

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH NETWORK L.L.C.,
Petitioner,

v.

TQ BETA, LLC,
Patent Owner.

Case IPR2015-01756
Patent 7,203,456 B1

Before JAMESON LEE, MATTHEW R. CLEMENTS, and
JOHN F. HORVATH, *Administrative Patent Judges*.

HORVATH, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

DISH Network Corporation, DISH DBS Corporation, DISH Network L.L.C., EchoStar Corporation, EchoStar Technologies L.L.C., Hughes Satellite Systems Corporation, and Sling Media, Inc. (collectively, “Petitioner”) filed a Corrected Petition (Paper 4, “Pet.”) to institute *inter partes* review of claims 11 and 13–16 of U.S. Patent No. 7,203,456 B1 (Ex. 1001, “the ’456 patent”). TQ Beta, LLC (“Patent Owner”) filed a Preliminary Response (Paper 10, “Prelim. Resp.”). Upon consideration of the Petition and Preliminary Response, we instituted an *inter partes* review to determine the patentability of claims 11 and 13–16 of the ’456 patent. Paper 12 (“Dec. Inst.”).

Subsequent to institution, Patent Owner filed a Corrected Response (Paper 21, “PO Resp.”), and Petitioner filed a Reply (Paper 24, “Pet. Reply”). An oral hearing was held on November 17, 2016, and a transcript of the hearing is included in the record. Paper 30 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b). This is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons set forth below, we enter adverse judgment against claims 11, 14, and 15, and find Petitioner has shown by a preponderance of the evidence that claims 13 and 16 of the ’456 patent are unpatentable.

B. Related Matters

Petitioner identifies the following as a matter that could affect, or be affected by, a decision in this proceeding: *TQ Beta, LLC v. DISH Network Corporation*; Case No. 14-CV-848-LPS (D. Del). Pet. 1. Patent Owner

identifies the same matter, as well as a co-pending *Inter Partes* Review:
DISH Network, L.L.C. v. TQ Beta, LLC, Case IPR2015-01791. Paper 7, 2.

C. Evidence Relied Upon

Reference		Effective Date	Exhibit
Charles L. Compton, Internet CNN NEWSROOM: The Design of a Digital Video News Magazine (B.S. and M.S. Thesis, Massachusetts Institute of Technology) (“Compton”)		Oct. 25–27, 1995 ¹	Ex. 1004
Shteyn	US 6,611,654 B1	Apr. 1, 1999 ²	Ex. 1005

D. The Instituted Grounds of Unpatentability

We instituted *inter partes* review of the ’456 patent based upon the following grounds (Dec. Inst. 25):

Reference(s)	Basis	Claims Challenged
Compton	§ 102(b)	11 and 13–16
Compton	§ 103(a)	11 and 13–16
Compton and Shteyn	§ 103(a)	11 and 13–15

¹ Per the Declaration of Marilyn McSweeney, head of Acquisitions and Discovery Enhancement at the Massachusetts Institute of Technology Libraries, the effective publication date of Compton is one to three business days after October 24, 1995. See Ex. 1015 ¶¶ 10–12.

² Shteyn was filed on April 1, 1999, and issued on August 26, 2003. It is prior art under 35 U.S.C. § 102(e) with an effective date of April 1, 1999.

II. ANALYSIS

A. *The '456 Patent*

The '456 patent relates to a method and apparatus for time and space domain shifting of broadcast signals. Ex. 1001, Abstract. Receiver 112 in first geographic location 114 receives a broadcast signal (e.g., a radio or television signal) at a first time. *Id.* at 2:10–25. Receiver 112 encodes the broadcast signal into an encoded signal that can be transmitted over world-wide network 116 using, e.g., point-to-point protocol (PPP) or file transfer protocol (FTP). *Id.* at 2:25–33. Media player 118 in second geographic location 114 receives the encoded signal over world-wide network 116. *Id.* at 2:34–48. Media player 118 can either decode and reproduce the encoded signal in real time, or store the encoded signal for subsequent playback at a later time. *Id.* at 2:51–56. The encoded signal can be stored as either an analog or digital signal, and on either magnetic tape (e.g., a video cassette) or a hard disk drive. *Id.* at 2:57–60.

Claims 11 and 16 of the '456 patent are independent, and are reproduced below. Other challenged claims depend directly from claim 11.

11. A method comprising:

receiving a signal broadcast in a first geographic location during a first time frame, the signal containing information capable of being reproduced;

encoding the received signal into an encoded signal suitable for transmission via a world wide network;

transmitting the encoded signal via the world wide network;

receiving the encoded signal via the world wide network; and

decoding the encoded signal such that the information is capable of being reproduced; and

reproducing the information during a second time frame, wherein a delay between the first time frame and the second time frame is greater than a delay caused by receiving the signal, encoding the received signal, transmitting the encoded signal, receiving the encoded signal, and decoding the encoded signal.

16. An apparatus comprising:

means for receiving a second broadcast via a world wide network, the second broadcast including an encoded signal, the encoded signal containing information that was transmitted in a first geographic location in a first time frame using a first broadcast, the first broadcast occurring prior to the second broadcast;

means for decoding the encoded signal into a decoded signal;

means, coupled to said decoding means, for storing the decoded signal; and

means, coupled to said decoding means, for reproducing the information in a second geographic location in a second time frame, the second time frame chosen by a user of the information;

wherein a delay between the first time frame and the second time frame is greater than a delay caused by receiving the second broadcast and decoding the encoded signal.

Ex. 1001, 8:1–18, 8:30–48.

B. Claim Construction

The Board interprets claims of an unexpired patent using the broadest reasonable interpretation in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC, v. Lee*, 136 S. Ct. 2131, 2142–46 (2016). Consistent with the rule of broadest reasonable interpretation, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Only those terms which are in controversy need to be construed and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner asks us to construe the terms “*delay between first time frame and second time frame*,” “*first geographic location*,” and “*second geographic location*.” Pet. 11–13. Petitioner does not propose any constructions for these terms, but requests they be construed in the manner implied by Patent Owner’s infringement contentions in the District Court litigation. *Id.* In our Decision to Institute, we declined to expressly construe these claim terms, finding their meaning was readily understood by persons of ordinary skill in the art. Dec. Inst. 6. Neither Petitioner nor Patent Owner contests that decision. *See* PO Resp. 13–14; Pet. Reply *passim*. Based on the record developed during this proceeding, we find no need to expressly construe these claim terms.

