcase schedules, available advertising formats, available advertising schedules, advertising rates, ad placement timing, or cost effectiveness, and said system transmits advertising format scenarios according to a selected placement option.

Ex. 1001, 46:48–58. Claim 6 depends from claim 5, and additionally recites, “wherein preprogrammed or spontaneously programmed advertising format scenarios are automatically analyzed by said system.” *Id.* at 46:59–61.

Patent Owner makes similar arguments with respect to claims 5 and 6. *See* PO Resp. 35–38. First, Patent Owner argues that Hite does not describe customer specific advertising data for the same reasons discussed above in

connection with claim 3. *Id.* at 35. Patent Owner's argument is unpersuasive for the same reasons as discussed above with respect to claim 3. *Supra* 20–21.

Second, Patent Owner argues that Commercial Processor 438, which is located at Display Site 400, cannot meet the additional limitations of claims 5 and 6. PO Resp. 36–38. Pointing to the '090 patent's disclosure of analyzing advertising format scenarios at the transmission site, Patent Owner argues that claims 5 and 6 require analyzing format scenarios at the transmission site and not at the display site. *See id.* at 36–38.

Patent Owner's argument is unpersuasive because it is not commensurate with the scope of claims 5 and 6. Neither claim 5 nor claim 6 specifies where analyzing advertising format scenarios occurs, and does not preclude the programmable local receiver from analyzing advertising format scenarios. Limitations appearing in the Specification, but not recited in the claim, are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003). It is improper to add into a claim an extraneous limitation, i.e., one that is added wholly apart from any need for the addition. *See, e.g., Hogan AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988).

As Petitioner points out, Hite discloses using cost-effectiveness, customer profile data, and customer demographics to select which CID codes to append to commercials. Pet. 43 (citing Ex. 1009, 3:56–58, 3:65–4:1, 4:34–40, 5:29–34, 7:15–20, 8:18–35; Ex. 1008 ¶¶ 317–320). The CID codes can also include registration codes and certification codes, which specify attributes of the commercials. Pet. 45–46 (citing Ex. 1009, 4:62–5:16; Ex. 1008 ¶¶ 329, 331). Commercial Processor 438 analyzes

commercials and appended CID codes, which are transmitted to the RD. *See* Ex. 1009, 6:10–18; Ex. 1008 ¶ 316.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claims 5 and 6.

vii. Claim 7

Claim 7 depends from claim 5, and additionally recites, “wherein an advertiser places a selected advertising order which activates instant or time scheduled delivery of said selected advertising order to system customers through interaction with the transaction server.” Ex. 1001, 46:62–65.

Patent Owner argues that Hite does not describe this additional limitation because codes, such as a frequency indicators or sequencing codes, do not relate to when or whether to play the commercial. PO Resp. 38–39.

Patent Owner’s argument is unpersuasive. As Petitioner points out, an advertisement administrator or marketing organization selects appropriate CID codes. Pet. 47 (citing Ex. 1009, 8:28–35; Ex. 1008 ¶ 338). CID codes can include other codes, such as a frequency indicator code or a sequence code. Ex. 1009, 4:24–32, 4:45–51; *see also* Pet. 46–47. Frequency indicator codes and sequencing codes determine whether or when to play a commercial. *See id.* For example, a sequencing code can delay the playback of a commercial until after playing another commercial. Ex. 1008, 4:45–51.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 7.

viii. Claim 8

Claim 8 depends from claim 5 and additionally recites:

whereby the specifically identified advertising data may [be] instantly or by time schedule transmitted to a selective customer base that system monitoring indicates have available advertising space within a respective individually controlled and reserved advertising data storage section within a respective programmable local receiver unit.

Ex. 1001, 46:66–47:4.

First, Patent Owner argues that Hite does not describe transmitting instantly, or by time scheduled delivery, specifically identified advertising data for the same reasons discussed above in connection with claim 7.

PO Resp. 39–40. Patent Owner’s argument is unpersuasive for the same reasons as discussed above regarding claim 7. *Supra* 23–24.

Second, Patent Owner argues that Hite does not describe system monitoring that indicates available advertising space within a respective “individually controlled and reserved advertising data storage section.” because Hite does not describe monitoring the amount of available space in Optional Video Storage Device 456. PO Resp. 40–41. Patent Owner’s argument is unpersuasive. As Petitioner points out, Hite discloses returning registration or certification codes upstream to the signal origination site when playing a commercial, and then replacing that commercial with one or multiple commercials. Pet. 50 (citing Ex. 1009, 7:46–15; Ex. 1008 ¶ 351). Thus, returning registration or certification codes indicate space for replacement commercials on Optional Video Storage Device 456.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 8.

ix. Claim 17

Claim 17 depends from claim 5, and additionally recites, “wherein said local receiver communicates with a portable storage medium

recorder/player for recording to a portable storage medium and the customer specific advertising data is recorded onto said portable storage medium.”

