

**AKIN GUMP STRAUSS HAUER & FELD LLP**

PAUL D. TRIPODI II (SBN 162380)

ptripodi@akingump.com

BROCK F. WILSON (SBN 248018)

bfwilson@akingump.com

KELSEY S. MORRIS (SBN 277859)

kmorris@akingump.com

CLARK GORDON (SBN 306317)

cggordon@akingump.com

4 Park Plaza, Suite 1900

Irvine, CA 92614

Tel: 949-885-4100

Fax: 949-885-4101

**AKIN GUMP STRAUSS HAUER & FELD LLP**

CONO A. CARRANO (*admitted pro hac vice*)

ccarrano@akingump.com

RYAN S. STRONCZER (*admitted pro hac vice*)

rstronczer@akingump.com

Robert S. Strauss Tower

2001 K Street N.W.

Washington, DC 20006

Tel: 202-887-4000

Fax: 202-887-4288

Attorneys for Defendant  
VIZIO, INC.

**UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA**

MAXELL, LTD.,

Plaintiff,

v.

VIZIO, INC.,

Defendant.

Case No. 2:21-cv-06758-GW (DFMx)

**DEFENDANT VIZIO, INC.'S  
PRELIMINARY CLAIM  
CONSTRUCTIONS AND  
EXTRINSIC EVIDENCE**

Pursuant to the Court’s Minute Order (Dkt. 115), Defendant VIZIO, Inc. (“VIZIO”) hereby identifies the following preliminary claim constructions for the identified terms of the asserted claims of the patents-in-suit identified by the parties’ exchange on July 28, 2022.

This identification of preliminary claim constructions is based on information presently available to VIZIO. VIZIO reserves the right to supplement or modify the preliminary claim constructions and/or any evidence cited in support of the preliminary claim constructions, in a manner consistent with the Federal Rules of Civil Procedure and the Court’s rules, based on further discovery, Plaintiff’s claim construction positions, and/or mutual party agreement.<sup>1</sup>

Identification of a preliminary claim construction for a term here should not be construed as an assertion or an admission that any particular term satisfies the requirements of 35 U.S.C. § 112, or that the identified term necessarily requires construction in order to assess infringement or invalidity of a given patent claim.

Moreover, VIZIO offers these preliminary claim constructions solely for the purposes of this lawsuit, and they are not intended to be binding on VIZIO in any other litigation, proceeding, or forum, including any administrative proceeding before the U.S.

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<sup>1</sup> Although not expressly required by the Scheduling/Pretrial Order (*see* Dkt. 115), VIZIO has included additional disclosure in support of its preliminary claim constructions, including exemplary citations to the intrinsic record and exemplary indications of the substance of proposed expert testimony.

Patent and Trademark Office (such as *inter partes* review proceedings) or the U.S. International Trade Commission.

These preliminary claim constructions are limited to the asserted claims Maxell identified, specifically:

- U.S Patent No. 9,578,369 (“the ’369 Patent”): claims 1, 2, 3, 10, 11, and 12;
- U.S. Patent No. 10,321,206 (“the ’206 Patent”): claims 1-5, 8-13, and 16-17;
- U.S. Patent No. 7,986,858 (“the ’858 Patent”): claims 1, 4, 7, and 10;
- U.S. Patent No. 7,730,507 (“the ’507 Patent”): claims 1, 2, 10, and 13; and
- U.S. Patent No. 7,760,213 (“the ’213 Patent”): claims 1-5.

#### **I. U.S. PATENT NO. 9,578,369**

VIZIO identifies the following proposed constructions for identified terms from the asserted claims of U.S. Patent No. 9,578,369:

<b>U.S. Patent No. 9,578,369</b>		
<b>Claim Term</b>	<b>Preliminary Claim Construction</b>	<b>Extrinsic Evidence</b>
(Claims 1/2/10/11) “ <i>a communication unit</i> ” arranged to perform its specified function(s) [20:40-41, 21:7-8, 23:45-46, 24:13-14]	<b>Limitation:</b> “ <i>communication unit</i> ”  <b>Proposed Construction:</b>  35 U.S.C. §112 ¶6 applies  <b>Function:</b> “ <i>conduct communication with a mobile terminal</i> ”	Expert testimony <sup>2</sup>

<sup>2</sup>With respect to the ’369 Patent, where this column indicates expert testimony, VIZIO may rely on the testimony of an expert witness who will testify regarding the skill level and understanding of a POSITA and how a POSITA would understand the identified claim term(s) in light of the specification, the prosecution history, and the knowledge of the POSITA. VIZIO may further rely on the testimony of an expert witness who will testify on any terms that are indefinite under 35 U.S.C. § 112, ¶¶ 1–2, and/or for which U.S.C. § 112, ¶ 6 applies.