Petitioner further asks us to construe the terms “*means for receiving a second broadcast via a world wide network*,” “*means for decoding the encoded signal*,” “*means . . . for storing the decoded signal*,” and “*means for*

reproducing the information.” Pet. 14–15. Petitioner argues these terms should be construed pursuant to 35 U.S.C. § 112 ¶ 6, and identifies the following as structures corresponding to the recited functions: (a) a network coupling system or adapter for the “*means for receiving a second broadcast via a world wide network,*” (b) a media player that includes an MPEG-compatible decoder for the “*means for decoding the encoded signal,*” (c) a semiconductor or magnetic based memory for the “*means . . . for storing the decoded signal,*” and (d) a display system, display, or speakers for the “*means for reproducing the information.*” *Id.* In our Decision to Institute, upon reviewing the Specification of the ’456 patent, we agreed with Petitioner’s proposed constructions for these terms, and adopted them as our own. Dec. Inst. 7. Neither Petitioner nor Patent Owner contests our constructions of these terms. *See* PO Resp. 14; Pet. Reply *passim*. Based on the record developed during this proceeding, we continue to apply these constructions.

C. Unpatentability of claims 11, 14, and 15

Petitioner argues claims 11, 14, and 15 are anticipated by Compton, obvious over Compton, and obvious over Compton and Shteyn. *See* Pet. 15–31, 39–50. Patent Owner does not contest the patentability of these claims, but instead “consents to cancellation of claims 11, 14, and 15.” *See* PO Resp. 2 n.2. Petitioner argues the Board should consider Patent Owner’s offer to cancel claims 11, 14, and 15 as a request for adverse judgment. Pet. Reply 1. When Patent Owner was asked during the hearing whether it was conceding the unpatentability of claims 11, 14, and 15, counsel for Patent Owner responded:

MR. SCHARFF: We are not making an argument. I mean, we would have disclaimed those claims, but we didn't have enough time left in order to start that process or request a call. So, basically we are not making any argument. We are not admitting that the claims are invalid, but if the Board cancels them because we haven't responded, we are not contesting those claims.

Tr. 24:12–18.

The Board's rules permit a party to "request judgment against itself at any time during a proceeding." 37 C.F.R § 42.73(b). The Board construes a party's "[a]bandonment of the contest," as a request for adverse judgment. 37 C.F.R § 42.73(b)(4). Accordingly, we construe Patent Owner's lack of response to Petitioner's various challenges to claims 11, 14, and 15, Patent Owner's offer to cancel claims 11, 14, and 15, and Patent Owner's admission that it was "not contesting those claims," to be an "abandonment of the contest" and a request for adverse judgment as to those claims. See PO Resp. 2 n.2; *see also* Tr. 24:12–18.

The request for entry of adverse judgment on claims 11, 14, and 15 is granted, concurrently with entry of adverse judgment on these same claims in *DISH Network L.L.C. et al. v. TQ Beta, LLC*, Case IPR2015-01791 (PTAB) (Paper 30).

D. Anticipation of Claims 13 and 16 by Compton

Petitioner argues Compton anticipates claims 13 and 16. See Pet. 15–28, 31–38.

1. Overview of Compton (Ex. 1004)

Compton discloses "a digital video news magazine based on content from CNN NEWSROOM, an educational news program produced by Turner

Educational Services, Inc.” Ex. 1004, Abstract. The news magazine uses MPEG (Motion Picture Experts Group) video encoding, and is distributed over the Internet via the World Wide Web. *Id.* The CNN NEWSROOM program is a 15-minute daily video program of variable composition, generally consisting of 3–5 video segments, each having a duration of 2–5 minutes. *Id.* at 11.³ The program is distributed to schools via cable television and satellite, and is broadcast between 3:45 and 4:00 a.m. each weekday morning on the CNN cable channel. *Id.*

Figure 4 of Compton is reproduced below:

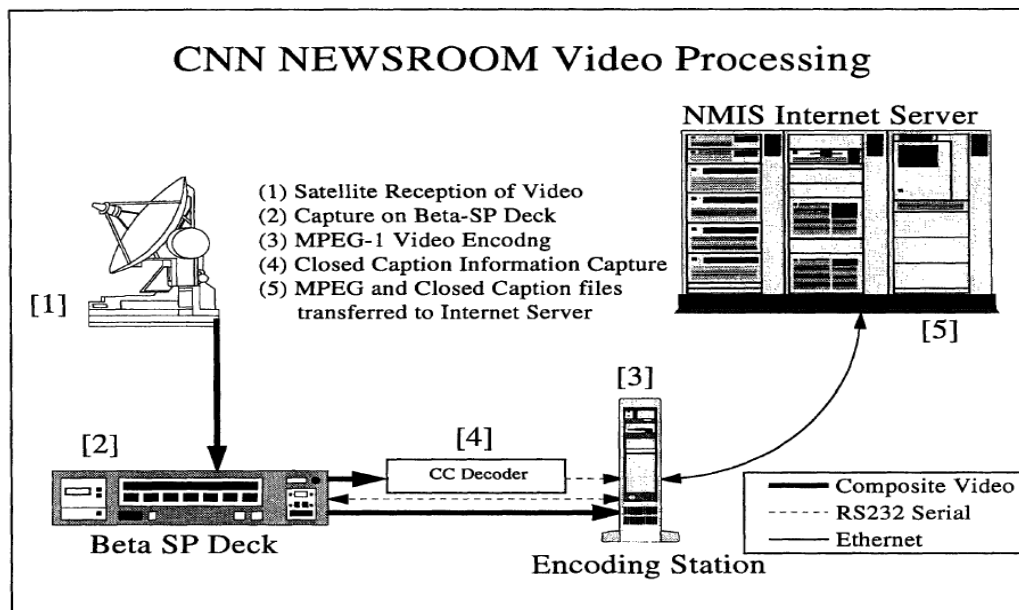


Figure 4 is a schematic illustration of Compton’s system for converting the CNN NEWSROOM program into a digital news magazine. *Id.* at 20. The program is received via satellite and recorded on a Beta-SP video tape deck.

³ Petitioner refers to specific pages of Compton by the exhibit numbers stamped on the pages. Patent Owner refers to specific pages of Compton by the original (thesis) page numbers. We adopt Patent Owner’s convention, and refer to specific pages of Compton by the thesis page numbers.