Ex. 1001, 47:36–40.

Patent Owner argues that Hite does not disclose a portable storage medium recorder/player recording from the local receiver. PO Resp. 41–43. Patent Owner’s argument is persuasive. *Id.* Petitioner points to multiple elements of Hite’s system to meet the claimed portable storage medium recorder/player. Pet. 51–54. First, Petitioner point to suitable media 207 and physical means 307. *Id.* at 51–52 (citing Ex. 1009, 9:32–41, 12:51–55; Ex. 1008 ¶¶ 360–361). Hite, however, does not disclose the RD recording to suitable media 207 or physical means 307. *See generally* Ex. 1009. Second, Petitioner points to the RD, which can be a set-top box or personal computer, to meet the claimed portable storage medium recorder/player. Pet. 52–53 (citing Ex. 1009, 6:62–66, 14:28–30, 14:59–65; Ex. 1008 ¶¶ 363, 364, 367). Petitioner, however, also equates the RD to the claimed programmable local receiver. *See, e.g.,* Pet. 25. The RD cannot be used to meet two distinct claim elements. *See Lantech, Inc. v. Keip Mach. Co.*, 32 F.3d 542, 547 (Fed. Cir. 1994) (addressing that it is improper to map a single disclosed element to the plural recited elements when a claim requires plural distinct structural elements); *see also In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (claims requiring three separate means are not anticipated by structure containing only two means using one element twice); *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1561–64 (Fed. Cir. 1991) (holding that a claim’s “separate[]” “recitation of two distinct elements” should be given “full effect”).

We determine that Petitioner fails to show, by a preponderance of the evidence, that Hite anticipates claim 17.

x. Claim 23

Claim 23 depends from claim 5 and additionally recites:

wherein said local receiver includes a signal processor which is capable of interpreting embedded control data associated with the customer specific advertising data for automatically processing and recording said data according to preprogrammed user suitability criteria.

Ex. 1001, 47:62–67.

Petitioner contends that Commercial Processor 438 meets the claimed signal processor. Pet. 54–57; Pet. Reply 16. Patent Owner argues that Commercial Processor 438 is not a signal processor. PO Resp. 43 (citing Ex. 2003 ¶¶ 60–61).

Patent Owner’s argument is unpersuasive. Dr. Kesan testifies that Hite does not disclose that Commercial Processor 438 is a digital signal processor. Ex. 2003 ¶ 60. Claim 23, however, requires local receiver to include only a signal processor capable of interpreting embedded control data, and not a *digital* signal processor. As Petitioner points out, Hite explicitly discloses Commercial Processor 438 processing signals. *See, e.g.*, Ex. 1009, 14:11–32; *see also* Pet. 54–57 (citing Ex. 1008 ¶¶ 374–380). Hite states: “Commercial Processor 438 can cause commercial signals to be stored or played back from the Optional Video Storage Device 456.” *Id.* at 14:28–30.

We determine Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 23.

C. Grounds Under 35 U.S.C. § 103

Section 103(a) forbids issuance of a patent when “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.”

KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007). The ultimate determination of obviousness under § 103 is a question of law based on underlying factual findings. *In re Baxter Int’l, Inc.*, 678 F.3d 1357, 1361–62 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996)). These underlying factual considerations consist of: (1) the “level of ordinary skill in the pertinent art,”⁶ (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.”⁷ *KSR*, 550 U.S. at 406 (quoting *Graham*, 383 U.S. at 17–18).

i. Hite and Picco

Relying upon the testimony of Dr. Negus (Ex. 1008), Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite and Picco. Pet. 62–66.

a. Overview of Picco

Picco is titled “System and Method for Inserting Local Content into Programming Content” and issued from an application filed on December 9, 1997. Ex. 1011, [45], [54]. Picco discloses a set-top box that stores local content data, such as a targeted advertisement. *See id.* at Abstract, 6:22–37,

⁶ Petitioner and Patent Owner similarly define the level of ordinary skill in the art as a person having a bachelor’s degree in electrical or computer engineering or equivalent degree and some years of experience in the field. *See* Pet. 15; PO Resp. 3.