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><b>Corresponding Structure:</b> a communication device that is arranged to communicate with a mobile terminal according to standard communication protocols, including Bluetooth, wireless Local Area Network(LAN), or IRDA</p> <p>'369 Patent at 6:15-21, 13:45-49, FIGS. 2 and 6 (elements 210 and 600); <i>see also id.</i> at 4:38-49, 4:63-5:11, 6:62-67, 8:49-55, 13:41-45; '369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	
(Claims 1/2/10/11) “ <i>a control unit</i> ” arranged to perform its specified function(s) [20:43, 21:10, 23:48, 24:16]	<p><b>Limitation:</b> “<i>control unit</i>”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>First Function:</b> “<i>control the display unit</i>”</p> <p><b>Corresponding Structure:</b> a microprocessor (or processor) that is arranged to control operations, including the recited functions, to reproduce video on the display unit</p> <p>'369 Patent at 5:28-31, 8:11–20, FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 6:38-49, 7:1-8:2, 9:56-10:29; '369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	Expert testimony
(Claims 1/2/10/11) “ <i>a control unit</i> ” arranged to perform its specified function(s) [20:44-45,	<p><b>Limitation:</b> “<i>control unit</i>”</p> <p><b>Proposed Construction:</b></p>	Expert testimony

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
21:11-12, 23:49-50, 24:17-18]	<p>35 U.S.C. §112 ¶6 applies</p> <p><b>Second Function:</b> “<i>control the display unit to display a first video content</i>”</p> <p><b>Corresponding Structure:</b> the microprocessor (or processor) that is arranged to: (1) receive information related to a request to display a first video content; and (2) cause display of the first video content on the display unit</p> <p>’369 Patent at 5:28-31, 8:6–20, FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 5:62-6:14, 7:1-8:2, 8:21-33, 14:14-29; ’369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	
(Claims 1/2/10/11) “ <i>a control unit</i> ” arranged to perform its specified function(s) [20:46-50, 21:14-18, 23:51-55, 24:20-24]	<p><b>Limitation:</b> “<i>control unit</i>”</p> <p>Indefinite under 35 U.S.C. §112, ¶¶ 1 and/or 2 to the extent that the claimed “<i>control unit</i>” lacks written description support with respect to “<i>video content acquired via the internet</i>”</p> <p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Third Function:</b> “<i>control the display unit to terminate displaying of the first video content and to start displaying a second video content acquired via the internet when the</i></p>	<p><i>Information, Communication, Wiley Electrical and Electronics Engineering Dictionary</i> (1st ed. 2004) (VIZIO (2-21-CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><i>communication unit receives first information from the mobile terminal</i>” (Claims 1/2) / <i>“control the display unit to terminate displaying of the first video content and to start displaying a second video content acquired via the internet when a first communication between the mobile terminal and the information processing apparatus [/ display apparatus] is conducted”</i> (Claims 10/11)</p> <p><b>Corresponding Structure:</b> the microprocessor (or processor) that is arranged to: (1) receive a first information<sup>3</sup>, such as data (e.g., URL), or communication<sup>4</sup> via the communication unit; (2) cause the termination of the first video content on the display unit; and (3) initiate display of the second video content on the display unit</p> <p>’369 Patent at 5:28-31, 8:49–61, 10:54–59, FIG. 5 (elements 515 and 516), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 6:38-49, 7:1-8:2, 8:62-9:10, 10:37-53, 12:8-13:25, 14:39-15:8, 19:27-43, 20:5-17; ’369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	
(Claims 1/2/10/11) “a control unit” arranged	<b>Limitation:</b> “control unit”	Information, Communication,

<sup>3</sup> “Information” (e.g., “first,” “second,” and “third” “information”) should be given its plain and ordinary meaning.

<sup>4</sup> “Communication” (e.g., “first,” “second,” and “third” “communication”) should be given its plain and ordinary meaning.

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
to perform its specified function(s) [20:62-66, 21:29-33, 23:66-24:4, 24:34-39]	<p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Fourth Function:</b> <i>“control displaying of the second video content on the display unit based on second information for operating the second video content displayed on the display unit when the communication unit receives the second information from the mobile terminal” (Claims 1/2) / “control displaying of the second video content on the display unit based on a second communication between the mobile terminal and the information processing apparatus [/ display apparatus] for operating the second video content displayed on the display unit when the second communication is conducted” (Claims 10/11)</i></p> <p><b>Corresponding Structure:</b> the microprocessor (or processor) that is arranged to: (1) receive a second information, such as operation data (e.g., “move” or “select”), or communication via the communication unit; and (2) control the display unit to reflect the information to control displaying of the second video content</p> <p>’369 Patent at 5:28-31, 11:23–29, FIG. 5 (element 517), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 7:1-8:2, 9:11-17, 10:65-11:22, 12:8-13:25, 15:9-35; ’369 Patent File</p>	<p>Wiley Electrical and Electronics Engineering Dictionary (1st ed. 2004) (VIZIO (2-21-CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	History (VIZIO (2-21-CV-06758)_0038418 – 0038801)	
(Claims 1/2/10/11) “a control unit” arranged to perform its specified function(s) [21:1-3, 21:35-37, 24:5-9, 24:40-43]	<p><b>Limitation:</b> “control unit”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Fifth Function:</b> “control the display unit to terminate displaying of the second video content when the communication unit receives third information from the mobile terminal” (Claims 1/2) / “control the display unit to terminate displaying of the second video content based on a third communication between the mobile terminal and the information processing apparatus when [/ based on] the third communication is conducted” (Claims 10/11)</p> <p><b>Corresponding Structure:</b> the microprocessor (or processor) that is arranged to: (1) receive a third information, such as data indicating termination, or communication via the communication unit; and (2) cause the second video content on the display unit to terminate</p> <p>’369 Patent at 5:28-31, 11:30–48, FIG. 5 (elements 518), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 7:1-8:2, 11:49-12:7, 12:14-13:25, 15:36-16:13, 19:44-47, FIG. 5 (elements 519); ’369 Patent File</p>	<p><i>Information, Communication, Wiley Electrical and Electronics Engineering Dictionary</i> (1st ed. 2004) (VIZIO (2-21-CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>