Id. at 20; Fig. 4 (steps 1 and 2). An encoding server sends commands to the video tape deck and submits batch encoding jobs in the form of edit decision lists. *Id.* at 21; Fig. 4 (step 3). Timecodes, which are received from CNN and entered into the edit decision lists, identify individual broadcast program segments to be encoded using an MPEG-1 encoding system. *Id.* The encoding system encodes, interleaves, and stores each program segment's audio and video components in a corresponding MPEG file. *Id.* at 22. The encoding server also generates an html file containing each program segment's closed caption text. *Id.* at 18–19; Figs. 3–4 (step 4). The MPEG and closed caption text files are then transferred from the encoding server to an NMIS (Networked Multimedia Information Services) server using ftp (file transfer protocol). *Id.* at 20, 22; Fig. 4 (step 5). From the NMIS server, the files can be delivered to any host (i.e., computer) on the Internet. *Id.* at 22.

To facilitate distribution of encoded CNN NEWSROOM program segments over the Internet, Compton discloses caching the program segments on servers that are closer to end users than to the NMIS server. Ex. 1004, 23. This is shown in Figure 6 of Compton, reproduced below:

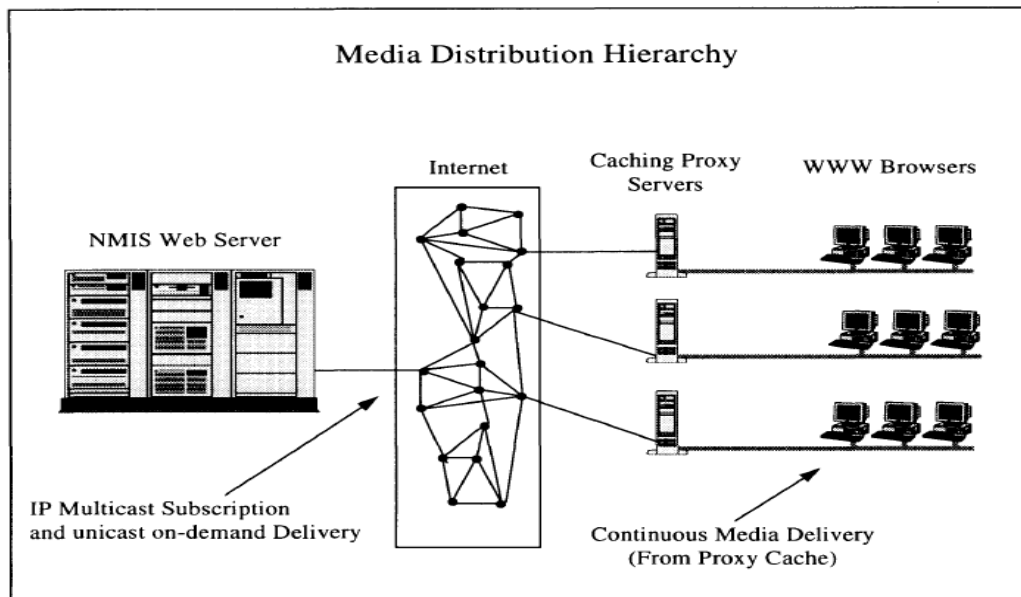


Figure 6 is a schematic illustration of Compton's media distribution system. *Id.* at 24. Using ftp, Compton delivers the content of the digital news magazine over the Internet to a plurality of proxy servers where they are cached. *Id.* at 22–23. The content is delivered via either IP unicast or IP multicast. *Id.* at 25. Individual users (represented as WWW browsers in Figure 6) can retrieve selected content from the proxy servers. Moreover, because the proxy caching mechanism does not preclude normal WWW access, individual users can retrieve selected content directly from the NMIS server itself. *Id.* at 23.

Compton displays links to the encoded CNN NEWSROOM program content, including each program's MPEG encoded video segments and closed caption text files, on a webpage dubbed the Internet NEWSROOM. Ex. 1004, 14. An example Internet NEWSROOM webpage for the program aired on May 19, 1994 is shown in Figure 1, which is reproduced below:

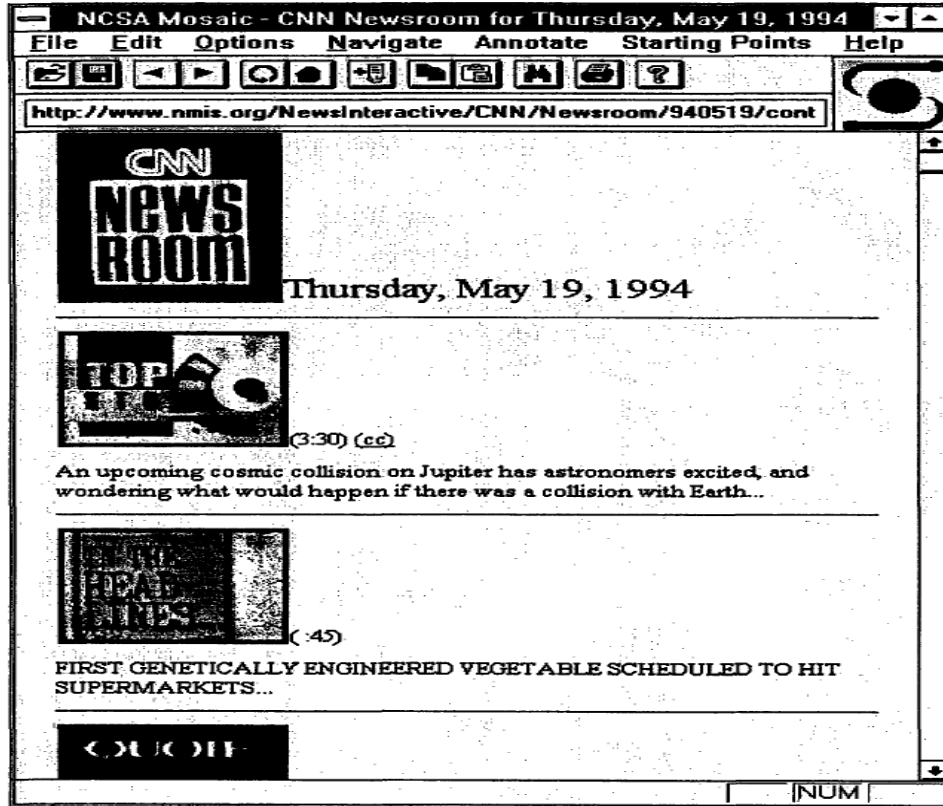


Figure 1 is a screen shot of the Internet NEWSROOM webpage showing the table of contents for the CNN NEWSROOM program broadcast on May 19, 1994. *Id.* at 13; Fig. 1. The webpage includes links to the MPEG-encoded video files and closed caption text files for each program segment in that day's CNN NEWSROOM broadcast (e.g., the top story describing an upcoming meteor collision with Jupiter).

