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IN THE UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

VIDEOLABS, INC., and
VL COLLECTIVE IP LLC

Plaintiffs,

v.

APPLE INC.

Defendant.

Case No.

COMPLAINT FOR PATENT INFRINGEMENT

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs VideoLabs, Inc. ("VL") and VL Collective IP LLC ("VL IP") (collectively "VideoLabs" or "Plaintiffs") file this Complaint against Apple Inc. ("Apple" or "Defendant"), and in support thereof allege as follows:

NATURE OF THE ACTION

1. Digital video has become fundamental to how society interacts, communicates, educates, and entertains. In fact, video consumption now accounts for more than 82% of all Internet traffic.[1] The ability to reliably provide high-quality video drives the growth of digital platforms that are increasingly integral to the global economy.

2. The advent of high-quality video as a staple of digital consumption did not happen instantaneously. As with any complex technology, digital video presented implementation challenges. Many companies spent many years and resources to develop new and innovative technologies that guide how video is created, streamed, secured, managed, and consumed.

3. Various inventions and technological advances have transformed digital video. Some of these technologies, such as techniques to efficiently compress video file size, address central challenges to storing and transmitting video. Others enable video content to be efficiently and securely streamed to the many user devices that exist today. Some involve managing and organizing videos to provide viewers easier access to content and address how they interact with content. Yet others offer innovative techniques for playback on a device for efficient power consumption. And of course, there are a variety of innovations for the devices that play video content. With respect to mobile devices, this includes streamlined designs that are aesthetically pleasing and contain as much high-performance technology as possible. Successful video streaming thus requires myriad technologies that necessarily coordinate with one another.

[1] *See* Ex. 1, *The Sustainable Future of Video Entertainment*, INTERDIGITAL (Aug. 2020), https://www.interdigital.com/white_papers/the-sustainable-future-of-video-entertainment?submit_success=true (last visited Feb. 24, 2023).

4. Because various companies played roles in developing the foundational technology for today's digital video, no single company can provide the high-quality video experiences that consumers have come to expect without using technology owned by other companies.

5. The founders of VideoLabs recognized this problem and understood that collective action was needed to address it. If the companies that developed critical video technologies worked together, everyone could benefit: innovators could receive fair compensation for their contributions, companies deploying video technology could respect the innovators' patents and license them on affordable and predictable terms, and consumers could experience better and more affordable video technology.

6. In 2019, with support from widely-recognized industry leaders, VideoLabs launched a platform to achieve these goals. VideoLabs spent millions of dollars and thousands of hours analyzing the video space and identifying the patents that reflect the innovations with the highest impact. VideoLabs then compiled a portfolio of these core patents, obtaining them from leading companies, including Hewlett Packard Enterprise, Alcatel-Lucent S.A., Siemens AG, Swisscom AG, 3Com, Panasonic, LG, and Nokia.

7. VideoLabs then opened-up membership on its platform to all willing companies. In exchange for low-cost membership or licensing fees, VideoLabs provides access to its patent portfolio and a commitment to seek out the most important patents in the video industry and clear them. Many prominent companies recognized the benefits of the VideoLabs platform and worked with VideoLabs to efficiently and responsibly license its video technology patents.

8. Unfortunately, Apple has not. Apple is one of the world's largest users of video technologies and has enabled consumers' use of personal electronics devices to access video content on their mobile phones, tablets, streaming devices, and computers. Apple is enmeshed in practically every aspect of video, from creation to processing, delivery, and display. Apple developed its proprietary video streaming protocol (HLS) in 2009[2] and launched its own video streaming service

[2] Ex. 2, *HTTP Live Streaming*, WIKIPEDIA https://en.wikipedia.org/wiki/HTTP_Live_Streaming (last visited Mar. 16, 2023).

(Apple TV+) in late 2019.[3] Moreover, more than half of all smartphones and tablets sold in the United States are manufactured by Apple,[4] and it is estimated that between 57% and 75% of all video is viewed on mobile devices.[5]

9. VideoLabs has reached out to Apple many times — including multiple in-person meetings — to alert Apple to its use of VideoLabs' patented technology and offer Apple the benefit of VideoLabs' platform. Unfortunately, Apple has chosen to free-ride on VideoLabs' patents rather than acknowledge their valuable contributions to Apple's products and services.

10. Apple's refusal to offer fair compensation for the use of VideoLabs' patents violates the patent laws and undermines the viability of VideoLabs' platform. VideoLabs feels it has no recourse but to file this action to stop Apple's unauthorized use of VideoLabs' patents.

11. This case is ultimately about ensuring the integrity of the patent system and compensating patent owners for their protected innovations. Respect for intellectual property, as the law requires, is essential to incentivize innovation and promote technological progress. Accordingly, VideoLabs brings this action under the patent laws, 35 U.S.C. § 1 et seq., in order to stop Apple's willful infringement of U.S. Patent Nos. 8,605,794 and 7,525,535 (collectively, "patents-in-suit").

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[3] Ex. 3, *Apple TV Plus*, APPLE INSIDER, https://appleinsider.com/inside/apple-tv-plus#:~:text=Apple (last visited Mar. 16, 2023).

[4] Ex. 4, *US Smartphone Market Share*, OBERLO https://www.oberlo.com/statistics/us-smartphone-market-share; *see Market share of leading tablet device vendors in the United States from January 2020 to January 2023*, STATISTA https://www.statista.com/statistics/1120402/marketshare-tablet-device-vendors-us/#:~:text=Market%20share%20of%20tablet%20device,States%202020%2D2022%C2%B43&text=In%20January%202023%2C%20Apple%20was,of%20the%20U.S.%20tablet%20market (last visited Mar. 16, 2023).

[5] Ex. 5, *Mobile Video Statistics*, YANSMEDIA https://www.yansmedia.com/blog/mobile-video-statistics; Ex. 6, *Mobile video in the United States – Statistics & Facts*, STATISTA https://www.statista.com/topics/2725/mobile-video-in-the-united-states/#:~:text=As%20of%20March%202022%2C%20over,device%20for%20online%20video%20consumption (last visited Mar. 16, 2023); Ex. 7, *Study: Mobile devices snag 60% of all video views worldwide,* MARKETINGDIVE, https://www.marketingdive.com/news/study-mobile-devices-snag-60-of-all-video-views-worldwide/519200/ (last visited Mar. 16, 2023); Ex. 8, *78% of Video Content to be Screened Via Mobile Devices, Marketing Study Predicts*, SMALLBIZTRENDS.COM, https://smallbiztrends.com/2018/02/mobile-video-viewing-trends.html (last visited Mar. 16, 2023).

PARTIES

12. VL was founded in 2018 as part of an industry-sponsored and -funded effort to reduce the cost and risk of technological gridlock associated with diverse patent ownership. VL's leadership has decades of experience in intellectual property licensing, during which they have completed over 1,000 intellectual property transactions worldwide and drawn more than $6 billion in revenue.

13. VL is a corporation organized under the laws of the State of Delaware, with its principal place of business in Palo Alto, California.

14. VL IP was founded in 2019 as a subsidiary of VideoLabs, Inc.

15. VL IP is a corporation organized under the laws of the State of Delaware, with its principal place of business in Palo Alto, California.

16. Apple is a company organized under the laws of California, with its principal place of business at One Apple Park Way, Cupertino, CA 95014.

JURISDICTION AND VENUE

17. This is an action for patent infringement arising under the patent laws of the United States. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

18. This Court has personal jurisdiction over Apple because Apple is incorporated under the laws of California and has its principal place of business in California. In addition, Apple designs, uses, distributes, sells, and/or offers for sale the accused products and/or services to consumers and businesses in this District.

19. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because Apple regularly conducts business within this District, has a regular and established place of business in this District, and has committed acts of infringement within this District.

THE VIDEOLABS PATENTS-IN-SUIT

A. U.S. Patent No. 8,605,794

20. U.S. Patent No. 8,605,794 (the "'794 Patent"), titled "Method for Synchronizing Content-Dependent Data Segments of Files," issued on December 10, 2013. VL IP owns all rights

and title to the '794 Patent, as necessary to bring this action. A true and correct copy of the '794 Patent is attached as Exhibit 9.