U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	History (VIZIO (2-21-CV-06758)_0038418 – 0038801)	
(Claims 3/12) “a video processing unit” to perform its specified function(s) [21:40-43, 24:46-48]	<p><b>Limitation:</b> “video processing unit”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “to conduct video processing”</p> <p><b>Corresponding Structure:</b> a processing device, such as an ASIC, FPGA, or MPU, to receive and process video data and deliver it to the display unit</p> <p>’369 Patent at 5:39-42, FIGS. 2 and 6 (element 205); <i>see also id.</i> at 8:38-42, 9:4-7; ’369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	Expert testimony
(Claims 1/2) “control the display unit to terminate displaying of the first video content and to start displaying a second video content acquired via the internet when the communication unit receives first information from the mobile terminal” [20:46-50, 21:14-18]	<p><b>Limitation:</b> “control the display unit to terminate displaying of the first video content and to start displaying a second video content acquired via the internet when the communication unit receives first information from the mobile terminal”</p> <p><b>Proposed Construction:</b></p> <p>Construed in the context of the claim limitation “control unit” above. Otherwise, plain and ordinary meaning</p> <p><i>See, e.g.,</i> ’369 Patent at 5:28-31, 8:49–61, 10:54–59, FIG. 5 (elements</p>	<p>Information, Communication, Wiley Electrical and Electronics Engineering Dictionary (1st ed. 2004) (VIZIO (2-21-CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	515 and 516), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 6:38-49, 7:1-8:2, 8:62-9:10, 10:37-53, 12:8-13:25, 14:39-15:8, 19:27-43, 20:5-17; '369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)	
(Claims 1/2) “control displaying of the second video content on the display unit based on second information for operating the second video content displayed on the display unit when the communication unit receives the second information from the mobile terminal” [20:62-66, 21:29-33]	<p><b>Limitation:</b> “control displaying of the second video content on the display unit based on second information for operating the second video content displayed on the display unit when the communication unit receives the second information from the mobile terminal”</p> <p><b>Proposed Construction:</b></p> <p>Construed in the context of the claim limitation “control unit” above. Otherwise, plain and ordinary meaning</p> <p><i>See, e.g.,</i> '369 Patent at 5:28-31, 11:23–29, FIG. 5 (element 517), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 7:1-8:2, 9:11-17, 10:65-11:22, 12:8-13:25, 15:9-35; '369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	<p><i>Information, Communication,</i> Wiley Electrical and Electronics Engineering Dictionary (1st ed. 2004) (VIZIO (2-21-CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>
(Claims 1/2) “control the display unit to terminate displaying of the second video content when the communication unit receives third	<p><b>Limitation:</b> “control the display unit to terminate displaying of the second video content when the communication unit receives third information from the mobile terminal”</p>	<p><i>Information, Communication,</i> Wiley Electrical and Electronics Engineering Dictionary (1st ed. 2004) (VIZIO (2-21-</p>

U.S. Patent No. 9,578,369		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
<i>information from the mobile terminal</i> [21:1-3, 21:35-37]	<p><b>Proposed Construction:</b></p> <p>Construed in the context of the claim limitation “<i>control unit</i>” above. Otherwise, plain and ordinary meaning</p> <p><i>See, e.g.,</i> ’369 Patent at 5:28-31, 11:30–48, FIG. 5 (elements 518 and 519), FIGS. 2 and 6 (element 202); <i>see also id.</i> at 3:4-50, 7:1-8:2, 11:49-12:7, 12:14-13:25, 15:36-16:13, 19:44-47; ’369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	<p>CV-06758)_0042315 – 0042321)</p> <p>Expert testimony</p>
(Claims 2/11) “ <i>acquired via a broadcast signal</i> ” [21:4-5, 24:10-11]	<p><b>Limitation:</b></p> <p>“<i>acquired via a broadcast signal</i>”</p> <p><b>Proposed Construction:</b></p> <p>Plain and ordinary meaning</p> <p><i>See, e.g.,</i> ’369 Patent at 4:63-5:31, 8:21-25, FIGS. 2 and 6 (elements 200, 201); <i>see also id.</i> at 5:39-56, 10:22-25, 14:26-29; ’369 Patent File History (VIZIO (2-21-CV-06758)_0038418 – 0038801)</p>	<p><i>Broadcast</i>, Webster’s New World Computer Dictionary (10th ed. 2003) (VIZIO (2-21-CV-06758)_0042311 – 0042314)</p> <p>Expert testimony</p>