When a user clicks on an MPEG-encoded video segment, the entire MPEG file is downloaded to the user's local hard disk for subsequent viewing. Ex. 1004, 25. For certain clients (e.g., the Mosaic WWW client for X Windows), the MPEG file is streamed to the client and buffered in memory, allowing it to be displayed as it is received. *Id.* In addition, the content of MPEG-encoded program segments can be recorded on a VCR

(video cassette recorder) connected to the output of the client's MPEG decoding card for later viewing. *Id.* at 35.

Compton allows users to search for encoded CNN NEWSROOM program segments by date and keyword using an index created from the segments' closed caption text files. Ex. 1004, 15. Compton stores the contents from at least six months of CNN NEWSROOM program segments to allow users to search for, select, download, and view older program segments. *Id.* at 13–15. Compton further discloses that the described video archiving system can be used to archive “any other program for which users might want to be able to see past episodes (i.e., other news programs, sitcoms, soap operas . . .).” *Id.* at 29.

2. Comparison of Compton and Claim 13

Claim 13 depends from independent claim 11, and requires all the limitations required by claim 11. *See* Ex. 1001, 8:21–22. Claim 13 narrows claim 11 by requiring the broadcast signal, received in a first geographic location during a first time frame, to be a television signal. *Id.* at 8:2–4, 8:21–22. Petitioner argues this limitation is met by Compton's disclosure of receiving a daily educational television program—CNN NEWSROOM—via satellite at 3:45 a.m. each weekday morning. *See* Pet. 15–17, 27–28; Ex. 1004, 11, 20–21. Petitioner argues this limitation is also met by Compton's disclosure that the received program could be “any other program for which users might want to be able to see past episodes (i.e., other news programs, sitcoms, soap operas . . .).” *See* Pet. 16–17; Ex. 1004, 29. Petitioner's arguments are persuasively supported by the evidence of record.

Claim 13 requires encoding the received signal into an encoded signal and transmitting the encoded signal via a world wide network. *See* Ex.

1001, 8:5–8.⁴ Petitioner argues this limitation is met by Compton’s disclosure of encoding CNN NEWSROOM broadcast segments using an MPEG encoder, and transmitting the encoded segments to the NMIS server via ftp. From the NMIS server, the encoded segments are deliverable to any computer on the Internet via http (hypertext transfer protocol), either directly via “on-demand Delivery” and normal WWW access, or indirectly via caching proxy servers. *See* Pet. 17–21; Ex. 1004, 10, 20–25, Figs. 4, 6. Petitioner’s arguments are persuasively supported by the evidence of record, notwithstanding Patent Owner’s arguments to the contrary, for the reasons discussed below.

Claim 13 requires receiving the encoded signal via a world wide network, and decoding the encoded signal at a second location. *See* Ex. 1001, 8:9–12. Petitioner argues this limitation is met by Compton’s disclosure of a client computer (e.g., using a www browser) receiving the encoded segments via the Internet, and decoding them via MPEG decoding boards. *See* Pet. 19–23; Ex. 1004, 10, 13, 22–25, Fig. 6. Petitioner’s arguments are persuasively supported by the evidence of record.

Claim 13 requires reproducing the information contained in the encoded signal during a second time frame delayed from the first time frame by an amount greater than the delay due to the receiving, encoding, transmitting, receiving, and decoding delays.⁵ *See* Ex. 1001, 8:13–18.

⁴ We cite to claim 11 for the requirements of claim 13 due to claim 13’s dependence from claim 11.

⁵ We note the near tautological nature of this claim requirement. Any system capable of reproducing at a second location in a second time frame a signal that was encoded at a first location in a first time frame can only do so *after* receiving and encoding the signal at the first location in the first time

Petitioner argues this limitation is met by Compton's disclosure that the encoded segments can be received via the Internet and reproduced on a classroom computer at any time up to 6 months *after* they were first received, encoded, and stored on the NMIS server. *See* Pet. at 23–27; Ex. 1004, 15, 22–26, 29. Petitioner's arguments are persuasively supported by the evidence of record. In particular, Compton discloses reproducing encoded segments in the classroom after a delay greater than the delays caused by receiving and encoding the CNN NEWSROOM broadcast segments at the NMIS server, transmitting the program segments to the classroom computer, and receiving and decoding the program segments at the classroom computer. *See* fn. 5, *supra*.

Patent Owner argues Compton fails to anticipate claim 13 because “Compton fails to disclose encoding the same signal that was originally broadcast and received in a first location. . . . Instead, Compton discloses that what is encoded (specific clips out of an entire newscast) is very different from what was originally broadcast.” PO Resp. 21–22. According to Patent Owner, “there is no express disclosure in Compton of encoding the same signal that was received and then transmitting an encoded version of the received signal.” *Id.* at 24. Patent Owner further argues that Compton requires using edit decision lists to edit and segment the received signal, and therefore specifically teaches “to not encode and transmit the same signal that was received.” *Id.* at 23–24. We are not persuaded by Patent Owner's arguments.

frame, transmitting the signal to the second location, and receiving and decoding the signal at the second location in the second time frame.

Although Compton's system is capable of receiving multi-segmented CNN NEWSROOM broadcasts and encoding only segments of those broadcasts, Compton's system is not so limited. See Pet. Reply 7–8. Significantly, Compton's system specifies neither the content nor the segmentation of received CNN NEWSROOM broadcasts. For example, Compton discloses the CNN NEWSROOM broadcast is a daily 15 minute broadcast of *arbitrary* composition that “*generally* consists of 3–5 segments of 2–5 minutes each.” Ex. 1004, 11 (emphasis added). Consequently, Compton's system does not depend on receiving CNN NEWSROOM broadcasts having any particular or well-defined segmentation. Instead, the system is configurable to receive and encode CNN NEWSROOM broadcasts of arbitrary segmentation, including broadcasts containing a single 15 minute segment. This flexibility is provided by the edit decision list, which can contain an arbitrary number of start and stop time codes to segment and encode whatever arbitrary number of CNN NEWSROOM program segments are received in a given day's broadcast. Pet. Reply 8–9; Ex. 1004, 20–21. These start and stop time codes are *received from CNN* prior to the broadcast, and entered into the edit decision list. Ex. 1004, 20–21.