21. The original assignee of the '794 Patent is Siemens Aktiengesellschaft ("Siemens"), one of the largest consumer electronics companies at the time of the invention and a major innovator in Internet technologies. In 2005 alone, the year in which Siemens first filed for patent protection for the inventions of the '794 Patent, Siemens invested €5.2 billion in research and development.[6]

22. In the early 2000s, the inventors realized that the way that audiovisual content (e.g., television shows and movies) was transmitted to consumers was fundamentally changing. While content could be stored and accessed from media such as VHS tapes and DVDs, content was *transmitted* to consumers primarily through televisions — and had been for decades. Moreover, within each global region (e.g., the United States or Europe), all television content was encoded in a single formatting standard (e.g., the PAL standard in Europe and the NTSC standard in the United States) that could be played by all televisions. *See, e.g.*, Ex. 9, '794 Patent, col. 1 ll. 23-33.

23. But with the increasing importance of the Internet, the types of devices to which content could be transmitted was proliferating. *See, e.g.*, *id.* at col. 1 ll. 34-43. Content was now being streamed to computers, laptops, PDAs, and other electronic devices. Unlike televisions, which were all designed to play content formatted in the same way, these new devices could play content encoded in any number of formats based on their capabilities. For example, a PDA, with its limited screen resolution and processing capabilities, could not process the higher quality content intended for high-resolution monitors connected to desktop computers. Additionally, a computer running a Windows operating system could play different content formats than an Apple notebook.

24. The varying strength of Internet connections, particularly on wireless devices, also necessitated multiple content formats. For example, while a desktop computer might be capable of playing high resolution content, doing so is not desirable if the Internet connection for that computer is slow. Instead, it can be a better viewer experience for a lower quality version of the content to be transmitted more quickly rather than having the user constantly waiting for higher quality content to

[6] Ex. 10, *Siemens Annual Report 2005*, https://www.siemens.com/investor/pool/en/investor_relations/downloadcenter/e05_00_gb2005_1336469.pdf (last accessed Mar. 13, 2023).

download. Content delivery companies further realized that it would be beneficial to be able to change the quality of content *during a stream*. *See, e.g.*, *id.* at col. 1 ll. 23-39. That is, when an Internet connection is weak, send lower quality content; when the connection is strong, send higher quality content. Thus, not only were different content formats necessitated by different device capabilities — even for the same device and during a single stream, it was advantageous to be able to vary the quality of the transmitted content.

25. Consumer expectations for the delivery of content also began to change. Whereas consumers could previously only watch whatever was "on TV," consumers increasingly began to expect to watch whatever they wanted whenever they wanted, i.e., "on demand." Consumers expected content to start playing at the click of a mouse, and to be able to jump to any point in the content and have playback resume immediately.

26. These changes in technology and consumer expectations led to new techniques for managing and processing audiovisual content. Content was no longer stored as a single file in a single location. Instead, for example, a movie's audio and video data was broken up into numerous "segments" that might be stored on various Internet servers. These segments could be more easily transmitted over the Internet to consumer devices, and content could be played as soon as the first few segments were received instead of waiting until the entire file had been downloaded.

27. Prior to the innovations of the '794 Patent, however, there was not a suitable method for aligning the various audio and video segments that comprised a piece of content, which, due to the nature of transmission of data over the Internet, might not arrive at a client's device in the correct order.[7] The need was all the greater when switching between content formats midstream (e.g., to account for changing Internet bandwidth) or skipping to different points within a piece of content.

28. Known techniques at the time would align the segments for playback using timestamp information stored in each segment. Essentially, each segment includes metadata indicating when

[7] Ex. 11, *Out of Order Packets*, www.patrickdenis.biz/blog/1-1-c-ii-out-of-order-packets/ (last visited Mar. 16, 2023); Ex. 12, *The Problem with Packets*, KHAN ACADEMY https://www.khanacademy.org/computing/computers-and-internet/xcae6f4a7ff015e7d:the-internet/xcae6f4a7ff015e7d:transporting-packets/a/the-problems-with-packets#:~:text=Packets%20can%20be%20lost%20due,retransmission%20of%20the%20same%20packet (last visited Mar. 16, 2023)

in the timeline of the content the segment should be played (e.g., audio content from 5 minutes and 30 seconds of the movie to 6 minutes and 30 seconds of the movie). Once a segment was downloaded, this information would have to be read out (which could require decoding the segment), and then additional processing would be needed to order this segment with the other segments. This technique was rooted in the nature of the old technologies, in which all content to be played was already stored locally in the correct order prior to any playback, and devices did not alternate in real time between different versions of the same content and could not selectively play different parts of the content. Disadvantageously, this technique had a large overhead, and so could be slow and resource intensive. *See, e.g.*, Ex. 9, '794 Patent, col. 2 ll. 4-12, 36-54.

29. The '794 Patent improves upon these timestamp-based implementations. It describes a novel technique in which, in an exemplary embodiment, an XML-based manifest format is employed to convey segment descriptions for the various content segments and types (i.e., audio and video segments of a program). Representing the content items in this way led to an alternative approach to synchronize the independent audio and video segments from conventional methods. Thus, in the '794 patent, segments are ordered chronologically and aligned with corresponding segments (e.g., aligning a video segment with the correct audio segment) using predefined assignment rules to synchronize content segment delivery for unimpeded playback. *See id.*, col. 2 ll. 36-42; col. 5 ll. 10-13. These assignment rules are not based on timestamps. *See id.*, col. 2 ll. 42-43. Instead, the rules flexibly permit the alignment of segments using rules appropriate for different contexts. This could include implementations in which, for example, each sequential video segment is aligned with every fourth audio segment. *See id.*, col. 2 ll. 55-60; col. 5 l. 35 – col. 6 l. 42; col. 6 ll. 50-60.

30. Alternatively, the assignment rules could be used to build pseudo-timelines that order and match audio and video segments based on the context of the content. *See id.*, col. 6 ll. 50-60. For example, key audio and video segments will align at the start of new scenes, changes in camera viewpoint, or the start of a song. The assignment rules of the '794 Patent require little overhead and are thus significantly faster than timestamp-based techniques while also providing more options in the management of segments. *See, e.g.*, *id.*, col. 2 ll. 4-12, 36-54. This flexibility enables, for

example, a user to jump to a key scene in a movie, and the corresponding segments to quickly be located, downloaded, and played. *See id.*, col. 3 ll. 20-28. This is because the context of content can be mapped to a particular segment, and then assignment rules can be used to quickly identify the corresponding and subsequent segments. The '794 Patent provides many examples of using assignment rules to synchronize data segments. *See id.*, col. 6 ll. 4-42; Figs. 4, 5.

31. Today, online video streaming is ubiquitous, and the ability to alter the format of content mid-stream has been standardized and is known as "adaptive bitrate streaming." There are two main protocols for this type of delivery: HTTP Live Streaming ("HLS") and Dynamic Adaptive Streaming over HTTP ("DASH"). These protocols are used to stream the vast majority of online video. They are used by major streaming services (e.g., Amazon Prime Video, Disney+, Hulu), including Apple TV+.

32. The '794 Patent is a core building block to these technologies, which has been recognized by the video technology industry. MPEG LA, which pioneered the concept of technology-specific patent pools and has created and maintained patent pools that efficiently license key technologies worldwide, launched a patent pool for DASH in November 2016.[8] The '794 Patent was submitted for inclusion into MPEG LA's DASH patent pool, evaluated by MPEG LA's patent experts, and declared as essential to using DASH to stream content. Indeed, the '794 Patent is one of just 10 U.S. patents that have been deemed essential to DASH, and its importance to the streaming technology and foundational nature is evidenced by the fact that it has the earliest invention date of all patents in the pool. Numerous companies have taken a license to the '794 Patent to obtain the right to use its technology to implement DASH.[9]

[8] Ex. 13, *MPEG LA Releases MPEG-DASH Patent Portfolio License*, MPEG LA (Nov. 17, 2016), https://www.mpegla.com/wp-content/uploads/DASH-Launch-PrsRls-2016-11-17.pdf (last visited Mar. 15, 2023).

[9] Ex. 14, *DASH Licensees*, MPEG-LA, https://www.mpegla.com/programs/dash/licensees/ (last visited Mar. 15, 2023).

B. U.S. Patent No. 7,525,535

33. U.S. Patent No. 7,525,535 (the "'535 Patent"), titled "Portable Terminal," issued on April 28, 2009. VL owns all rights and title to the '535 Patent, as necessary to bring this action. A true and correct copy of the '535 Patent is attached as Exhibit 15.

