

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Ingo Tobias Doser et al.
U.S. Patent No.: 9,185,268 Attorney Docket No.: 07314-0053IP1
Issue Date: November 10, 2015
Appl. Serial No.: 12/450,622
Filing Date: June 7, 2010
Title: METHODS AND SYSTEMS FOR DISPLAYS WITH
CHROMATIC CORRECTION WITH DIFFERING CHROMATIC
RANGES

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**PETITION FOR *INTER PARTES* REVIEW OF UNITED STATES PATENT
NO. 9,185,268 PURSUANT TO 35 U.S.C. §§ 311–319, 37 C.F.R. § 42**

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LIST OF EXHIBITS

DOLBY-1001	U.S. Patent No. 9,185,268 to Doser et al. (“the ’268 Patent”)
DOLBY-1002	Prosecution History of the ’268 patent (“the Prosecution History”)
DOLBY-1003	Declaration and Curriculum Vitae of Dr. Eli S. Saber
DOLBY-1004	U.S. Pat. No. 7,053,927 (“Jones”)
DOLBY-1005	International Pat. Pub. No. WO 2007/050091 (“Ollivier”)
DOLBY-1006	U.S. Pat. App. Pub. No. 2007/0058183 (“Osaki”)
DOLBY-1007	U.S. Pat. App. Pub. No. 2007/0211074 (“Yeung”)
DOLBY-1008	Bancroft, Dave, “Emulating the Film Color Model in Digital Movie Production,” <i>Color and Imaging Conference</i> . Vol. 11. Society of Imaging Science and Technology, 2003
DOLBY-1009	Digital Cinema Initiatives, LLC, “Digital Cinema System Specification (V1.0),” 2005
DOLBY-1010	Morovič, Ján & Johan Lammens, “Color Management,” <i>Colorimetry: Understanding the CIE System</i> , John Wiley & Sons, Ch. 7 (pp. 159-203) (2007) (“Morovič”)
DOLBY-1011	Vetro, Anthony, “MPEG-21 Digital Item Adaptation: Enabling Universal Multimedia Access,” <i>IEEE MultiMedia</i> , vol. 11, no. 1, Jan-Mar. 2004, pp. 84-87 (“Vetro”)
DOLBY-1012	Declaration of June Munford
DOLBY-1013	U.S. Pat. No. 5,140,414 to Mowry et al. (“Mowry414”)
DOLBY-1014	U.S. Pat. No. 5,687,011 to Mowry et al. (“Mowry011”)

DOLBY-1015	U.S. Pat. No. 5,255,083 to Capitant et al. (“Capitant”)
DOLBY-1016- DOLBY-1049	RESERVED
DOLBY-1050	Complaint, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (filed Feb. 2, 2025)
DOLBY-1051	RESERVED
DOLBY-1052	Exhibit D2 to Complaint, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (filed Feb. 2, 2025)
DOLBY-1053	Joint Claim Construction and Prehearing Statement, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (Aug. 15, 2025)
DOLBY-1054	Defendants’ Opening Claim Construction Brief, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (Aug. 22, 2025)
DOLBY-1055	Plaintiff’s Opening Claim Construction Brief, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (Aug. 22, 2025)
DOLBY-1056	Defendants’ Responsive Claim Construction Brief, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (Sept. 5, 2025)
DOLBY-1057	Plaintiff’s Responsive Claim Construction Brief, <i>InterDigital, Inc. et al. v. The Walt Disney Company et al.</i> , 2:25-cv-00895, CDCA (Sept. 5, 2025)

LISTING OF CHALLENGED CLAIMS

Claim 1	
[1.pre]	A method for color correcting, comprising:
[1.1]	performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut,
[1.1.1]	wherein said performing step comprises: mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[1.1.2]	generating metadata for a color gamut mapping that color transforms the mastered color corrected picture content for display on reference type displays having a reference color gamut,
[1.1.3]	wherein the source picture content is mastered only for the non-reference type displays having the non-reference color gamut.
Claim 2	
[2]	The method of claim 1, wherein the metadata is provided to the reference type displays for final consumption at least one of in-band and out-of-band with respect to the mastered color corrected picture content.
Claim 3	
[3]	The method of claim 1, wherein said step of performing the color correction further comprises performing the color gamut mapping using the metadata to verify a result of the color correction, when the display content is rendered on the reference type display.
Claim 4	
[4]	The method of claim 1, wherein the color gamut mapping is applied during the color correction and a subsequent consumer consumption.