Petitioner's expert, Dr. Negus, testified that a person of ordinary skill in the art would have understood the start and stop time codes used in Compton's edit decision lists were “exemplary,” rather than mandatory. See Pet. Reply 8 (citing Ex. 2004, 57:7–61:3, 64:9–24). Patent Owner describes this testimony as conclusory. PO. Resp. 25–26. We disagree.

Patent Owner relies on Figure 5 of Compton to argue Compton *requires* segmenting and encoding only segments of CNN NEWSROOM broadcasts. See PO Resp. 23–24. However, Figure 5 of Compton is only

“[a]n *example* of an edit decision list.” Ex. 1004, 21 (emphasis added). The figure itself illustrates the specific stop and start time codes that were used to segment the specific CNN NEWSROOM program received on May 19, 1994, and states “[t]his is an *example* of the Edit Decision List.” *Id.* (emphasis added). We are persuaded by Dr. Negus’s testimony that, given the exemplary nature of the edit decision list, a person of ordinary skill in the art would have understood Compton as describing that the stop and start time codes could be set to encompass any particular length of broadcast, including an entire broadcast. Ex. 2004, 60:1–61:3.

Moreover, Patent Owner’s arguments regarding encoding only segments of a received broadcast are specifically directed to Petitioner’s identification of the CNN NEWSROOM program as the received broadcast. See PO Resp. 21–22. However, Petitioner also identified other types of broadcasts, such as sitcoms or soap operas, as the received broadcast. See Pet. 16–17; Pet. Reply 7–8. Although Compton discloses receiving start and stop time codes from CNN to segment particular CNN NEWSROOM broadcasts, Compton does not disclose receiving such segmentation time codes from other broadcasters, or for other types of broadcast programs, such as sitcoms or soap operas. Thus, we agree with Petitioner that “Compton does not suggest that the past episodes [of sitcoms or soap operas] would be edited into shorter clips,” but instead discloses “the use of the disclosed system for encoding an entire ‘past episode’ of a sitcom or soap opera.” Pet. Reply 8.

Patent Owner further argues that Compton fails to inherently disclose encoding the entirety of a received broadcast signal because even if Compton’s system could be used “to encode the exact received signal, it is at

least equally possible . . . that Compton’s system was only capable of encoding small clips of the received signal.” PO Resp. 24. We are not persuaded by Patent Owner’s argument.

Petitioner does not argue that Compton inherently discloses receiving and encoding a broadcast signal. Rather, as discussed above, Petitioner argues Compton expressly discloses receiving and encoding either the CNN NEWSROOM broadcast or an alternative broadcast such as a sitcom or soap opera. *See* Pet. 16–17 (citing Ex. 1004, 20, 29). For the reasons discussed *supra*, we agree with Petitioner that Compton expressly discloses receiving and encoding an entire broadcast signal, and therefore anticipates claim 13. *See* Pet. Reply 7–10; Ex. 2004, 39:19–40:7, 64:9–24, 65:8–67:5; *see also In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985) (internal citations omitted) (A reference anticipates if it “sufficiently describe[s] the claimed invention to have placed the public in possession of it. Such possession is effected if one of ordinary skill in the art could have combined the publication’s description . . . with his own knowledge to make the claimed invention.”); *see also In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) (“A reference anticipates a claim if it discloses the claimed invention ‘such that a skilled artisan could take its teachings in *combination with his own knowledge of the particular art and be in possession of the invention.*’” (quoting *In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962))(emphasis in original)).

Accordingly, for the reasons discussed above, and after considering and weighing the evidence and arguments provided by Petitioner and Patent Owner, we find Petitioner has shown by a preponderance of evidence that claim 13 is anticipated by Compton.

3. Comparison of Compton and Claim 16

Claim 16 is an apparatus claim, and requires means for receiving an encoded broadcast signal containing information transmitted in a first broadcast to a first location in a first time frame. Ex. 1001, 8:31–36. The corresponding structure disclosed in the Specification for performing the receiving function is a network coupling system or adaptor (e.g., a cable modem). *Id.* at 4:47–55. Petitioner argues this limitation is met by Compton’s disclosure of video distribution over the Internet using ADSL (Asymmetric Digital Subscriber Line) and coaxial cable modems, and of classroom computers receiving MPEG encoded video segments over the Internet, and caching proxy servers receiving MPEG encoded video segments via IP multicast over the Internet. Pet. 31–33; Ex. 1004, 8, 22–24, Fig. 6. Petitioner’s expert, Dr. Negus, declares that Compton’s disclosure of a classroom computer or caching proxy server connected to the Internet inherently discloses a network coupling system “because Internet connectivity in 1995 for either such a proxy server or any other Internet host necessarily required a ‘network coupling system, such as a network adapter’ or more specifically such as at least one of ‘a digital subscriber line (DSL) modem, an Ethernet adapter, a dial-up modem, or a cable modem.’” Ex. 1003 ¶ 158.

Claim 16 also requires means for decoding the encoded signals, and the corresponding structure disclosed in the Specification for performing the decoding function is a media player that includes an MPEG-compatible decoder. Ex. 1001, 4:61–5:8, 8:37–38. Petitioner argues this limitation is met by Compton’s disclosure of classroom computers having MPEG decoders to decode MPEG-encoded video segments. Pet. 34; Ex. 1004, 13.

Claim 16 also requires means, coupled to the decoding means, for storing the decoded signal, and the corresponding structure disclosed in the Specification for performing the storage function is a semiconductor or magnetic based memory, storage device, or hard drive. Ex. 1001, 5:9–20, 8:39–40. Petitioner argues this limitation is met by Compton’s disclosure of classroom computers storing decoded video segments in memory buffers prior to displaying them, or outputting decoded video segments to attached VCRs for storage on magnetic tape. Pet. 35–36; Ex. 1004, 25–26, 46.

