IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ADVANCED CODING TECHNOLOGIES LLC, Plaintiff, v. GOOGLE LLC, Defendant.	Case No. 2:24-cv-00353-JRG **JURY TRIAL DEMANDED**

PLAINTIFF'S FOURTH AMENDED DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS

Plaintiff Advanced Coding Technologies LLC ("ACT" or "Plaintiff") hereby makes the following fourth amended infringement disclosures under the Local Patent Rules with respect to United States Patent Nos. 8,090,025 (the "'025 Patent"), 9,986,303 (the "'303 Patent"), and 10,218,995 (the "'995 Patent"), U.S. Patent No. 9,042,448 (the "'448 Patent"), U.S. Patent No. 8,230,101 (the "'101 Patent"), and U.S. Patent No. 7,804,891 (the "'891 Patent") (collectively, the "ACT Patents" or "Asserted Patents"). ACT's investigation is ongoing and discovery is in its preliminary stages. Accordingly, these disclosures are based on information available to ACT at this time. ACT reserves the right to supplement this disclosure after further discovery from Defendant and non-parties, particularly documents and other discovery regarding Defendant's accused devices. ACT also reserves the right to assert additional claims of the ACT Patents, accuse different products, or find alternative literal and/or equivalent infringing elements in Defendant's products.

I. DISCLOSURE OF ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS PURSUANT TO LOCAL PATENT RULE 3-1

A. ASSERTED CLAIMS

Defendant Google LLC (collectively, "Google" or "Defendant) have infringed and/or continue to infringe one or more of the following claims of the ACT Patents in connection with the Accused Products set forth below:

- Claims 1, 3-4, 6-10 of the '025 Patent;
- Claims 1-2 of the '303 Patent;
- Claims 1-4 and 8-11 of the '995 Patent;
- Claims 1-3 of the '448 Patent;
- Claims 1-5 and 7 of the '101 Patent; and
- Claims 1-4, 6, and 8-9 of the '891 Patent.

B. ACCUSED INSTRUMENTALITIES

1. Accused Products

ACT is currently aware that Defendant has infringed and continue to directly infringe the '025, '303, '995, '448, '101, and '891 Patents, either literally or under the doctrine of equivalents, without authority and in violation of 35 U.S.C. § 271, by making, using, offering to sell, selling, and/or importing into the United States products with AV1 encoding and/or decoding capability that satisfy each and every limitation of one or more claims of the '025, '303,'995, '448, '101, and '891 Patents. Such products include, but are not limited to, at least (i) Google's products and services, such as the Pixel 6, Pixel 6 Pro, Pixel 6a, Pixel 7, Pixel 7 Pro, Pixel 7a, Pixel Fold, Pixel 8, Pixel 8 Pro, and Pixel 8a, Google Chromebook laptop products, Google Pixel Slate, Google Chrome, Google Chromecast, Android/Google TV, YouTube, Google Meet/Duo, that use either (a) third party or Google-produced AV1 encoder / decoder chipsets (e.g., Google Tensor

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processors) or (b) third party or Google-produced AV1 encoder / decoder software (e.g., libgav1 or libdav1d in Android OS); (ii) Android OS version 10 and later, which enables software-based AV1 decoding; and (iii) Google's Tensor processors with integrated AV1 encoding / decoding capabilities for the '025, '303, '995, and '448 Patents; (ii) Google's systems and devices that perform network content delivery, including YouTube, which utilize one or more video codecs for network content delivery (such as Google Cloud Content Delivery Network (CDN)), Google's systems and devices utilizing YouTube, Google CDN, Google's products utilizing CDN, Google Home app, and Google products compatible with the Google Home app for the '101 Patent; and (iii) all of Google's 5G and/or Wi-Fi 6 (IEEE 802.11.ax) compliant systems and devices, including, but not limited to, Google Pixel Smartphone products compliant with 5G NR, including, but not limited to, the Pixel 4a, Pixel 5a, Pixel 6, Pixel 6 Pro, Pixel 6a, Pixel 7, Pixel 7 Pro, Pixel 7a, Pixel Fold, Pixel 8, Pixel 8 Pro, Pixel 8a, Pixel 9, Pixel 9 Pro Fold, Pixel 9 Pro, Pixel 9 Pro XL, Pixel Tablet, Pixel Watch 3, and Google Nest Wifi Pro for the '891 Patent.

ACT also incorporates by reference its November 8, 2024 Letter, which clarified for Google the scope of the Accused Products, and is consistent with the supplementation made herein to these Fourth Amended Infringement Contentions.

2. Claim Charts

Claim charts identifying a location of every element of every asserted claim of the ACT Patents within the Accused Products are attached hereto as Appendices A, B, C, D, E-1, E-2, E-3, F-1, and F-2. ACT believes that the Accused Products cited in the claim charts are representative of each other with respect to both hardware, software, and referenced exemplary code, as described in the aforementioned Appendices.