34. The original assignee of the '535 Patent is LG Electronics, Inc. ("LG"), one of the largest consumer electronics companies at the time of the invention and a major innovator in display technologies. In 2007, the year when the patent application for the '535 Patent was filed, LG was the world's largest producer of CDMA handsets.[10] That same year, LG launched the world's first capacitive touchscreen phone.[11]

35. Before the '535 Patent, touch pads in portable devices attached to the surface of the display. Ex. 15, '535 Patent, col. 1 ll. 21-24. The body of the device needed to have an opening for the touch pad that would be exposed and available to receive input from the user, and the user would apply pressure to the touch pad to input information. *See id.*, at col. 1 ll. 25-27. As such, this design exposed the touch pad to the outside of the device. There were major shortcomings with this approach: 1) the outward exposure of the touchpad resulted in an unattractive appearance of the device; and 2) foreign materials, such as dust or water, could permeate the body of the device through the opening. *See id.*, at col. 1 ll. 45-50.

36. To address these problems, among others, the inventors of the '535 Patent designed a device with "a capacitive touch pad" that is "disposed on a display" and an integrally formed transparent window. *See*, '535 Patent, col. 1 ll. 55-57. The invention "provide[s] a portable terminal" with "an attractive design of the terminal" and prevents foreign materials from entering the terminal. *See id.*, col. 1 ll. 54-59; *see id.,* Fig. 3. Specifically, the '535 Patent describes "a touch screen located between the display and the body" and "the touch screen permit[s] signal input in a capacitive manner to control the mobile communication device." *See id.*, at col. 2 ll. 34-42; *see,*

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[10] *See* Ex. 16, *LG Electronics Dominates Global CDMA Handset Market for 6 Straight Quarters*, PULSE NEWS, https://pulsenews.co.kr/view.php?year=2008&no=514667 (last visited Mar. 15, 2023).

[11] *See* Ex. 17, *LG, Prada to Start Selling Mobile Phone at Start of Next Year*, LG ELECTRONICS, https://web.archive.org/web/20070108070435/http://www.lge.com/about/press_archive/detail/AB_NARCH%7CMENU_1_20302.jhtml (last visited Mar. 15, 2023).

e.g., *id.*, at col. 1 ll. 60-67. An opaque film located on the inner surface of the upper body blocks the view of the inner structure of the device and defines the transparent window. *See id.*, at col. 3 ll. 58-65. The portable terminal includes an upper and lower body, and a transparent window integrally formed at the upper body permits viewing information displayed on the device. *See id.*, at col. 3 ll. 46-50. The '535 Patent therefore provides an attractive appearance, while also preventing foreign materials from permeating the body. The '535 Patent also discloses that the touch pad has a flexible printed circuit (FPC) that includes a control circuit mounted on the FPC, and this configuration provides the benefits of space savings by eliminating the need to place the FPC on the main board and processes the touch signals more quickly and accurately. *See, e.g.*, *id.*, at col. 4 l. 63–col. 5 l. 3.

37. The '535 Patent describes an improvement to portable terminals by providing an aesthetically pleasing, functional improvement to devices with touch pads. When operating a device formed according to the invention, the user simply touches the display to operate the device through the touchpad which is connected to the display and circuitry. A user touches the "touch-sensing unit" of the touch pad through the transparent window and a transparent "signal transferring unit…transfer[s] a signal corresponding to a coordinate value of the touched portion of the touch-sensing unit." *See id.*, at col. 4 ll. 10-13. When the device is powered on, the display is illuminated and the transparent window on the upper body allows the information displayed on the display to be viewed. A user may then touch the touch pad through transparent window and input a signal to the control circuit from the transparent signal-transferring unit. *See id.*, at col. 4 ll. 56-62.

ACCUSED PRODUCTS

A. Apple '794 Accused Products

38. "Apple '794 Accused Products" refers to all non-cellular Apple products, services, features, and functionalities that implement, in whole or in-part, HTTP Live Streaming ("HLS"). This includes, for example, all non-cellular versions and implementations of: the Apple Mac (e.g., MacBook Pro, MacBook Air, iMac, Mac mini, Mac Studio, Mac Pro), iPad (e.g., iPad Pro, iPad Air, iPad, iPad mini), Apple TV, iPod touch, and Apple Watch; the Apple iOS, macOS, watchOS, and tvOS; and the Apple TV+ service and application.

39. HLS is a proprietary protocol created by Apple to facilitate sending live and on-demand audio and video to Apple devices, including the iPad, Mac, Apple Watch, iPod touch, and Apple TV. HLS has also been adopted and is used on many non-Apple environments as well, including, for example, on many non-Apple computers, tablets, mobile phones, smart TVs, streaming players, and web browsers.

40. RFC 8216: HTTP Live Streaming 2nd Edition is a draft streaming protocol standard submitted to the Internet Engineering Task Force (or "IETF") that describes the HLS streaming standard. It defines a data format (syntax) for the files and the actions taken by the server and clients of unbounded streams of multimedia data according to the HLS standard.[12] HLS dynamically adapts to network conditions by optimizing playback for the available speed of wired and wireless connections. HLS is an HTTP-based technology.

41. Apple uses HLS to efficiently and seamlessly deliver video to its customers.

42. On information and belief, exemplary non-cellular products that use HLS include Apple MacBook Air, MacBook Pro, iMac, Mac Pro, Mac mini, Mac Studio, non-cellular models of iPads including iPad Pro, iPad Air, iPad, iPad mini), Apple TV 4K, Apple TV HD, Apple TV+ service, Apple TV+ application, iPod touch, Apple Watch, Apple iOS, macOS, watchOS, and tvOS. Apple hardware devices support transmission and synchronization of demultiplexed audio and video. In addition, HLS is the most popular adaptive bitrate (ABR) technology in use in all iOS-based devices.[13] The HLS Internet Draft Specification describes the Playlist as either a Media Playlist or a Multivariant Playlist which the client first downloads and plays each Media Segment declared with it.[14] The HLS Multivariant Playlist file describes all the Variant streams of a media content item which may also include alternate content renditions. This allows a presentation to synchronize multiple representations of media content, e.g., main/English audio and mid-quality

[12] *See* Ex. 18, *Informational Internet Draft: HTTP Live Streaming 2nd Edition*, IETF (Nov. 8, 2021) [hereinafter "HLS Spec"], https://datatracker.ietf.org/doc/html/draft-pantos-hls-rfc8216bis (last visited Mar. 16, 2023).

[13] *See* Ex. 19, *HLS*, STREAMING MEDIA, https://www.streamingmedia.com/Glossary/Terms/HLS (last visited Mar. 16, 2023).

[14] *See* Ex. 18, HLS Spec, p. 6.

video only. The HLS streaming servers then use the Multivariant Playlist to output Variant and Rendition segment pairs sequentially and synchronized to each other. Finally, the HLS clients use the Multivariant Playlist to retrieve Variant and Rendition segment pairs and ensure that they are output to the rendering engine sequentially and synchronized to each other.

B. Apple '535 Accused Products

43. "Apple '535 Accused Products" refer to all Apple touchscreen devices that include a flexible printed circuit (FPC) with a control circuit mounted thereon. This includes, for example, Apple iPhones (iPhone 6, iPhone 6 Plus, iPhone 6S, iPhone 6S Plus, iPhone 7, iPhone 7 Plus, iPhone 8, iPhone 8 Plus, iPhone X, iPhone XR, iPhone Xs, iPhone Xs Max, iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone 12, iPhone 12 Mini, iPhone 12 Pro, iPhone 12 Pro Max, iPhone 13, iPhone 13 Mini, iPhone 13 Pro, iPhone 13 Pro Max, iPhone 14, iPhone 14 Plus, iPhone 14 Pro, iPhone 14 Pro Max).

44. On information and belief, the Apple '535 Accused Products are formed with an outer glass that includes an integrally formed transparent window.

45. On information and belief, the housing of the Apple '535 Accused Products has a black film located on the lower surface of the outer glass and borders the transparent window through which the display is visible.

46. On information and belief, the Apple '535 Accused Products incorporate, depending on the model, any of a liquid retina HD display, an IPS LCD display, and an AMOLED display.

47. On information and belief, the Apple '535 Accused Products include a capacitive touchscreen integrated with the display.

48. On information and belief, a 5-point capacitive touch controller is mounted on a flex circuit within the iPhone housing connecting the touch screen digitizer to the motherboard of the Apple '535 Accused Products.