Claim 16 also requires means, coupled to said decoding means, for reproducing the information in a second geographic location in a second time frame chosen by the user. Ex. 1001, 8:41–44. The corresponding structure disclosed in the Specification for performing the reproducing function is a display system or speakers coupled to a media player that includes an MPEG-compatible decoder. *Id.* at 5:2–6, 5:33–37. Petitioner argues this limitation is met by Compton’s disclosure of classroom computers having MPEG decoders that reproduce decoded video segments on a TV or display coupled to the computers. Pet. 36–39; Ex. 1004, 35. Petitioner also cites Compton’s disclosure that a user can select the time to reproduce encoded program segments at any time up to 6 months after they are first received, encoded and stored on the NMIS server. Pet. 38–39; Ex. 1004, 15, 22–26, 29.

Finally, claim 16 requires the delay between the first and second time frames to be greater than the delay caused by receiving and decoding the

encoded broadcast signal.⁶ Ex. 1001, 8:41–48. When Compton’s encoded program segments are selected and reproduced in the classroom, they are necessarily reproduced after a delay that is greater than the delays caused by receiving and decoding the encoded program segments. *See* n.6, *supra*.

Petitioner’s arguments are persuasively supported by the evidence of record, notwithstanding Patent Owner’s arguments to the contrary, which are discussed below.

Patent Owner argues Compton fails to anticipate claim 16 because Compton fails to disclose “[a] single apparatus that both receives a second broadcast via a world-wide network and decodes and reproduces the received content.” PO Resp. 27. According to Patent Owner, because claim 16 is an apparatus claim all of its limitations, including the means for receiving, means for decoding, and means for reproducing, must “be found in a single, unitary apparatus.” *Id.* at 26 (citing *Storage Tech. Corp. v. Cisco Sys. Inc.*, 329 F.3d 823, 834–35 (Fed. Cir. 2003)). We are not persuaded by Patent Owner’s arguments.

Storage Tech. did not set forth a per se rule that an invention recited as an apparatus requires the apparatus to be a single, unitary, apparatus. In *Storage Tech.*, the Federal Circuit construed a method of operating a forwarding device to require first and second processors performing steps in the method to be part of the same, unitary, forwarding device. *See Storage*

⁶ We also note the tautological nature of this claim limitation. Any system capable of receiving a signal that was encoded in a first location at a first time frame and reproducing the encoded signal in a second location at a second time frame can only reproduce the encoded signal *after* receiving and decoding it.

Tech., 329 F.3d at 834. The court’s construction was based on the disclosure in the patent-in-suit, whose “written description [made] it abundantly clear that the preprocessor and the forwarding processor . . . must be contained within one forwarding device.” *Id.* at 834–35. For, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

Patent Owner argues the Specification of the ’456 patent supports its interpretation that claim 16 requires a unitary apparatus by disclosing media player 118 is “a device that receives, decodes, stores, and plays reproduced information.” PO Resp. 27. Petitioner argues the Specification supports a broader construction of the apparatus recited in claim 16 because the Specification discloses means for reproducing the decoded signal that can be “physically separate from the other parts of [the] system, not a unitary part of it.” Pet. Reply 11.

We agree with Petitioner that the apparatus of claim 16, read in light of the Specification of the ’456 patent, is not limited to a unitary apparatus. For example, the Specification discloses media player 118 receives and decodes the encoded signal for reproduction on one or more speakers or amplifier systems. Ex. 1001, 5:33–37. Media player 118 may transmit the decoded signal to speakers or amplifier systems operating as wireless *peripheral* devices 328 in a different room. *Id.* at 5:37–44. This transmission may be over a local area network using any local area networking protocol. *Id.* at 5:44–49. Thus, we agree with Petitioner that the Specification of the ’456 patent “expressly contemplates that all of the

limitations of claim 16 need not be found in a ‘single, unitary apparatus,’ and indeed might be found in entirely different rooms.” Pet. Reply 12.

Patent Owner also argues that Compton fails to anticipate claim 16 because claim 16 requires the user to choose the second time frame to reproduce the encoded signal, and this “requires that the user be able to view the broadcast content in the second location at any time that he or she wishes . . . subject only to the delay resulting from the encoding/transmission/decoding process,” and that “any additional delay in replaying the information . . . [is] necessarily also chosen by the user.” PO Resp. 31, 33. According to Patent Owner, a user of Compton’s system cannot choose the second time frame because “the earliest playback time in Compton is dictated by the time it takes to record the program ‘on a Beta-SP video tape deck,’ then create a curriculum guide, table of contents, and edit decision list,” and therefore involves an additional delay that is not chosen by the user. *Id.* at 31. We are not persuaded by Patent Owner’s argument.

The only timing requirement in claim 16 is that the user choose a second time frame to reproduce a signal encoded at a first time frame, where the delay between the first and second time frames “is greater than a delay caused by receiving the second [encoded] broadcast and decoding the encoded signal.” Ex. 1001, 8:30–48. Claim 16 does not require allowing the user to choose the second time frame at *any particular time*, does not prohibit delays in addition to the enumerated delays between the first and second time frames (e.g., an additional delay due to recording the signal on a video tape deck), and does not require that any additional delays be chosen by the user.

As noted in footnote 6, *supra*, any system capable of receiving a signal encoded at a first time frame in a first location and reproducing the encoded signal at a second time frame in a second location, *necessarily* reproduces the encoded signal *after* a delay between the first and second time frames that is caused by receiving and decoding the encoded signal. Compton discloses a user chooses the second time frame to decode and reproduce previously encoded programs (e.g., CNN NEWSROOM broadcast segments, sitcoms, or soap operas) by disclosing the user can fetch encoded programs that are up to 6 months old. Ex. 1004, 15, 26. That the user cannot select a program to reproduce prior to its being posted to the NMIS server or after it has been posted for six months on the NMIS server is inconsequential and does not undermine Compton's satisfying the claim limitation. Under the rule of broadest reasonable interpretation, choosing a second time frame does not require the second time frame to be *any* possible time in the future. It simply requires choosing *a* time in the future after receiving and decoding the second (encoded) broadcast.

Accordingly, for the reasons discussed above, and after considering and weighing the evidence and arguments provided by Petitioner and Patent Owner, we find Petitioner has shown by a preponderance of evidence that claim 16 is anticipated by Compton.