## II. U.S. PATENT NO. 10,321,206

VIZIO identifies the following proposed constructions for identified terms from the asserted claims of U.S. Patent No. 10,321,206:

U.S. Patent No. 10,321,206		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
(Claims 1/4/9/12) “ <i>intermediate interface</i> ” [10:6, 10:11, 10:18-19, 10:21-22, 10:37-38, 11:12, 11:14-15, 11:17, 11:24, 11:27-28, 12:2]	<p><b>Limitation:</b> “<i>intermediate interface</i>”</p> <p><b>Proposed Construction:</b> an interface, which may be blank or invisible, used while switching the AV application</p> <p><i>See, e.g.,</i> ’206 Patent at 4:6-20, 6:55-63; Patent File History (VIZIO (2-21-CV-06758)_0038858 – 0038867, 0038897 – 0038906, 0039006 – 0039013); <i>see also id.</i> at 1:50-2:21, 3:59-5:13, 6:27-6:63, 7:11-9:6, FIGS. 3 (elements 110 and 120) and 5; ’206 Patent File History (VIZIO (2-21-CV-06758)_0038802 – 0039152)</p>	Expert testimony <sup>5</sup>
(Claims 1/9) “ <i>background program</i> ” [10:7-8, 10:13, 11:13, 11:19]	<p><b>Limitation:</b> “<i>background program</i>”</p> <p><b>Proposed Construction:</b> the current AV application retreated to the background and occupying the AV decoder while the intermediate</p>	Expert testimony

<sup>5</sup>With respect to the ’206 Patent, where this column indicates expert testimony, VIZIO may rely on the testimony of an expert witness who will testify regarding the skill level and understanding of a POSITA and how a POSITA would understand the identified claim term(s) in light of the specification, the prosecution history, and the knowledge of the POSITA. VIZIO may further rely on the testimony of an expert witness who will testify on any terms that are indefinite under 35 U.S.C. § 112, ¶¶ 1–2, and/or for which U.S.C. § 112, ¶ 6 applies.

U.S. Patent No. 10,321,206		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>interface is being loaded into the foreground</p> <p><i>See, e.g., '206 Patent at 3:59-4:46; Patent File History (VIZIO (2-21-CV-06758)_0038858 – 0038867, 0038897 – 0038906, 0039006 – 0039013); see also id. at 1:34-46, 1:50-2:21, 3:59-5:26, 6:27-6:63, 7:34-7:67, 8:15-39, FIG. 3 (elements 110 and 120) ; '206 Patent File History (VIZIO (2-21-CV-06758)_0038802 – 0039152).</i></p>	
<p>(Claims 1) “<i>triggering, in response to the intermediate interface has been completely loaded, the AV application, ..., to release an AV decoder</i>” [10:11-14] / (Claim 9) “<i>in response to the intermediate interface has been completely loaded, trigger the AV application, ..., to release an AV decoder</i>” [11:17-20]</p>	<p><b>Limitation:</b> “<i>triggering, in response to the intermediate interface has been completely loaded, the AV application, ..., to release an AV decoder</i>” / “<i>in response to the intermediate interface has been completely loaded, trigger the AV application, ..., to release an AV decoder</i>”</p> <p><b>Proposed Construction:</b> causing the current AV application occupying the decoder to release the decoder when the intermediate interface is completely loaded</p> <p><i>See, e.g., '206 Patent at 3:59-5:13; Patent File History (VIZIO (2-21-CV-06758)_0038858 – 0038867, 0038897 – 0038906, 0039006 – 0039013); see also id. at 1:34-46, 1:50-2:21, 6:27-63, 7:28-8:35, FIGS 3 and 5 (element 120); '206 Patent File History (VIZIO (2-21-CV-06758)_0038802 – 0039152).</i></p>	Expert testimony

U.S. Patent No. 10,321,206		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence

### III. U.S. PATENT NO. 7,986,858

VIZIO identifies the following proposed constructions for identified terms from the asserted claims of U.S. Patent No. 7,986,858:

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
(Claim 1) “ <i>luminance data calculation unit</i> ” configured to perform its specified function(s) [16:48-54]	<p><b>Limitation:</b> “<i>luminance data calculation unit</i>”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112 ¶ 6 applies</p> <p><b>Function:</b> “<i>configured to set a reference frame from a video image which has a plurality of pixels, and to calculate first luminance data for a high resolution video image, the high resolution video image obtained by interpolating supplementary luminance data into the reference frame having second luminance data</i>”</p> <p><b>Corresponding Structure:</b> a CPU that is configured to: (1) set a frame of the video image, which has a plurality of pixels, as a reference</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony<sup>6</sup></p>

<sup>6</sup> With respect to the '858 Patent, where this column indicates expert testimony, VIZIO may rely on the testimony of an expert witness who will testify regarding the skill level and understanding of a POSITA and how a POSITA would understand the identified claim term(s) in light of the specification, the prosecution history, and the knowledge of the POSITA. VIZIO may further rely on the testimony of an expert witness who will testify on any terms that are indefinite under 35 U.S.C. § 112, ¶¶ 1–2, and/or for which U.S.C. § 112, ¶ 6 applies.

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>frame; and (2) calculate, by using a filtering processing with a Sinc function based on a sampling theorem (a cubic convolution algorithm or a BiCubic algorithm), first luminance data for a high resolution video image by interpolating supplementary luminance data into the reference frame from second luminance data of the reference frame</p> <p><i>See, e.g., '858 Patent at 3:49-65, 5:22-38, 16:4-11, FIGS. 1 (element 101) and 2 (step S301); see also id. at 3:30-48, 5:13-21, 7:7-8:16, 9:49-58; '858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</i></p>	
<p>(Claim 1) “a position calculation unit” configured to perform its specified function(s) [16:56-60]</p>	<p><b>Limitation:</b> “a position calculation unit”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “configured to set target pixels in at least one of frames included in the video image except the reference frame, and to calculate corresponding positions to the target pixels in the reference frame with decimal accuracy”</p> <p><b>Corresponding Structure:</b> the CPU that is configured to: (1) set pixels in one or more frames contained in the video image, except the reference frame, as target</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>pixels one by one; and (2) calculate, by using: (a) a matching error interpolation algorithm, (b) an oversampling algorithm, or (c) detection by a gyrocompass, positions of the target pixels corresponding to the reference frame with decimal accuracy</p> <p>'858 Patent at 3:66-4:19, 5:43-56, 16:4-11, FIGS 1 (element 102) and 2 (step S302); <i>see also id.</i> at 3:30-48, 5:13-21, 8:17-10:13; '858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</p>	
(Claim 1) “a correction amount calculation unit” configured to perform its specified function(s) [16:61-67]	<p><b>Limitation:</b> “a correction amount calculation unit”</p> <p>Indefinite under 35 U.S.C. §112, ¶¶ 1 and/or 2 to the extent that the claimed “a correction amount calculation unit” lacks written description support in the specification with respect to “calculate correction amounts ... parallelly” by using the POCS or iterative back projection algorithms</p> <p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “configured to calculate correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>



U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><i>luminance data of the target pixels, and the corresponding positions, the correction amounts being parallelly calculated for the respective corresponding positions”</i></p> <p><b>Corresponding Structure:</b> the CPU that is configured to calculate, by parallel processings using a Projection Onto Convex Sets (POCS) algorithm or an Iterative Back-Projection algorithm, correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data, and the corresponding positions</p> <p>’858 Patent at 4:20-37, 5:57-6:6, 16:4-11, FIGS. 1 (element 103) and 2 (step S303); <i>see also id.</i> at 3:30-48, 10:14-13:25; ’858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</p>	
(Claim 1) “ <i>an addition unit</i> ” configured to perform its specified function(s) [17:1-2]	<p><b>Limitation:</b> “<i>an addition unit</i>”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “<i>configured to calculate sum of correction amounts from the correction amounts</i>”</p> <p><b>Corresponding Structure:</b> the CPU that is configured to calculate sum of correction amounts by adding the correction amounts calculated by</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>the correction amount calculation unit</p> <p>'858 Patent at 4:38-61, 6:7-32, 16:4-11, FIGS. 1 (element 106) and 2 (step S305); <i>see also id.</i> at 3:30-48, 5:13-21, 6:33-42, 10:14-13:25; '858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</p>	
<p>(Claim 1) “a luminance data correction unit” configured to perform its specified function(s) [17:3-5]</p>	<p><b>Limitation:</b> “a luminance data correction unit”</p> <p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “configured to correct the first luminance data based on the sum of the correction amounts”</p> <p><b>Corresponding Structure:</b> the CPU that is configured to: (1) receive sum of correction amounts; and (2) correct the first luminance data based on the sum of the correction amounts</p> <p>'858 Patent at 4:62-5:12, 6:33-50, 16:4-11, FIGS. 1 (element 105) and 2 (steps S305 and 306); <i>see also id.</i> at 3:30-48, 5:13-21, 6:51-7:6, 10:14-13:25; '858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>
<p>(Claim 4) “luminance data calculation unit” configured to perform</p>	<p><b>Limitation:</b> “luminance data calculation unit”</p>	<p>Super-Resolution Image Reconstruction: A</p>