ALLEGATIONS OF PATENT INFRINGEMENT

COUNT I

INFRINGEMENT OF U.S. PATENT NO. 8,605,794

49. VideoLabs incorporates by reference the foregoing paragraphs of this Complaint as if fully set forth herein.

50. VL IP is the assignee and lawful owner of all right, title, and interest in and to the '794 Patent. The '794 Patent is valid and enforceable.

51. On information and belief, Apple has infringed and continues to infringe the '794 Patent in violation of 35 U.S.C. § 271(a), either literally or through the doctrine of equivalents, by making, using, selling, offering for sale, and/or importing into the United States products and/or methods that practice at least claim 1 of the '794 Patent, including with respect to the Apple '794 Accused Products.

52. On information and belief, Apple uses the Apple '794 Accused Products for its own business purposes. In addition, Apple regularly conducts testing and troubleshooting of the Apple '794 Accused Products.

53. On information and belief, Apple's infringement through its use of HLS, described below, is exemplary of all of Apple's infringement with respect to all the Apple '794 Accused Products.

54. The Apple '794 Accused Products directly infringe at least claim 1 of the '794 Patent by, for example, synchronizing content-related first and second data segments of data files by sequentially outputting, by a device for synchronizing content-related data in such a way that each of the content-related data segments is output together on the basis of an assignment rule assigning each of the content-related second data segments to one of the content-related first data segments.

55. The Apple '794 Accused Products meet every limitation of claim 1 of the '794 Patent, which recites:

> 1. A method for synchronizing content-related first data segments of a first data file and content-related second data segments of a second data file, the method comprising:

> sequentially outputting, by a device for synchronizing content-related data, the content-related first data segments and the content-related second data segments according to their chronological sequence in such a way that each of the content-related second data segments is output together with an associated one of the content-related first data segments on the basis of an assignment rule for assigning each one of the content-related second data segments to one of the content-related first data segments.

Ex. 9, '794 Patent, col. 7 ll. 45-57.

56. The Apple '794 Accused Products provide a method of synchronizing content-related first data segments of a first data file and content-related second data segments of a second data file. For example, Apple supports the HLS streaming protocol and the Apple '794 Accused Products implement Apple's AVFoundation multimedia framework, which provides high-level services for processing audiovisual media on iOS, iPadOS, macOS, tvOS, and watchOS devices.

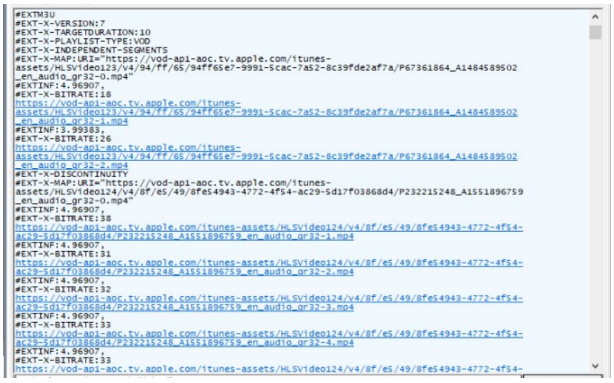
57. HLS provides a reliable, cost-effective means of delivering continuous and long-form video over the Internet. It allows a receiver to adapt the bit rate of the media to the current network conditions to maintain uninterrupted playback at the best possible quality. To allow this, HLS provides for a multimedia presentation to be represented by a Media Playlist or a Multivariant Playlist. The Media Playlist is usually used when there is only one encoded bitrate of the multimedia presentation. Where several encoded bitrates of the multimedia presentation exist, the Multivariant Playlist provides a set of Variant streams, each of which describes a different version of the same content. Each Variant stream includes its own Variant Media Playlist that specifies all of the independent media segments (either video and/or audio) encoded at a particular bitrate, in a particular format, and at a particular resolution (for video).[15] For example, in the exemplary Multivariant Playlist referenced in the HLS Spec (excerpted below), the Variant Media Playlists for the content-related first and second data segments, representing respective video (red box) and audio (blue box) content streams for a specified program, are referenced by the #EXT-X-STREAM-INF tag.

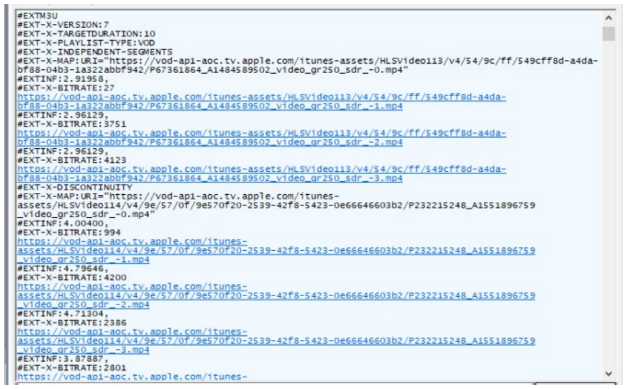
[15] *See* Ex. 18, HLS Spec., pp. 6-7.

58. The HLS Multivariant playlist file uses the #EXT-X-MEDIA and the #EXT-X-STREAM-INF tags to relate all the Variant streams of a media content item and can also include alternate media allowing a presentation to synchronize multiple representations of media content (i.e., main/English-audio and mid/video-only or main/English audio and hi/video-only).

```
#EXTM3U
#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac",NAME="English",DEFAULT=YES,AUTOSELECT=YES,LANGUAGE="en",URI="main/english-audio.m3u8"
#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac",NAME="Deutsch",DEFAULT=NO,AUTOSELECT=YES,LANGUAGE="de",URI="main/german-audio.m3u8"
#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac",NAME="Commentary",DEFAULT=NO,AUTOSELECT=NO,LANGUAGE="en",URI="commentary/audio-only.m3u8"
#EXT-X-STREAM-INF:BANDWIDTH=1280000,CODECS="avc1.6400…,mp4a.40.5",AUDIO="aac"
low/video-only.m3u8
#EXT-X-STREAM-INF:BANDWIDTH=2560000,CODECS="avc1.6400…,mp4a.40.5",AUDIO="aac"
mid/video-only.m3u8
#EXT-X-STREAM-INF:BANDWIDTH=7680000,CODECS="avc1.6400…",mp4a.40.5,AUDIO="aac"
hi/video-only.m3u8
#EXT-X-STREAM-INF:BANDWIDTH=65000,CODECS="mp4a.40.5",AUDIO="aac"
main/english-audio.m3u8
```

59. Typical Variant playlists for audio and video are reproduced below. These Variant playlists include a complete listing of all the individual audio or video segments constituting the program stream. The excerpt below illustrates representative audio (left) and video (right) Variant playlists for the Apple TV+ program *Greyhound*:





60. The video segments constitute content-related first data segments of a first data file and the audio segments constitute content-related second data segments of a second data file.

61. The Apple ’794 Accused Products sequentially output each media stream, including its content-related first and second data segments, according to their chronological sequence, by a device for synchronizing content-related data. The HLS Variant playlists employed by the Apple ’794 Accused Products contain segment references that provide a chronological ordering to the listed segments, and approximate duration information for each segment, together with additional segment and stream metadata that enable the HLS client application to order and assign the different content-

related data segments relative to each other and with respect to the HLS relative media presentation timeline.

62. In particular, each individual segment in the Variant playlist has a unique integer Media Sequence Number.[16] The Media Sequence Number of the first segment in the Variant playlist is either 0 or declared in the playlist.[17] The Media Sequence Number of every other segment is equal to the Media Sequence Number of the segment that precedes it plus one.[18] The Media Sequence Number, segment duration information, and additional segment and stream metadata is used to generate an approximate media presentation timeline to align the content segments and output them sequentially to the video and audio playback buffers on the client device.

63. The Apple '794 Accused Products sequentially output the first and second data segments according to their chronological sequence in such a way that each of the content-related second data segments is output together with an associated one of the content-related first data segments on the basis of an assignment rule for associating related audio and video media content components. In accordance with the mandates of HLS, assignment of audio and video content segments is based on rules that specify their position and order on the relative media presentation timeline.[19]

64. Playback of content in the client application on the Apple connected device, or in the Apple TV+ subscribers' browser or application, consists of a three-step process: (1) loading and parsing the playlist manifest to create a list of segments for the various content types, associating an approximate position on the overall media presentation timeline for each; (2) using the resulting segment lists and approximate timing information to load the appropriate content segments into a playback buffer sufficient to begin content presentation by the presentation engine; and (3) managing the playback buffer as a presentation continues, including the loading of subsequent segments for consumption, and the removal of segments which have been presented and are no longer needed.

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[16] *See id*., Section 3, p. 7.