E. Obviousness of Claims 13 and 16 over Compton

Petitioner alleges claims 13 and 16 would have been obvious in view of Compton in the event Compton does not anticipate the claims. Pet. 53. In particular, Petitioner alleges—to the extent Compton does not disclose receiving a broadcast signal—that it would have been obvious to a person of ordinary skill in the art at the time of the invention for Compton's system to

receive a broadcast signal. Pet. 53–54. Petitioner contends it would have been obvious to modify Compton to receive a broadcast signal other than a CNN NEWSROOM program because Compton explicitly teaches use of the disclosed video archiving system “could be extended to any closed captioned program, and could add significant value to other general news programs or specialized news programs, or any other program for which users might want to be able to see past episodes (i.e., other news programs, sitcoms, soap operas . . .).” See Pet. 54 (quoting Ex. 1004, 29). The argument is persuasive. We determine that Compton provides an explicit teaching, suggestion, or motivation to use its system to encode past episodes of other programs such as sitcoms or soap operas. See *Translogic*, 504 F.3d at 1260.

Patent Owner argues Petitioner has failed to show claim 13 would have been obvious over Compton because Petitioner has failed to provide any reason to modify Compton to provide “the ability to encode and transmit the same signal that was originally broadcast.” PO Resp. 38. This argument is based on Patent Owner’s contention that “[t]he whole point of Compton was specifically to divide the newscast into individually searchable and citable news segments—not to merely space-shift or time-shift the CNN NEWSROOM program.” *Id.* at 39.

We are not persuaded by Patent Owner’s argument, which is directed toward Petitioner’s identification of the CNN NEWSROOM program as the received television signal. See PO Resp. 39. Petitioner argues, however, that claim 13 would have been obvious because Compton teaches creating digital archives by receiving, encoding, and storing *other types of received broadcasts*, such as sitcoms, soap operas, or local broadcasts. See Pet. 54;

Pet. Reply 18. As discussed in § II.D.2, *supra*, we do not find Compton discloses encoding only segments of received sitcoms, soap operas, or local television broadcasts. Rather, we agree with Petitioner that Compton teaches creating a digital library of “past episodes” of programs of interest, such as sitcoms and soap operas. See Pet. Reply 18.

Patent Owner further argues that Compton teaches away from encoding the entire received signal by teaching that space- and time-shifting an entire received program could have been achieved with an ordinary VCR. PO Resp. 39. This argument is based on the opinion of Patent Owner’s expert, Dr. Ross, that “if one wished to encode and transmit the entire signal and dispense with the editing [i.e., segmenting] steps, one may as well use a VCR and the entire system of Compton would not need to exist.” Ex. 2002 ¶ 90 (citing Ex. 1004, 49–51). We are not persuaded by Patent Owner’s argument.

To “teach away,” a reference must criticize, discredit, or otherwise discourage a proposed solution. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Patent Owner does not identify any particular teaching in Compton that criticizes, discredits, or discourages encoding an entire received signal. Nor do we find any. Rather, as discussed in § II.D.2, *supra*, we find Compton discloses a flexible system that is capable of encoding the content of a received broadcast signal regardless of whether, or to what extent, the broadcast signal is segmented.

Moreover, we are not persuaded by Dr. Ross’s opinion that if one wanted to simply encode and transmit an entire received signal, Compton’s system would not be needed because that could already be done with a VCR. The section of Compton relied upon by Dr. Ross to support this opinion

compares video access methods for different digital video delivery services available at the time, including Compton's. *See* Ex. 1004, 48–52. Although Compton mentions using VCRs to space- and time-shift recorded programs, Compton does not disclose transmitting the contents of programs recorded on a VCR over a world wide network as required by claim 13, and Dr. Ross does not explain whether, or how, programs recorded on VCR would be transmitted over such a network. Moreover, Compton touts the advantages of using digital video archiving systems to deliver videos, despite performance delays due to transmitting requested videos over congested or low-bandwidth networks, because such delays are superior to “the current alternative of requesting a video tape *in the mail* [that] takes at least an order of magnitude longer.” Ex. 1004, 51 (emphasis added). Thus, Compton discloses programs recorded on a VCR are space- and time-shifted by sending them through the mail, rather than transmitting them over a world wide network.

Lastly, as indicated in Petitioner's Reply, Compton explicitly teaches the *advantages* of using digital video archiving services to encode, store, and archive received broadcasts, including that archived digital video “is easier to seek quickly in, can be stored, transmitted, and copied losslessly, and can be indexed and retrieved much more quickly than analog video.” Pet. Reply 18 (quoting Ex. 1004, 48).

With respect to claim 16, Patent Owner argues Petitioner has failed to provide any reason for modifying Compton to provide “world wide network receiving means that are part of the same [i.e., unitary] apparatus that decodes, stores, and plays the information,” or to provide “the ability for a

user to choose the exact time (including the earliest time) he or she wishes to remotely view the information that was broadcast.” PO Resp. 38.

We are not persuaded by Patent Owner’s arguments, which are similar to arguments we addressed in § II.D.3, *supra*, for the reasons discussed there. In particular, we disagree that claim 16 requires a unitary apparatus or prohibits addition delays between the first and second time frames that are not chosen by the user.

Accordingly, for the reasons discussed above, and after considering and weighing the evidence and arguments provided by Petitioner and Patent Owner, we find Petitioner has shown by a preponderance of evidence that claims 13 and 16 are unpatentable over Compton.

F. Obviousness of Claims 13 over Compton and Shteyn

Petitioner argues claim 13 would have been obvious over the combination of Compton and Shteyn. *See* Pet. 39–45. In particular, Petitioner argues that—to the extent Compton fails to disclose receiving a signal broadcast in a first geographic location— Shteyn teaches receiving such a signal. *Id.* Petitioner argues a person of ordinary skill in the art would have combined Compton and Shteyn because both references are directed to video distribution systems in which a networked device receives a television broadcast at a first location and distributes it over the Internet to other locations. *Id.* at 44. Petitioner further argues that it would have been obvious to try using Compton’s system to receive a local broadcast as taught by Shteyn because Compton’s NMIS digital video facility had only a few options for receiving content (e.g., local, satellite, or national broadcasts), and the combination of Compton and Shteyn would have led to the predictable result of using Compton’s NMIS digital video facility to receive

local broadcasts over the air for subsequent viewing by transmission over the Internet.⁷ *Id.* at 44–45. For the reasons discussed below, Petitioner’s arguments are persuasive. We analyze the combination of Compton and Shteyn under the assumption that Compton fails to disclose receiving a broadcast signal in a first geographic location.