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
its specified function(s) [17:13-15]	<p>Indefinite under 35 U.S.C. § 112, ¶ 2 for improperly mixing an apparatus and a method. Claim 4 is directed to an apparatus; however, Claim 4 calls for performance of a method step (“<i>selects an image data as the reference frame</i>”)</p> <p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “<i>selects an image data as the reference frame</i>”</p> <p><b>Corresponding Structure:</b> a CPU that sets a frame of image data of the video image as the reference frame</p> <p>’858 Patent at 3:49-65, 5:22-32, 16:4-11, FIGS. 1 (element 101) and 2; <i>see also id.</i> at 3:30-48, 5:13-21; ’858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</p>	<p>Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>
(Claim 7) “ <i>parallelly calculating correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data of the target pixels, and the corresponding positions</i> ” [18:1-4]	<p><b>Limitation:</b> “<i>parallelly calculating correction amounts of the first luminance data for the corresponding positions based on the first luminance data, third luminance data of the target pixels, and the corresponding positions</i>”</p> <p><b>Proposed Construction:</b> calculating by parallel processings correction amounts of the first luminance data for the corresponding positions based on the</p>	<p>Super-Resolution Image Reconstruction: A Technical Overview, Sung Cheol Park; Min Kyu Park; and Moon Gi Kang, 2003, VIZIO (2-21-cv-06758)_0036108 – 0036123</p> <p>Expert testimony</p>

U.S. Patent No. 7,986,858		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>first luminance data, third luminance data of the target pixels, and the corresponding positions</p> <p><i>See, e.g., '858 Patent at 4:20-37, 5:57-6:6, 16:4-11, FIGS. 1 (element 103) and 2 (Step S303); see also id. at 3:30-48, 10:14-13:25; '858 Patent File History (VIZIO (2-21-CV-06758)_0038244 – 0038417)</i></p>	

#### IV. U.S. PATENT NO. 7,730,507

VIZIO identifies the following proposed constructions for identified terms from the asserted claims of U.S. Patent No. 7,730,507:

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
(Claim 1): “ <i>a first controller</i> ” configured to perform its specified function(s) [11:65–67]	<p><b>Limitation:</b> “<i>first controller</i>”</p> <p>Indefinite under 35 U.S.C. §112, ¶¶ 1 and/or 2 to the extent: (1) that the claimed “<i>waiting mode</i>” lacks written description support in the specification; and (2) “<i>the waiting condition</i>” lacks antecedent basis in the claims</p>	Expert testimony <sup>7</sup>

<sup>7</sup> With respect to the '507 Patent, where this column indicates expert testimony, VIZIO may rely on the testimony of an expert witness who will testify regarding the skill level and understanding of a POSITA and how a POSITA would understand the identified claim term(s) in light of the specification, the prosecution history, and the knowledge of the POSITA. VIZIO may further rely on the testimony of an expert witness who will testify on any terms that are indefinite under 35 U.S.C. § 112, ¶¶ 1–2, and/or for which U.S.C. § 112, ¶ 6 applies.

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112, ¶ 6 applies</p> <p><b>First Function:</b> “<i>control a waiting mode of the broadcast program receiving apparatus</i>”</p> <p><b>Corresponding Structure:</b> a sub-CPU configured to set the broadcast program receiving apparatus into the first waiting condition or the second waiting condition</p> <p>’507 Patent at Abstract, FIGS. 1 (sub-CPU 60), 4 (steps S41, S42, S43), 6:4–8:30; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–59; ’507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
(Claim 1): “ <i>a first controller</i> ” configured to perform its specified function(s) [12:11–16]	<p><b>Limitation:</b> “<i>first controller</i>”</p> <p>Indefinite under 35 U.S.C. §112, ¶¶ 1 and/or 2 to the extent: (1) that the claimed “<i>waiting mode</i>” lacks written description support in the specification; and (2) “<i>the waiting condition</i>” lacks antecedent basis in the claim</p> <p><b><u>In the alternative:</u></b></p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112, ¶ 6 applies</p>	Expert testimony

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><b>Second Function:</b> “<i>control the electric power supplied from the electric power source unit, responsive to the remote control signal received by the remote control signal receiving portion</i>”</p> <p><b>Corresponding Structure:</b> a sub-CPU configured to: (1) receive a signal from the remote control signal receiving portion corresponding to a remote control signal; and (2) responsively transmit a control signal to the electric power source unit to control the electric power supplied from the electric power source unit</p> <p>’507 Patent at FIGS. 1 (sub-CPU 60, control signals CSu and CSR) and 4 (steps S41, S42, S43), 6:4–8:30, 11:33–52; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–32; ’507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
(Claim 1): “ <i>a first controller</i> ” configured to perform its specified function(s) [12:17–21]	<p><b>Limitation:</b> “<i>first controller</i>”</p> <p>Indefinite under 35 U.S.C. §112, ¶¶ 1 and/or 2 to the extent: (1) that the claimed “<i>waiting mode</i>” lacks written description support in the specification; and (2) “<i>the waiting condition</i>” lacks antecedent basis in the claim</p> <p><b><u>In the alternative:</u></b></p>	Expert testimony