⁷ The record contains no evidence of secondary considerations.

12:49–52. Picco discloses an uplink facility with a scheduler that generates control signals to control the operation of the set-top box, such as instructions as to what local content is stored on the set-top box, according to viewing statistics for the set-top box. *Id.* at 7:33–48.

b. Claim 1

1. Parties’ Contentions

Petitioner argues that “to the extent . . . Hite does not disclose the limitation of ‘said at least one advertising data storage section being monitored and controlled by said remote account transaction server,’” that limitation is disclosed by Picco. Pet. 62. In particular, Petitioner relies upon Picco to teach a remote account transaction server monitoring and controlling an advertising data storage section. *Id.* 62–63 (citing Ex. 1011, 7:33–48; Ex. 1008 ¶ 279). According to Petitioner, it would have been obvious to a person of ordinary skill in the art (“POSITA”) to combine Hite and Picco to facilitate further Hite’s objective of providing advertisers with less waste and greater cost effectiveness in delivering their messages to targeted consumers. Pet. 66; Ex. 1008 ¶ 281.

First, Patent Owner argues that neither Hite nor Picco, individually, discloses the claimed “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” PO Resp. 56–59. Second, Patent Owner argues that there is no motivation to combine Hite with Picco because “[g]iven their similarit[ies], a person having ordinary skill in the art would not think to combine them because there would be little benefit in doing so.” *Id.* at 61.

2. Analysis

Upon review of Petitioner’s evidence and analysis and taking into account Patent Owner’s arguments and evidence, we determine that the

Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable over Hite and Picco.

First, as discussed above in connection with claim 1, we determine that Petitioner has made a sufficient showing that Hite discloses the claimed “individually controlled and reserved advertising data storage section.” *See supra* 14–19; *see also* Pet. Reply 19–21.

Second, Patent Owner argues that Petitioner’s arguments are “mere conclusory statements[] . . . [without] articulated reasoning,” and therefore not sufficient to sustain a “legal conclusion of obviousness,” and that there is little benefit to combining Hite and Picco, because Hite already describes delivering targeted advertising to a viewer. PO Resp. 60–62. Patent Owner’s argument is not persuasive. We are persuaded that Petitioner sufficiently articulates a reason to combine Hite and Picco. *See* Pet. 66. Specifically, Dr. Negus testifies that a POSITA “would have looked to Picco’s head end, including the scheduler and statistical collator, to provide greater monitoring and control of set top boxes, such as Hite’s RD recorder” and more targeted control of advertising. Ex. 1008 ¶ 281. Petitioner’s analysis and evidence are sufficient to persuade us that it would have been obvious to a POSITA to combine Hite and Picco to arrive at the apparatus of claim 1. *See id.*

We determine that Petitioner shows, by a preponderance of the evidence, that claim 1 is unpatentable over Hite and Picco.

c. Claims 2–8, 17, and 23

Claims 2–8, 17, and 23 depend directly or indirectly from claim 1 and recite additional limitations. Petitioner contends that Hite discloses all of the additional limitations of claims 2–8, 17, and 23 for the same reasons discussed above in connection with anticipation by Hite. Pet. 65. For the

same reasons as discussed above, we determine that Petitioner has shown, by a preponderance of the evidence, claims 2, 3, 5–8, and 23 are unpatentable over Hite and Picco, and fails to show, by a preponderance of the evidence, that claims 4 and 17 are unpatentable over Hite and Picco.

ii. Hite and Hill

Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite and Hill. Pet. 57–62; Pet. Reply 17–18. Patent Owner disagrees. PO Resp. 44–55.

a. Overview of Hill

Hill is titled “Apparatus and Method for Placing Data on a Partitioned Direct Access Storage Device” and issued on August 19, 1986. Ex. 1010, [45], [54]. Hill discloses that a problem with storage of digital data on direct access storage devices is bottlenecking, which occurs when a storage device receives access requests from a processor at a faster rate than the device can sustain. *See id.* at 1:13–17. Hill solves this problem by partitioning a storage device into a plurality of devices that have different access and storage characteristics, including volume and frequency of access. *Id.* at Abstract, 2:2:47–51, 4:28–33. In one embodiment, Hill discloses partitioning a storage device into high access and low access partitions. *Id.* at 4:28–33.

b. Parties’ Contentions

Petitioner argues that “to the extent Hite does not sufficiently disclose a reserved advertising data storage section,” it would have been obvious to a POSITA to partition Hite’s data storage, given Hill’s teaching of partitioning a storage device according to characteristics of data, such as volume and frequency of use. Pet. 57–61.