[17] *See id*., Section 4.4.3.2, p. 19.

[18] *See id*., Section 3, p. 7.

[19] *See id*., Sections 6.3.2, 6.3.3, 6.3.4, 6.3.5, pp. 61-64.

65. Sequential, synchronized, chronological output to the media playback buffers is accomplished, for example, by the HLS client application parsing the variant playlists and associating each individual video and audio segment to the media presentation timeline on the basis of the approximate presentation duration information and the chronologically ordered video and audio segment lists in conjunction with other segment and stream metadata specified in the Variant manifests. Collectively, at least this metadata serves as an assignment rule that assigns each one of the content-related second data segments (i.e., the audio segments) to one of the content-related first data segments (i.e., the video segments) on the media presentation timeline. This is the case during playback and also during the creation and storage of HLS files.

66. VideoLabs representatives met with Apple representatives on November 14, 2019 to present VideoLabs' platform and gauge Apple's interest in joining as a partner or member.[20] A PowerPoint presented during the meeting specifically identified Apple's HLS as practicing a VideoLabs patent that was formerly owned by Siemens.[21] The description for the patent was "Synchronize content-related data segments using assignment rules."[22] Following the call, Apple was provided with a spreadsheet that identified the '794 Patent — which is directed to synchronizing content-related data segments using assignment rules — as of "Relevance" to Apple.[23]

Owner	Application No.	Patent No.	Filed	Issued	Expires	Title	Country	Status	Apple Relevance
VL Collective IP LLC	119946.2	1087357	2000-09-13	2006-11-02	2020-09-13	Device and method for navigation using a communication network	EP	Granted	X
VL Collective IP LLC	119946.2	50013681.5	2000-09-13	2006-11-02	2020-09-13	Device and method for navigation using a communication network	DE	Granted	X
VL Collective IP LLC	09/671824	6529736	2000-09-27	2003-03-04	2021-01-21	Navigation configuration and method utilizing a communications network, especially a mobile radio networ	US	Granted	X
VL Collective IP LLC	6708790.8	1869860	2006-03-16	2011-12-21	2026-03-16	Method for synchronising content-dependent data segments of files	EP	Granted	X
VL Collective IP LLC	11/918276	8605794	2009-01-21	2013-12-10	2028-11-02	Method for synchronising content-dependent data segments of files	US	Granted	X
VL Collective IP LLC	5756557.4	1751717	2005-05-25	2009-09-09	2025-05-25	Graphical object models for detection and tracking	DE	Granted	X
VL Collective IP LLC	5756557.4	1751717	2005-05-25	2009-09-09	2025-05-25	Graphical object models for detection and tracking	EP	Granted	X
VL Collective IP LLC	2007-515302	4886678	2005-05-25	2011-12-16	2025-05-25	Graphical object models for detection and tracking	JP	Granted	X
VL Collective IP LLC	11/135210	7436980	2005-05-23	2008-10-14	2027-04-14	Graphical object models for detection and tracking	US	Granted	X
VL Collective IP LLC	115612	2368690	2001-06-26	2005-12-21	2021-06-26	Demand responsive method and apparatus to automatically activate spare servers	GB	Granted	X
VL Collective IP LLC	09/626627	6880156	2000-07-27	2005-04-12	2022-05-31	Demand responsive method and apparatus to automatically activate spare servers	US	Granted	X
VL Collective IP LLC	2001-190601	5137281	2001-06-25	2012-11-22	2021-06-25	Server for automatically activating spare server	JP	Granted	X
VL Collective IP LLC	11/226724	8793779	2005-09-14	2014-07-29	2026-11-04	Single sign-on process	US	Granted	X
VL Collective IP LLC	10/443783	7225337	2003-05-23	2007-05-29	2025-07-21	Cryptographic security method and electronic devices suitable therefor	US	Granted	X
VL Collective IP LLC	2405418.1	1365537	2002-05-24	2004-07-07	2022-05-24	Systems and method for certifying digital signatures	EP	Granted	X
VL Collective IP LLC	2405418.1	50200601.3	2002-05-24	2004-07-07	2022-05-24	Systems and method for certifying digital signatures	DE	Granted	X
VL Collective IP LLC	2405418.1	1365537	2002-05-24	2004-07-07	2022-05-24	Systems and methods for certifying digital signatures	DK	Granted	X
VL Collective IP LLC	2740696.6	1512260	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	EP	Granted	X
VL Collective IP LLC	2740696.6	2254693	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	ES	Granted	X
VL Collective IP LLC	2740696.6	50205145	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	DE	Granted	X
VL Collective IP LLC	02829100.X	ZL02829100.X	2002-06-07	2011-01-26	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	CN	Granted	X
VL Collective IP LLC	10/516534	7634249	2004-12-02	2009-12-15	2024-03-18	Method and device for authenticating a subscriber for utilizing services in a wireless lan while using an ip m	US	Granted	X

[20] *See* Ex. 20 (VideoLabs presentation to Apple).

[21] *See id.*, slide 21.

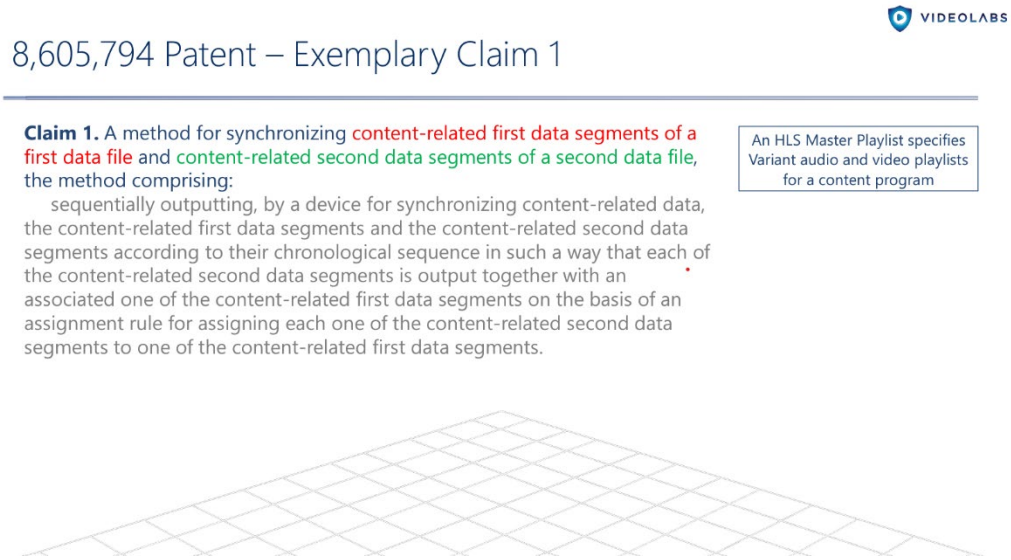
[22] *Id.*

[23] *See* VideoLabs Excel Spreadsheet to Apple (excerpt).

67. Following the meeting and over the ensuing years, VideoLabs continued to provide information and detail about its patent portfolio and how its patented technology was being used by Apple's products without permission, and requesting that Apple take a license. This included a July 30, 2021 communication where VideoLabs provided Apple a list of its patents that are infringed by Apple,[24] including the '794 Patent.