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112, ¶ 6 applies</p> <p><b>Third Function:</b> <i>“the waiting condition in which an image is not displayed after stopping a supply of the electric power to the display portion, is controlled by the first controller, so as to be placeable into either of a first waiting condition or a second waiting condition”</i></p> <p><b>Corresponding Structure:</b> a sub-CPU configured to: (1) when the waiting condition in which an image is not displayed after stopping a supply of the electric power to the display portion is in a first or second waiting condition, determine whether to place the waiting condition into a first or second waiting condition; and (2) place the waiting condition into the first or second waiting condition according to the determination</p> <p>’507 Patent at FIGS. 1 (sub-CPU 60, control signals CSu and CSR) and 4 (steps S41, S42, S43), 6:4–8:30, 11:33–52; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–32; ’507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
(Claim 1) <i>“a second controller”</i> configured to perform its specified	<b>Limitation:</b> <i>“second controller”</i>	Expert testimony

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
function(s) [12:1–3; 12:49–51]	<p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112, ¶ 6 applies</p> <p><b>First Function:</b> “<i>control a processing of a received digital broadcasting signal via a decoder</i>”</p> <p><b>Corresponding Structure:</b> a processor configured to control: (1) a video decoder to decode a video signal; and (2) providing the decoded signal to the display portion</p> <p>’507 Patent at Abstract, FIGS. 1 (main CPU 201), 4:63–5:58, 7:54–9:17; <i>see also id.</i> at Abstract, 2:15–3:54, 10:10–11:9; ’507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
(Claim 2): “ <i>a sub-control circuit</i> ” configured to perform its specified function(s) [12:52–57]	<p><b>Limitation:</b> “<i>a sub-control circuit</i>”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112, ¶ 6 applies</p> <p><b>First Function:</b> “<i>control the electric power supplied from the electric power source unit, responsive to the remote control signal received by the remote control signal receiving portion</i>”</p> <p><b>Corresponding Structure:</b> a sub-CPU configured to: (1) receive a signal from the remote control signal receiving portion corresponding to a remote control</p>	Expert testimony



U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>signal; and (2) responsively transmit a control signal to the electric power source unit to control the electric power supplied from the electric power source unit</p> <p>'507 Patent at FIGS. 1 (sub-CPU 60, control signals CSu and CSR) and 4 (steps S41, S42, S43), 6:4–8:30, 11:33–52; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–32; '507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
<p>(Claim 2): “a sub-control circuit” configured to perform its specified function(s) [12:58–63]</p>	<p><b>Limitation:</b> “a sub-control circuit”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. § 112, ¶ 6 applies</p> <p><b>Second Function:</b> “<i>wherein a waiting condition of the display apparatus in which an image is not displayed after stopping a supply of the electric power to the display portion, is controlled by the sub-control circuit, so as to be placeable into either of a first waiting condition or a second waiting condition</i>”</p> <p><b>Corresponding Structure:</b> a sub-CPU configured to: (1) when a waiting condition in which an image is not displayed after stopping a supply of the electric power to the display portion is in a first or second waiting condition, determine</p>	Expert testimony

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	<p>whether to place the waiting condition into a first or second waiting condition; and (2) place the waiting condition into the first or second waiting condition according to the determination</p> <p>'507 Patent at FIGS. 1 (sub-CPU 60, control signals CSu and CSR) and 4 (steps S41, S42, S43), 6:4–8:30, 11:33–52; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–32; '507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	
(Claim 2) “ <i>main control circuit</i> ” configured to perform its specified function(s) [12:49–51]	<p><b>Limitation:</b> “<i>main control circuit</i>”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112, ¶ 6 applies</p> <p><b>Function:</b> “<i>control parts of the display portion</i>”</p> <p><b>Corresponding Structure:</b> a processor configured to control providing a decoded signal to the display portion</p> <p>'507 Patent at Abstract, FIGS. 1 (main CPU 201), 4:63–5:58, 7:54–9:17; <i>see also id.</i> at Abstract, 2:15–3:54, 10:10–11:9; '507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	Expert testimony
(Claims 1/2) “ <i>wherein the/[a] waiting</i> ”	<p><b>Limitation:</b> <i>wherein the/[a] waiting condition [...] in which an image is</i></p>	Expert testimony