1. *Overview of Shteyn (Ex. 1005)*

Shteyn discloses a system that “enables a subscriber to select a specific broadcast program for recording and a specific location and time frame for play-out of the recorded program.” Ex. 1005, Abstract. Figure 1 of Shteyn is reproduced below:

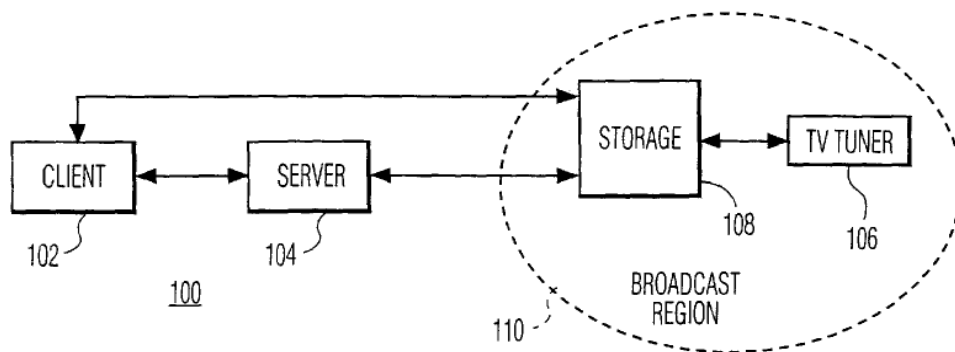


FIG. 1

Figure 1 is a schematic illustration of Shteyn’s system for receiving and recording a broadcast signal in a first region, and playing back the broadcast signal in a different region at a different time. The system allows a local or regional broadcast to be “recorded and stored temporarily at a server and then streamed over a data network, e.g., the Internet . . . to a recording device specified by the user as destination.” *Id.* at 2:7–11. For example, a

⁷ We understand Petitioner’s reference to “predictable results” to refer to successful results.

subscriber using a hotel's client 102 can forward to a server 104 "a request to make available a recording of a certain broadcasted program." *Id.* at 2:53–55. In response, server 104 "locates a tuner **106** and a storage system **108** within a region **110** wherein this particular program will be broadcasted." *Id.* at 2:55–57. The recorded content is then "streamed over a data network, e.g., the Internet . . . to hotel [client] **102** using a low-bandwidth protocol. Hotel [client] **102** records the content for scheduled play-out as desired by [subscriber]." *Id.* at 2:63–67.

2. Comparison of Compton and Shteyn to claim 13

As discussed in §§ II.D.2 and II.E, *supra*, Petitioner demonstrates by a preponderance of evidence that Compton alone properly accounts for each and every limitation recited in claim 13. Moreover, assuming Compton does not teach receiving a broadcast signal at a first location as required by claim 13, Petitioner has shown by a preponderance of evidence that Shteyn teaches receiving and recording a broadcast signal in first region 110 using tuner 106 and storage system 108. Pet. at 39–41; Ex. 1005, 2:46–3:8, Fig. 1. Moreover, Petitioner has shown that the combined teaching of Compton and Shteyn "yields the completely predictable result that the local broadcast recording and storage system of Shteyn enables the 'NMIS digital video facility' of the Compton Thesis to receive a local or over-the-air broadcast signal for transmission over the Internet for later consumption." Pet. at 45; Ex. 1003 ¶ 113. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

Patent Owner argues claim 13 is patentable over Compton and Shteyn because Petitioner fails to allege "that the missing limitations . . . in

Compton would have been obvious in view of Shteyn,” where the missing limitations are “‘receiving a signal broadcast,’” and “‘encoding the received signal.’” PO Resp. 34. Patent Owner further argues that claim 13 is patentable over Compton and Shteyn because “the Petition provides no reasoning or rationale at all for combining Shteyn with Compton specifically to provide the ability to encode and transmit the same signal that was originally broadcast.” *Id.* at 35. We are not persuaded by Patent Owner’s arguments.

As discussed in § II.D.2, *supra*, we do not find Compton is missing the limitations of “receiving a signal broadcast,” and “encoding the received signal.” Rather, we find Compton teaches receiving, recording, encoding, and transmitting television broadcasts over a network, including CNN NEWSROOM broadcasts, sitcoms, and soap operas. Moreover, Compton teaches encoding received broadcasts regardless of whether, or to what extent, the broadcasts are segmented, including encoding entire “episodes” of received sitcoms and soap operas. Shteyn similarly teaches receiving, recording, and transmitting over a network entire programs broadcast in a first region at a first time. *See* Ex. 1005, 2:46–66, Fig. 1. For example, Shteyn teaches receiving, recording, and transmitting entire hockey games, basketball games, favorite shows, or live musical performances. *Id.* at 2:46–66, 3:36–65, 4:19–36. Shteyn does not explicitly teach encoding the received and recorded broadcasts. However, when the receiving and recording system of Shteyn is combined with the encoding and transmission system of Compton as Petitioner argues, the combination teaches “receiving a signal broadcast,” and “encoding the received signal” as required by claim 13. As noted above, the combination of Compton and Shteyn is a

combination of familiar elements according to known methods to achieve a predictable result. It is therefore obvious. *See KSR*, 550 U.S. at 416.

Accordingly, for the reasons discussed above, and after considering and weighing the evidence and argument provided by Petitioner and Patent Owner, we find Petitioner has shown by a preponderance of evidence that claim 13 is unpatentable over Compton and Shteyn.

III.CONCLUSION

We enter adverse judgment against claims 11, 14, and 15. Petitioner has demonstrated, by a preponderance of the evidence, that claims 13 and 16 of the '456 patent are unpatentable. In particular, Petitioner has shown, by a preponderance of the evidence, that:

Claims 13 and 16 are anticipated by Compton under 35 U.S.C. § 102(b);

Claims 13 and 16 are unpatentable over Compton under 35 U.S.C. § 103(a); and

Claim 13 is unpatentable over Compton and Shteyn under 35 U.S.C. § 103(a).

IV. ORDER

It is ORDERED that adverse judgment is entered against claims 11, 14, and 15 of the '456 patent, concurrently with entry of adverse judgment on these same claims in *DISH Network L.L.C. et al. v. TQ Beta, LLC*, Case IPR2015-01791 (PTAB) (Paper 30);

FURTHER ORDERED that claims 13 and 16 of the '456 patent are unpatentable; and

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

IPR2015-01756
Patent 7,203,456 B1

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