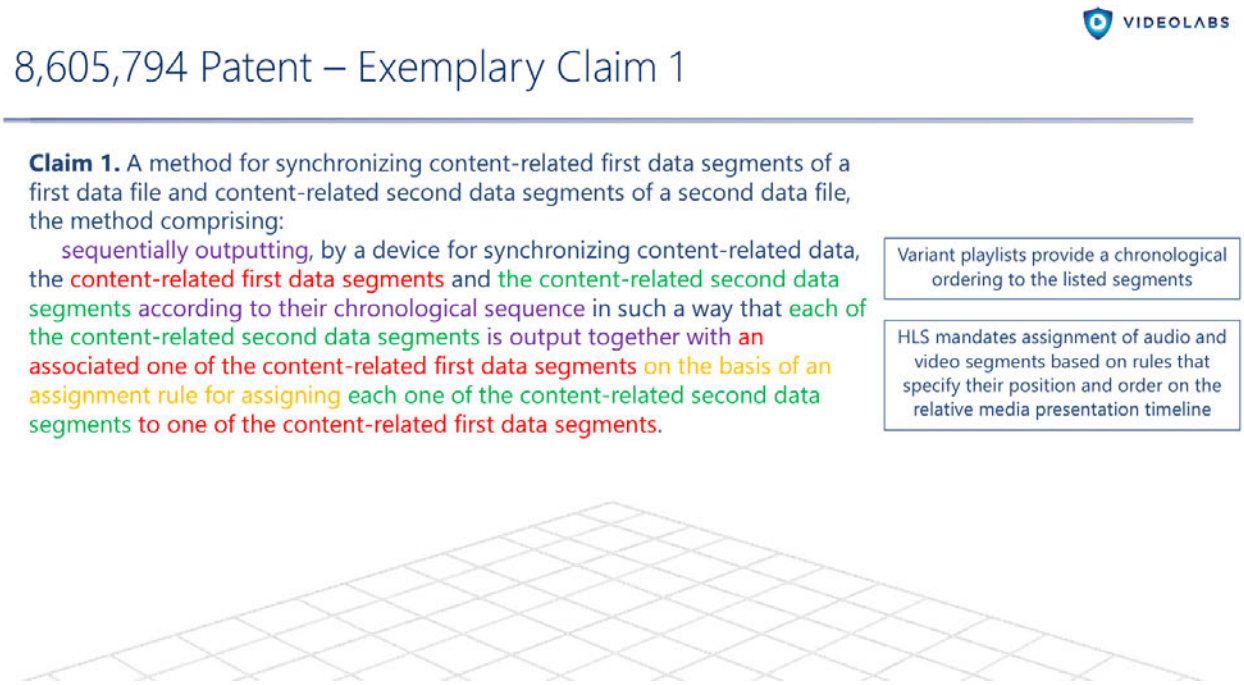
	1	2	3	4	5	6	7	8	9	10
1	Owner	Application No.	Patent No.	Filed	Issued	Expires	Title	Country	Status	Status
2	VL Collective IP LLC	119946.2	1087357	2000-09-13	2006-11-02	2020-09-13	Device and method for navigation using a communication network	EP	Granted	X
3	VL Collective IP LLC	119946.2	50013681.5	2000-09-13	2006-11-02	2020-09-13	Device and method for navigation using a communication network	DE	Granted	X
4	VL Collective IP LLC	09/671824	6529736	2000-09-27	2003-03-04	2021-01-21	Navigation configuration and method utilizing a communications network, especially a mobile radio netwo	US	Granted	X
5	VL Collective IP LLC	6708790.8	1869860	2006-03-16	2011-12-21	2026-03-16	Method for synchronising content-dependent data segments of files	EP	Granted	X
6	VL Collective IP LLC	11/918276	8605794	2009-01-21	2013-12-10	2028-11-02	Method for synchronising content-dependent data segments of files	US	Granted	X
7	VL Collective IP LLC	5756557.4	1751717	2005-05-25	2009-09-09	2025-05-25	Graphical object models for detection and tracking	DE	Granted	X
8	VL Collective IP LLC	5756557.4	1751717	2005-05-25	2009-09-09	2025-05-25	Graphical object models for detection and tracking	EP	Granted	X
9	VL Collective IP LLC	2007-515302	4886678	2005-05-25	2011-12-16	2025-05-25	Graphical object models for detection and tracking	JP	Granted	X
10	VL Collective IP LLC	11/135210	7436980	2005-05-23	2008-10-14	2027-04-14	Graphical object models for detection and tracking	US	Granted	X
11	VL Collective IP LLC	115612	2368690	2001-06-26	2005-12-21	2021-06-26	Demand responsive method and apparatus to automatically activate spare servers	GB	Granted	X
12	VL Collective IP LLC	09/626627	6880156	2000-07-27	2005-04-12	2022-05-31	Demand responsive method and apparatus to automatically activate spare servers	US	Granted	X
13	VL Collective IP LLC	2001-190601	5137281	2001-06-25	2012-11-22	2021-06-25	Server for automatically activating spare server	JP	Granted	X
14	VL Collective IP LLC	11/226724	8793779	2005-09-14	2014-07-29	2026-11-04	Single sign-on process	US	Granted	X
15	VL Collective IP LLC	10/443783	7225337	2003-05-23	2007-05-29	2025-07-21	Cryptographic security method and electronic devices suitable therefor	US	Granted	X
16	VL Collective IP LLC	2405418.1	1365537	2002-05-24	2004-07-07	2022-05-24	Systems and method for certifying digital signatures	EP	Granted	X
17	VL Collective IP LLC	2405418.1	50200601.3	2002-05-24	2004-07-07	2022-05-24	Systems and method for certifying digital signatures	DE	Granted	X
18	VL Collective IP LLC	2405418.1	1365537	2002-05-24	2004-07-07	2022-05-24	Systems and methods for certifying digital signatures	DK	Granted	X
19	VL Collective IP LLC	2740696.6	1512260	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	EP	Granted	X
20	VL Collective IP LLC	2740696.6	2254693	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	ES	Granted	X
21	VL Collective IP LLC	2740696.6	50205145	2002-06-07	2005-11-30	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	DE	Granted	X
22	VL Collective IP LLC	02829100.X	ZL02829100.X	2002-06-07	2011-01-26	2022-06-07	Method and device for authenticating a subscriber for utilizing services in a wireless lan (WLAN)	CN	Granted	X
23	VL Collective IP LLC	10/516534	7634249	2004-12-02	2009-12-15	2024-03-18	Method and device for authenticating a subscriber for utilizing services in a wireless lan while using an ip r	US	Granted	X
24	VL Collective IP LLC	09/613070	6816500	2000-07-10	2004-11-09	2023-03-05	Apparatus, method and system for multimedia access network channel management	US	Granted	X
25	VL Collective IP LLC	11/799386	8451317	2007-04-30	2013-05-28	2027-04-30	Indexing a data stream	US	Granted	X
26	VL Collective IP LLC	2005117154	2364050	2004-02-20	2009-08-10	2024-02-20	Method and centre of multimedia message service for multimedia message delivery to communication de	RU	Granted	X
27	VL Collective IP LLC	4713030.7	1552676	2004-02-20	2012-04-04	2024-02-20	Method and multimedia message center for delivering a multimedia message	AT	Granted	X
28	VL Collective IP LLC	4713030.7	1552676	2004-02-20	2012-04-04	2024-02-20	Method and multimedia message center for delivering a multimedia message	ES	Granted	X
29	VL Collective IP LLC	4713030.7	1552676	2004-02-20	2012-04-04	2024-02-20	Method and multimedia message center for delivering a multimedia message	EP	Granted	X
30	VL Collective IP LLC	200480001491.6	ZL200480001491.6	2004-02-20	2009-07-29	2024-02-20	Method and multimedia message center for delivering a multimedia message to a telecommunication dev	CN	Granted	X
31	VL Collective IP LLC	10/537692	7720492	2005-06-06	2010-05-18	2026-03-15	Method and multimedia message center for delivering a multimedia message to a telecommunication dev	US	Granted	X

68. It also included a video conference discussion with Apple on February 18, 2022, in which VideoLabs presented an infringement claim chart for the '794 Patent.[25]



[24] *See* Ex. 21 (VideoLabs email to Apple attaching portfolio listing); VideoLabs Excel spreadsheet identifying VideoLabs patents infringed by Apple (excerpt).

[25] *See* VideoLabs presentation to Apple with claim charts (excerpt).



69. Additionally, Apple and VideoLabs discussed entering into a non-disclosure agreement as part of their ongoing licensing discussions. Apple's preferred non-disclosure agreement language would have prevented VideoLabs from relying on any of its many communications with Apple to show that Apple was aware of and/or knowingly infringing VideoLabs' patents. Apple thus sought to prevent VideoLabs from relying on VideoLabs' communications to show Apple's knowing and willful infringement of VideoLabs' patents (including the '794 patent), which is itself evidence of Apple's willfulness.

70. Accordingly, on information and belief, Apple is either knowingly infringing the '794 Patent or is willfully blind to its infringement, and continues to act in wanton disregard of VideoLabs' patent rights. Apple was placed on notice of the '794 Patent and how its products and services infringe the '794 Patent. Further, Apple knows how its products operate, and on information and belief, Apple investigated the '794 Patent and its infringement of the Apple '794 Accused Products. Apple has been given further notice of the '794 Patent and its infringement of the '794 Patent through the filing of this Complaint.

71. Despite becoming aware of or willfully blinding itself to its infringement of the '794 Patent, Apple has nonetheless continued to engage in and has escalated its infringing activities by continuing to develop, advertise, make available, and use the infringing functionalities of the Apple

'794 Accused Products. On information and belief, Apple has made no attempts to design around the '794 Patent or otherwise stop its infringing behavior. To the contrary, Apple continues to promote and use the infringing functionality, HLS.