ACT reserves the right to amend these claim charts, as well as other information contained in this document and the Appendices attached hereto, to incorporate new information learned

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during the course of discovery including, but not limited to, information that is not publicly available or readily discernible without discovery. ACT further reserves the right to amend these claim charts, as well as other information contained in this document and the exhibits attached hereto, pursuant to Local Patent Rules 3-1(g) and 3-6.

C. LITERAL INFRINGEMENT AND DOCTRINE OF EQUIVALENTS

ACT asserts that, under the proper construction of the asserted claims and their claim terms, the limitations of the asserted claims of the ACT Patents are literally present in the Accused Products as set forth in the claim charts attached hereto as Appendices A, B, C, D, E-1, E-2, E-3, F-1, and F-2.

ACT contends that any and all elements found not to be literally infringed are infringed under the doctrine of equivalents because the differences between the claimed inventions and the Accused Products, if any, are insubstantial.

ACT contends that Defendant directly infringes the asserted claims by making, using, offering for sale, selling, and importing into the United States the Accused Products. ACT also contends that Defendant indirectly infringes by contributing to and/or inducing others (*e.g.*, Defendant's service providers or partners, suppliers, Defendant's customers or its customers' customers) to directly infringe those claims by making or using the Accused Products. In addition, ACT contends that Defendant directly infringes to the extent that activities of third parties may be legally attributable to Defendant.

ACT contends that Defendant induces infringement of the ACT Patents by others (manufacturers and distributors Accused Products, end-users of Accused Products, and Defendant's customers) by inducing others to make or use the Accused Products with the knowledge that making or using directly infringes the ACT Patents or, in the alternative, with the

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belief that there was a high probability that others infringe the ACT Patents, but while remaining willfully blind to the infringement.

ACT also contends that Defendant contributorily infringes with the knowledge that the Accused Products, or the use thereof, infringe the Asserted Patents. Defendant knowingly and intentionally contributed to the direct infringement of the Asserted Patents by others, by supplying Accused Products that embody a material part of the claimed invention of the Asserted Patents that are known by Defendant to be specially made or adapted for use in an infringing manner and are not staple articles with substantial non-infringing uses.

With respect to the AV1 Patents (’025 Patent, ’303 Patent, ’995 Patent, and ’448 Patent), Google is contributing to and/or inducing infringement because Google includes its Android OS on third party products for third party manufacturers of such third party products and end users of such third party products to implement AV1 decoding. *See, e.g.*, https://www.yahoo.com/tech/recent-just-brought-av1-support-001326669.html (“Android 12 and up have received a new software-based AV1 decoder”), https://news.slashdot.org/story/24/04/19/2113226/android-gets-a-new-software-based-av1-decoder#:~:text=Mishaal%20Rahman%20points%20out%20that%20this%20started,the%20March%202024%20Google%20Play%20system%20update (“Android is now using VideoLAN's (the makers of VLC) "dav1d" software decoder to allow AV1 to work on more devices. This is now available on all devices running Android 12 or higher via a software update. Mishaal Rahman points out that this started to roll out with the March 2024 Google Play system update.”), https://developer.android.com/about/versions/10/highlights#:~:text=this%20blog%20post.-,New%20audio%20and%20video%20codecs,supported%20sizes%20and%20frame%20rates (“Android 10 adds support for the open source video codec AV1, which allows media providers

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to stream high quality video content to Android devices using less bandwidth.").

Moreover, Google is contributing to and/or inducing infringement because Google's services such as Google Chrome, Google Chromecast, Android/Google TV, YouTube, Google Meet/Duo are apps and / or are otherwise designed to be played on both Google products and third party products for end users of such third party products to implement AV1 decoding. *See, e.g.*, https://aomedia.org/av1-adoption-showcase/google-story/#:~:text=The%20Key%20to%20Product%20Innovation,of%20HDR%20video%20using%20AV1 ("Google started using AV1 early, in particular as a key technology at YouTube. "AV1's advanced technology allows Google to innovate with 4K, 8K, and high frame rate videos for users with premium devices, while also delivering high-resolution content over unreliable networks to lower-end mobile device users," said Frost. In Google Meet, AV1 enhances reliability for large multi-party conferencing, ensuring users enjoy smooth, higher-resolution video, even in challenging network conditions. Both the Android platform and Chrome support AV1 natively, benefiting mobile and TV users, video services from companies such as Netflix and Meta, and powering emerging experiences such as game streaming and VR."). As one specific example, YouTube is designed to force a product playing these services to use AV1 decoding when that product has an AV1 decoder on it. *See* https://www.reddit.com/r/Android/comments/1c7i24z/youtube_is_now_forcing_av1_on_every_device/?captcha=1; https://linustechtips.com/topic/1567365-youtube-embraces-av1-but-it-might-kill-your-battery/; https://www.androidpolice.com/youtube-google-av1-codec-android-video/; https://github.com/ungoogled-software/ungoogled-chromium/issues/1966; https://www.phonearena.com/news/youtube-switches-to-av1-codec-on-android_id157530.