U.S. Patent No. 7,730,507		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
<p><i>condition [...] in which an image is not displayed after stopping a supply of the electric power to the display portion, is controlled by the first controller/[sub-control circuit], so as to be placeable into either of a first waiting condition or a second waiting condition”</i> [12:17–21; 12:58–63]</p>	<p><i>not displayed after stopping a supply of the electric power to the display portion, is controlled by the first controller/[sub-control circuit], so as to be placeable into either of a first waiting condition or a second waiting condition</i></p> <p>Indefinite under 35 U.S.C. § 112, ¶¶ 1 and/or 2</p> <p><b>In the alternative:</b></p> <p><b>Proposed Construction:</b></p> <p>when the/a waiting condition in which an image is not displayed after stopping a supply of the electric power to the display portion is in a first or second waiting condition, determine whether to place the waiting condition into a first or second waiting condition; and place the/a waiting condition into the first or second waiting condition according to the determination</p> <p>’507 Patent at FIGS. 1 (sub-CPU 60, control signals CSu and CSR) and 4 (steps S41, S42, S43), 6:4–8:30, 11:33–52; <i>see also id.</i> at Abstract, 2:15–3:54, 8:51–10:53, 11:10–32; ’507 Patent File History at VIZIO (2-21-CV-06758)_0037504–510, 0037522–540, 0037547–556, 0037705–711</p>	

## V. U.S. PATENT NO. 7,760,213

VIZIO identifies the following proposed constructions for identified terms from the asserted claims of U.S. Patent No. 7,760,213:

U.S. Patent No. 7,760,213		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
(Claims 1/2) “a contrast adjusting unit” to perform its specified function(s) [13:42-45]	<p><b>Limitation:</b> “a contrast adjusting unit”</p> <p><b>Proposed Construction:</b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “to adjust the contrast of the video image by controlling the gain of the video signal based on a maximum luminance level information and an average luminance level information”</p> <p><b>Corresponding Structure:</b> a circuit component to receive average luminance level information and maximum luminance level information and then generate and output a control signal, and a circuit component to apply the control signal to the video signal</p> <p>’213 Patent, at 1:54-59, 5:58-59, 6:23-28, 6:37-40, 7:14-20, 8:64-9:2, 9:51-63, and FIG. 7 (elements 20</p>	Expert testimony <sup>8</sup>

<sup>8</sup> With respect to the ’213 Patent, where this column indicates expert testimony, VIZIO may rely on the testimony of an expert witness who will testify regarding the skill level and understanding of a POSITA and how a POSITA would understand the identified claim term(s) in light of the specification, the prosecution history, and the knowledge of the POSITA. VIZIO may further rely on the testimony of an expert witness who will testify on any terms that are indefinite under 35 U.S.C. § 112, ¶¶ 1–2, and/or for which U.S.C. § 112, ¶ 6 applies.

U.S. Patent No. 7,760,213		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	and 11); <i>see also e.g.</i> , at 2:49-3:32, 4:8-5:13, 5:56-7:25, 8:13-9:2, 9:20-9:66, 10:35-11:22, 11:31-12:21, 12:38-39, 12:61-13:2; 13:20-35, and FIGS. 1 (elements 7 and 3), 9 (elements 20 and 11), 10 (elements 20 and 32), and 11 (elements 20 and 32); '213 Patent File History (VIZIO (2-21-CV-06758)_0037852 – 0038243), at 37952-37955)	
(Claims 1/5) “a black level extension unit” to perform its specified function(s) [13:46-14:4, 14:17-19]	<p><b>Limitation:</b> “a black level extension unit”</p> <p>Indefinite under 35 U.S.C. § 112, ¶¶ 2 and 6 for failure to sufficiently disclose a structure for the function of “performing black level extension processing for the video signal”</p> <p><b><u>In the alternative:</u></b></p> <p>35 U.S.C. §112 ¶6 applies</p> <p><b>Function:</b> “to perform black level extension processing for the video signal”</p> <p><b>Corresponding Structure:</b> a circuit component to receive a control signal as an input and output a signal producing a video image with sharper black portions</p> <p>'213 Patent at 3:37-39, 6:28-30, 6:40-45, 7:25-27, 8:11-12, and FIG.7 (element 30); <i>see also e.g.</i>, at 3:41-44, 7:38-41, 9:2-4, 9:14-19, 9:66-10:1, 10:11-15, 10:32-34, 11:22-24, 11:35-39, 12:21-23,</p>	Expert testimony

U.S. Patent No. 7,760,213		
Claim Term	Preliminary Claim Construction	Extrinsic Evidence
	12:32-36, 12:54-56, 13:6-7, 13:25-28, and FIGS. 9 (element 30), 10 (element 30), 11 (element 30); '213 Patent File History (VIZIO (2-21-CV-06758)_0037852 – 0038243), at 37952-37955)	

Dated: August 18, 2022

AKIN GUMP STRAUSS HAUER & FELD LLP

By /s/Cono A. Carrano

Cono A. Carrano  
Paul D. Tripodi II  
Brock F. Wilson  
Kelsey S. Morris  
Ryan S. Stronczer  
Clark Gordon

Attorneys for Defendant  
VIZIO, Inc.

**CERTIFICATE OF SERVICE**

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served this 18th day of August, 2022 with a copy of this document via electronic mail.

Dated: August 18, 2022

By: /s/Clark Gordon