72. Apple's infringement of the '794 Patent therefore has been and remains willful.

73. Apple also indirectly infringes the '794 Patent by inducing others to infringe and contributing to the infringement of others, including third-party users of the Apple '794 Accused Products in this District and throughout the United States. As described above, on information and belief, Apple has known about the '794 Patent since at least November 14, 2019.

74. On information and belief, Apple has actively induced the infringement of the '794 Patent under 35 U.S.C. § 271(b) by actively inducing the infringement of the Apple '794 Accused Products by third parties in the United States. Apple knew or was willfully blind to the fact that its conduct would induce these third parties to act in a manner that infringes the '794 Patent in violation of 35 U.S.C. § 271(a).

75. Apple actively encouraged and continues to actively encourage third parties to directly infringe the '794 Patent by, for example, marketing the '794 Accused Products to consumers; working with consumers to implement, install and/or operate the '794 Accused Products; fully supporting and managing consumers' continuing use of the '794 Accused Products; and providing technical assistance to consumers during their continued use of the '794 Accused Products.[26]

76. For example, Apple induces third parties to infringe the '794 Patent by encouraging them to install and operate the Apple TV+ streaming service, which alone and/or in combination with the third parties' devices constitutes infringement of the '794 Patent. Apple advertises and promotes its Apple TV+ streaming service on its website and in various app stores such as Apple's app store and Android's app store in connection with the Apple TV+ mobile application that can be installed on consumers' respective connected iOS and Android devices (as well as others), and encourages consumers to configure and operate their mobile and computer devices in an infringing

[26] *See* Ex. 22, *M1 chip model MacBook Air*, https://www.apple.com/macbook-air-m1/, (last accessed Mar. 16, 2023).

manner.[27] In response, consumers acquire, configure, and operate the Apple TV+ streaming service in an infringing manner.

77. Apple further induces third parties to infringe by encouraging its customers to employ many features and functionalities of HLS. For example, Apple tells its customers that they can "[s]end live and on-demand audio and video to iPhone, iPad, Mac, Apple Watch, Apple TV, and PC with HTTP Live Streaming (HLS) technology from Apple" and that "HLS lets you deploy content using ordinary web servers and content delivery networks . . . . by optimizing playback for the available speed of wired and wireless connections."[28]

78. On information and belief, Apple contributorily infringes the '794 Patent under 35 U.S.C. § 217(c) by importing, selling, and/or offering to sell within the United States the Apple '794 Accused Products (or components thereof) that constitute a material part of the claimed invention and are not staple articles of commerce suitable for substantial non-infringing use. For example, the hardware and/or software for sequentially outputting content-related data segments (including the pertinent portions of HLS-implementing code) is material, has no insubstantial non-infringing uses, and is known by Apple to be especially made or adapted for use in a manner that infringes the '794 Patent.

COUNT II

INFRINGEMENT OF U.S. PATENT NO. 7,525,535

79. VideoLabs incorporates by reference the foregoing paragraphs of this Complaint as if fully set forth herein.

80. VL is the assignee and lawful owner of all right, title, and interest in and to the '535 Patent. The '535 Patent is valid and enforceable.

81. On information and belief, Apple has infringed and continues to infringe the '535 Patent in violation of 35 U.S.C. § 271(a), either literally or through the doctrine of equivalents,

[27] *See* Ex. 23, *App Store Preview*, Apple, https://apps.apple.com/us/app/apple-tv/id1174078549 (last accessed Mar. 16, 2023).

[28] *See* Ex. 24, *HTTP Live Streaming*, Apple Developer, https://developer.apple.com/streaming/ (last visited Mar. 16, 2023).

because Apple makes, uses, offers to sell, and sells devices that practice at least claim 5 of the '535 Patent, including with respect to the Apple '535 Accused Products.

82. On information and belief, Apple uses the Apple '535 Accused Products for its own business purposes. In addition, Apple regularly conducts testing and troubleshooting of the Apple '535 Accused Products.

83. The Apple '535 Accused Products directly infringe at least claim 5 of the '535 Patent by, for example, by having a capacitive touchscreen integrated with the device display; outer glass that includes an integrally formed transparent window; a housing with a black film located on the lower surface of the outer glass and borders the transparent window through which the display is visible; and, depending on the model, any of a liquid retina HD display, an IPS LCD display, and an AMOLED display.

84. The Apple '535 Accused Products meet every limitation of claim 5 of the '535 Patent, which recites:

> 5. A portable terminal, comprising:
>
> a housing having a transparent window integrally formed therein, the housing including an opaque film located on a lower surface thereof, the opaque film having an open portion to define the transparent window;
>
> a display disposed at the housing, the display displaying information through the transparent window; and
>
> a touch pad disposed between the housing and the display, the touch pad permitting signal input in a capacitive manner, the touch pad having one end electrically connected to at least one of the display and a main circuitry supporting substrate via a flexible printed circuit (FPC),
>
> wherein the FPC includes a control circuit mounted thereon, the control circuit being configured to convert a signal generated by the touch pad into a coordinate value and to transfer the coordinate value to a controller of the main circuitry supporting substrate.

Ex. 15, '535 Patent, col. 6 ll. 31-47.

85. Each of the Apple '535 Accused Products constitutes a portable terminal comprising a housing having an integrally formed transparent window. For example, the Apple iPhone 12, which is representative of all the Apple '535 Accused Products, comprises a portable terminal (e.g., mobile phone) with an outer housing (red arrow) having a transparent window (blue arrow)

integrally formed therein. The transparent window allows a user to interact with the touch display. The housing includes an opaque film located on the lower surface thereof (green arrow, the red dot illustrates a representative section where the opaque film has been physically removed). The opaque film has an open portion (pink arrow) to define the transparent window.

86. The iPhone 12 is constructed such that disposition of the Super Retina XDR OLED

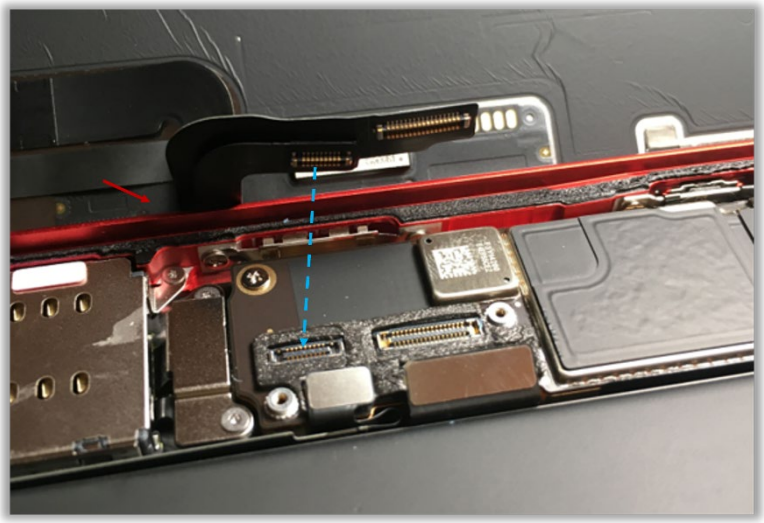
display within the housing enables the display of information through the transparent window.[29]

[29] *See* Ex. 25, *iPhone 12 – Technical Specifications – Apple*, Apple.com, https://www.apple.com/iphone-12/specs/ (last accessed Mar. 16, 2023).

87. The iPhone 12 display constitutes several independent layers, including a capacitive touch pad array (digitizer, blue arrow) disposed between the outer housing and the Super Retina OLED display (yellow arrow). The capacitive touchpad permits signal input in a capacitive manner.[30]

[30] *See* Ex. 26, *Apple iPhone 12 Specifications*, Device Specifications, https://www.devicespecifications.com/en/model/926a538b (last accessed Mar. 16, 2023); Ex. 25.

88. The capacitive touchpad digitizer has one end (red arrow) electrically connected to at least one of the display and a main circuitry supporting substrate via a flexible printed circuit (blue dashed arrow).