Additionally, Google is contributing to and/or inducing infringement because Google induces third parties (e.g., entertainment studios or content creators) to create and encode AV1 content so that products (and users of such products) utilizing Google services, such as Google Chrome, Google Chromecast, Android/Google TV, YouTube, Google Meet/Duo, may decode and consume decoded AV1 content (whether on Google's devices or on third party devices). *See, e.g.*, https://aomedia.org/av1-adoption-showcase/google-story/#:~:text=The%20Key%20to%20Product%20Innovation,of%20HDR%20video%20using%20AV1 ("Google started using AV1 early, in particular as a key technology at YouTube. "AV1's advanced technology allows Google to innovate with 4K, 8K, and high frame rate videos for users with premium devices, while also delivering high-resolution content over unreliable networks to lower-end mobile device users," said Frost. In Google Meet, AV1 enhances reliability for large multi-party conferencing, ensuring users enjoy smooth, higher-resolution video, even in challenging network conditions. Both the Android platform and Chrome support AV1 natively, benefiting mobile and TV users, video services from companies such as Netflix and Meta, and powering emerging experiences such as game streaming and VR.").

Pursuant to Local Patent Rule 3-6(a)(1), ACT reserves the right to amend its Infringement Contentions as to literal infringement or infringement under the doctrine of equivalents in light of the Court's claim construction.

D. PRIORITY DATES

Each asserted claim of the '025 Patent is entitled to at least the filing date of its earliest application, U.S. Provisional Patent Application No. 11/787,623, filed April 17, 2007. Furthermore, each asserted claim is entitled to at least the filing date of its earliest foreign application, Japan Patent Application No. 2006-112995, filed April 17, 2006.

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Each asserted claim of the ’303 Patent is entitled to at least the priority date of its earliest application, U.S. Patent Application No. 14/657,359, with a filing date of March 13, 2015. Furthermore, each asserted claim is entitled to at least the filing date of its earliest foreign application, Japan Patent Application No. 2014-071975, filed March 31, 2014.

Each asserted claim of the ’995 Patent is entitled to at least the filing date of its earliest application, U.S. Divisional Patent Application No. 12/995,039, filed May 28, 2009. Furthermore, each asserted claim is entitled to at least the filing date of its earliest foreign application, Japan Patent Application No. P2008-142433, filed May 30, 2008.

Each asserted claim of the ’448 Patent is entitled to at least the filing date of its earliest application, U.S. Patent Application No. 12/995,039, filed May 28, 2009. Furthermore, each asserted claim is entitled to at least the filing date of its earliest foreign application, Japan Patent Application No. P 2008-142433, filed May 30, 2008.

Each asserted claim of the ’101 Patent is entitled to at least the priority date of its earliest application, U.S. Patent Application No. 12/527,777, with a filing date of March 2, 2007.

Each asserted claim of the ’891 Patent is entitled to at least the filing date of its earliest application, U.S. Patent Application No. 10/594,985, filed March 30, 2005. Furthermore, each asserted claim is entitled to at least the filing date of its earliest foreign application, Japan Patent Application No. 2004-108399, filed March 31, 2004.

ACT makes this disclosure without prejudice to its right to prove an earlier date of invention.

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II. PRODUCTION OF DOCUMENTS PURSUANT TO LOCAL PATENT RULE 3-2

ACT is producing or making available for inspection documents that are in ACT's possession, custody, or control as set forth in Local Patent Rule 3-2. A Production Index identifying these documents is attached hereto.

This preliminary identification of documents is for convenience and is not an admission that each document falls within any exemplary categories in the Local Patent Rules, or that any document qualifies as prior art. Thus, ACT reserves its right to add to, delete from, or otherwise modify its disclosures in this section as its investigation proceeds.

Dated: December 20, 2024

Respectfully submitted,

/s/ Peter Lambrianakos

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CERTIFICATE OF SERVICE

I hereby certify that on December 20, 2024, a true and correct copy of the above and foregoing document has been served by email on all counsel of record.

/s/ Peter Lambrianakos
Peter Lambrianakos

ACT 3-2 PRODUCTION INDEX

3-2(a)

None.

3-2(b)

Plaintiff is not in possession, custody, or control of any documents responsive to P.R. 3-2(b). Plaintiff states that such documents are in the possession of Victor Company of Japan, Ltd. and/or JVC Kenwood Corporation.

3-2(c)

Bates Start	**Bates End**
ACT-GOOGLE00000001	ACT-GOOGLE00001550
ACT-GOOGLE00005773	ACT-GOOGLE00007891