According to Dr. Negus, Hite’s stored commercial data or advertising data would be “accessed frequently, such as reading stored advertisement data during each preemptable time slot.” Ex. 1008 ¶ 265. Dr. Negus testifies that the combination of Hite and Hill

yields the completely predictable and desirable result that using a high access partition allocated for high access data storage of Hill to store the high access advertisement data of Hite would decrease read and write times of advertisement data stored in Hite’s “commercial storage and playback device” and/or the “optional video storage device.”

Id. ¶ 264. Petitioner argues, “a POSITA would have been motivated to include the teaching of a partitioned data storage device of *Hill* with the Optional Video Storage Device of *Hite*.” Pet. Reply 17. Petitioner contends that a POSITA would be motivated to combine Hite and Hill to decrease the read and write times of Hite’s optional video storage device 456. Pet. 61.

Patent Owner argues that “Dr. Negus’s reference to advertising data as ‘high access data’ is unsupported.” PO Resp. 46. Contrary to Dr. Negus’s testimony, Dr. Kesan testifies, “broadcast data needs to be accessed at the same regular speed” and “[t]here is no variance in the amount of time that broadcast data must be accessible.” Ex. 2003 ¶ 71. Patent Owner further argues that, even if the stored advertising data is high access data, a POSITA would not be motivated to combine Hite and Hill because, according to Petitioner, Optional Video Storage Device 456 does not store anything other than advertising data and, thus, there is no need for a low access section that would be empty. PO Resp. 52–53.

c. Analysis

Petitioner has the burden to show by a preponderance of the evidence that claims 1–8, 17, and 23 are unpatentable over Hite and Hill.

35 U.S.C. § 316(e). Hite does not disclose that commercials or advertising data stored on Hite's optional video storage device 456 is high access data. *See generally* Ex. 1009. As Patent Owner points out (PO Resp. 46), Dr. Negus's testimony is conclusory and does not sufficiently explain why the Optional Video Storage Device 456's commercials or advertising data would be high access data. *See* Ex. 1008 ¶ 265; *see also* PO Resp. 46. Petitioner provides no other evidence or explanation. Furthermore, Hite is unconcerned with the problem of bottlenecking purportedly solved by Hill's partitioning. *See generally* Ex. 1009. We, thus, are not persuaded that a POSITA would have been motivated to partition Hite's Optional Video Storage Device 456 into high access and low access devices to decrease read and write times of advertisement data per Hill.

Further, Hite does not disclose Optional Video Storage Device 456 storing anything other than advertisement data. *See supra* 15–16. Neither Petitioner nor Dr. Negus sufficiently explain why a POSITA would have been motivated to partition Optional Video Storage Device 456 into low access and high access devices, if the Optional Video Storage Device 456 only holds high access data advertisement data. *See* Pet. 61–62; Ex. 1008 ¶¶ 264–265; *see also* PO Resp. 52–53 (citing Ex. 2003 ¶ 72).

Claims 2–8, 17, and 23 depend directly or indirectly from claim 1. We determine that Petitioner fails to show, by a preponderance of the evidence, claims 1–8, 17, and 23 are unpatentable over Hite and Hill.

iii. Hite, Hill, and Picco

Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite, Hill and Picco. Pet. 66–67. Petitioner relies upon the same combination of Hite and Hill as discussed above to show that the combination of Hite, Hill, and Picco discloses the claimed reserved

advertising data storage section. *Id.* For the same reasons as discussed above (*supra* 32–34), we determine that Petitioner fails to show, by a preponderance of the evidence, that claims 1–8, 17, and 23 are unpatentable over Hite, Hill, and Picco.

III. CONCLUSION

On this record, we determine that Petitioner shows, by a preponderance of the evidence, that claims 1–3, 5–8, and 23 are unpatentable under 35 U.S.C. § 102 over Hite, and also under 35 U.S.C. § 103 over Hite and Picco. Petitioner fails to show, by a preponderance of the evidence, claims 4 and 17 are unpatentable under either 35 U.S.C. § 102 over Hite or under 35 U.S.C. § 103 over Hite and Picco. Petitioner also fails to show, by a preponderance of the evidence, that claims 1–8, 17, and 23 are unpatentable under 35 U.S.C. § 103 over Hite and Hill, and also under 35 U.S.C. § 103 over Hite, Hill, and Picco.

This is a final written decision of the Board under 35 U.S.C. § 318(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–3, 5–8, and 23 are *unpatentable*.

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