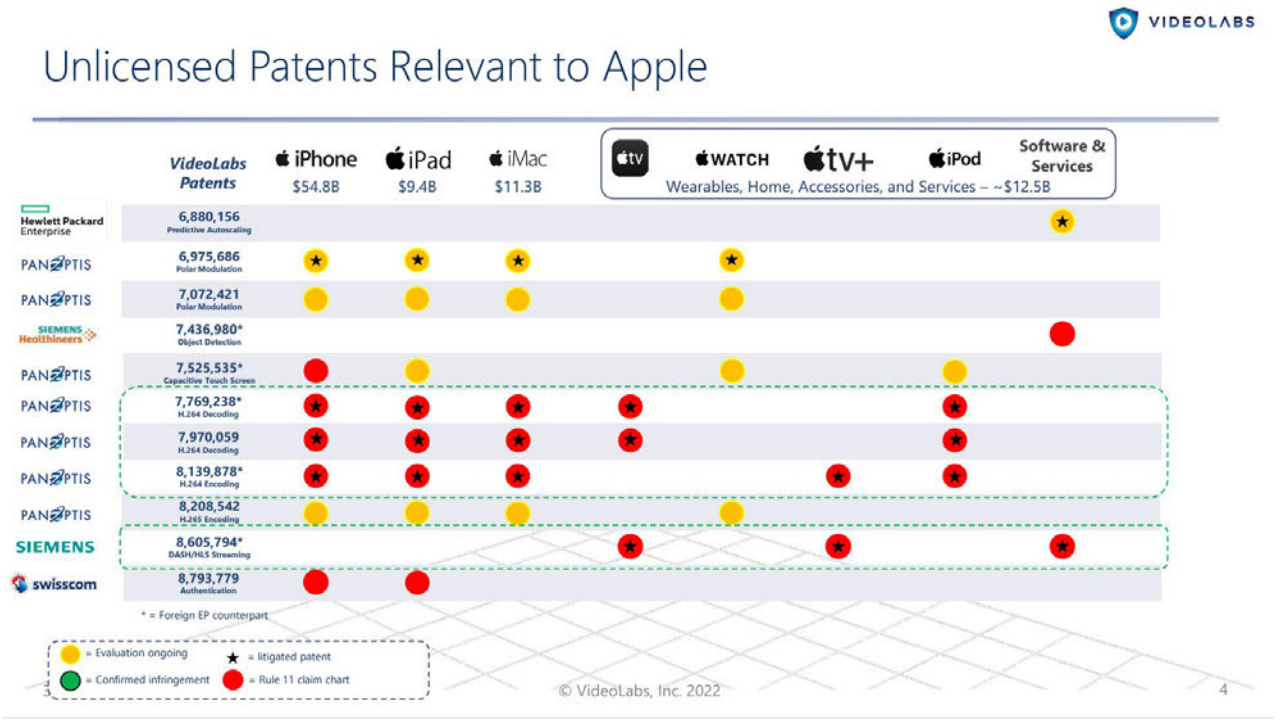


89. On information and belief, the flexible printed circuit has a control circuit mounted thereon (green arrow) to convert signal values from the touch screen digitizer to coordinate values and to transfer the coordinate values to the processor on the main logic board of the iPhone 12.

90. On information and belief, to the extent applicable, VideoLabs has complied with 35 U.S.C. § 287(a) with respect to the '535 Patent.

91. At least by February 3, 2021, VideoLabs communicated a list of its patents — including the '535 Patent — whose technologies were being used by Apple's products.[31]

92. Following the communication and over the ensuing years, VideoLabs continued to provide information and detail about its patent portfolio and how its patented technology was being used by Apple's products without permission, and requested that Apple take a license. This included a video conference discussion with Apple on February 18, 2022, in which VideoLabs presented a PowerPoint that walked through several examples of Apple products that infringed VideoLabs' patents. The presentation specifically identified the '535 Patent as being infringed by Apple's iPhone line of products, as well as potentially its iPad, iPod, and Apple Watch product lines.[32]



93. Additionally, Apple and VideoLabs discussed entering into a non-disclosure agreement as part of their ongoing licensing discussions. Apple's preferred non-disclosure agreement language would have prevented VideoLabs from relying on any of its many communications with Apple to show that Apple was aware of and/or knowingly infringing VideoLabs' patents. Apple thus sought to prevent VideoLabs from relying on VideoLabs'

[31] Ex. 27 (VideoLabs checking in and updates email); Ex. 28 (email attachment).

[32] *See* VideoLabs presentation to Apple with claim charts (excerpt).

communications to show Apple's knowing and willful infringement of VideoLabs' patents (including the '535 patent), which is itself evidence of Apple's willfulness.

94. Accordingly, on information and belief, Apple is either knowingly infringing the '535 Patent or is willfully blind to its infringement, and continues to act in wanton disregard of VideoLabs' patent rights. Apple was placed on notice of the '535 Patent and how its products and services infringe the '535 Patent. Further, Apple knows how its products operate, and on information and belief, Apple investigated the '535 Patent and its infringement of the Apple '535 Accused Products. Apple has been given further notice of the '535 Patent and its infringement of the '535 Patent through the filing of this Complaint.

95. Despite becoming aware of or willfully blinding itself to its infringement of the '535 Patent, Apple has nonetheless continued to engage in and has escalated its infringing activities by continuing to develop, advertise, make available, and use the infringing functionalities of the Apple '535 Accused Products. On information and belief, Apple has made no attempts to design around the '535 Patent or otherwise stop its infringing behavior. Indeed, on information and belief, Apple continues to design, make, import, and sell infringing products.

96. Apple's infringement of the '535 Patent therefore has been and remains willful.

97. Apple also indirectly infringes the '535 Patent by inducing others to infringe and contributing to the infringement of others, including third-party users of the Apple '535 Accused Products in this District and throughout the United States. As described above, on information and belief, Apple has known about the '535 Patent since at least February 18, 2022.

98. Apple actively encouraged and continues to actively encourage third parties to directly infringe the '535 Patent by, for example, marketing the '535 Accused Products to consumers; working with consumers to implement, install and/or operate the '535 Accused Products; fully supporting and managing consumers' continuing use of the '535 Accused Products; and

providing technical assistance to consumers during their continued use of the '535 Accused Products.[33]

99. On information and belief, Apple contributorily infringes the '535 Patent under 35 U.S.C. § 217(c) by importing, selling, and/or offering to sell within the United States the Apple '535 Accused Products (or components thereof) that constitute a material part of the claimed invention and are not staple articles of commerce suitable for substantial non-infringing use. For example, the capacitive touch screen integrated with the display is visible is material, has no insubstantial non-infringing uses, and is known by Apple to be especially made or adapted for use that practices at least claim 5 of the '535 Patent with respect to the '535 Accused Products.

PRAYER FOR RELIEF

WHEREFORE, VideoLabs prays for judgment as follows:

a) That Apple directly and/or indirectly infringes the '794 and '535 Patents;

b) That such infringement is willful;

c) That Apple and its respective officers, directors, agents, partners, servants, employees, attorneys, licensees, successors, and assigns, and those in active concert or participation with any of them, be permanently enjoined from engaging in infringing activities with respect to the '794 and '535 Patents;

d) In the alternative, in the event injunctive relief is not granted as requested by VideoLabs, an award of a mandatory future royalty payable on each future product sold by Apple that is found to infringe one or more claims of the '794 and '535 Patents, and on all future products which are not colorably different from products found to infringe;

e) That Apple be required to pay VideoLabs' damages in an amount adequate to compensate VideoLabs for Apple's infringement, but in no event less than a reasonable royalty under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until entry of judgment and beyond, with accounting, as needed;

[33] *See, e.g.*, Ex. 29, *iPhone Support*, https://support.apple.com/iphone (last accessed Mar. 16, 2023); Ex. 30, *Adjust how iPhone responds to your touch*, Apple iPhone User Guide https://support.apple.com/guide/iphone/touch-accommodations-iph77bcdd132/16.0/ios/16.0 (last accessed Mar. 16, 2023)

f) That VideoLabs be awarded all statutory and actual damages to which it is entitled, including the profits reaped by Apple through its illegal conduct, and prejudgment and post-judgment interest;

g) That VideoLabs be awarded enhanced damages, up to and including trebling of the damages awarded to VideoLabs;

h) That VideoLabs be awarded recovery of the costs of this suit, including reasonable attorneys' fees; and

i) That VideoLabs be awarded such other and further relief as this Court deems just and proper.

DEMAND FOR JURY TRIAL

100. VideoLabs hereby demands a jury trial on its claims for patent infringement and any and all issues triable of right before a jury.

Dated: March 21, 2023

Respectfully submitted,

/s/ Courtland L. Reichman

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