Claim 5	
[5]	The method of claim 1, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.
Claim 6	
[6.pre]	A method for color correcting, comprising:
[6.1]	performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut,
[6.1.1]	wherein said performing step comprises: mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[6.1.2]	mastering the source picture content to provide mastered color corrected picture content for display on the reference type displays having a reference color gamut, using a color gamut mapping applied to the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 7	
[7]	The method of claim 6, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is used directly by a consumer device.
Claim 8	
[8]	The method of claim 6, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is reconstructed by a consumer device before display by the consumer device, using metadata and the mastered color corrected

	picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 9	
[9]	The method of claim 6, wherein said step of mastering the source picture content comprises rendering the mastered color corrected picture content on the reference type display using a color gamut mapping that simulates the non-reference type display on the reference type display.
Claim 10	
[10]	The method of claim 6, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.
Claim 11	
[11]	The method of claim 6, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is a derivative of the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 12	
[12.pre]	A system for color correcting, comprising:
[12.1]	a color correction module for performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut, to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[12.2]	a color gamut mapping module for performing a color gamut mapping to generate metadata for a subsequent color gamut mapping

	that color transforms the mastered color corrected picture content for display on reference type displays having a reference color gamut,
[12.3]	wherein the source picture content is mastered only for the non-reference type displays having the non-reference color gamut.
Claim 13	
[13]	The system of claim 12, wherein the metadata is provided to the reference type displays for final consumption at least one of in-band and out-of-band with respect to the mastered color corrected picture content.
Claim 14	
[14]	The system of claim 12, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.
Claim 15	
[15.pre]	A system for color correcting, comprising:
[15.1]	a color correction module for performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut, to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[15.2]	a color gamut mapping module for performing a color gamut mapping with respect to the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut to provide mastered color corrected picture content for display on the reference type displays having a reference color gamut.

Claim 16	
[16]	The system of claim 15, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is used directly by a consumer device.
Claim 17	
[17]	The system of claim 15, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is reconstructed by a consumer device before use by the consumer device, using metadata and the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 18	
[18]	The system of claim 15, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.
Claim 19	
[19]	The system of claim 15, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is a derivative of the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 20	
[20.pre]	A system for color correcting, comprising:
[20.1]	means for performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut,

[20.1.1]	wherein said means for performing color correction comprises: means for mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[20.1.2]	means for generating metadata for a color gamut mapping that color transforms the mastered color corrected picture content for display on reference type displays having a reference color gamut,
[20.1.3]	wherein the source picture content is mastered only for the non-reference type displays having the non-reference color gamut.
Claim 21	
[21]	The system of claim 20, wherein the metadata is provided to the reference type displays for final consumption at least one of in-band and out-of-band with respect to the mastered color corrected picture content.
Claim 22	
[22]	The system of claim 20, wherein said means for performing color correction further comprises means for performing the color gamut mapping using the metadata to verify a result of the color correction, when the display content is rendered on the reference type display.
Claim 23	
[23]	The system of claim 20, wherein the color gamut mapping is applied during the color correction and a subsequent consumer consumption.
Claim 24	
[24]	The system of claim 20, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.

Claim 25	
[25.pre]	A system for color correcting, comprising:
[25.1]	means for performing color correction on source picture content, using at least one of a non-reference type display having a non-reference color gamut and a reference type display having a reference color gamut,
[25.1.1]	wherein said means for performing color correction comprises: means for mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays having a non-reference color gamut; and
[25.1.2]	means for mastering the source picture content to provide mastered color corrected picture content for display on the reference type displays having a reference color gamut, using a color gamut mapping applied to the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 26	
[26]	The system of claim 25, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is used directly by a consumer device.
Claim 27	
[27]	The system of claim 25, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is reconstructed by a consumer device before display by the consumer device, using metadata and the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.
Claim 28	
[28]	The system of claim 25, wherein said means for mastering the source picture content to provide the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut comprises means for rendering, the mastered

	color corrected picture content for display on the non-reference type displays having the non-reference color gamut, on the reference type display using a color gamut mapping that simulates the non-reference type display on the reference type display.
Claim 29	
[29]	The system of claim 25, wherein the reference type displays and the non-reference type displays are at least one of liquid crystal displays, plasma displays, cathode ray tube displays, digital light processing displays, organic light emitting diode displays, liquid crystal on silicon displays, and direct drive image light amplifier displays.
Claim 30	
[30]	The system of claim 25, wherein the mastered color corrected picture content for display on the reference type displays having the reference color gamut is a derivative of the mastered color corrected picture content for display on the non-reference type displays having the non-reference color gamut.

Dolby Laboratories, Inc. (“Petitioner” or “Dolby”) petitions for *Inter Partes* Review (“IPR”) of claims 1-30 (“the Challenged Claims”) of U.S. Patent No. 9,185,268 (“the ’268 patent”). Compelling evidence presented in this Petition demonstrates at least a reasonable likelihood that Dolby will prevail with respect to at least one of the Challenged Claims.

I. REQUIREMENTS

A. Standing

Dolby certifies that the ’268 patent is available for IPR. Dolby is not barred or estopped from requesting this review challenging the Challenged Claims on the below-identified grounds.

B. IPR Challenge

Dolby requests an IPR of the Challenged Claims on the grounds noted below. Dr. Saber provides supporting testimony in his Declaration. DOLBY-1003, ¶¶22, 39-42.

Ground	Claims	Basis for Rejection (§103)
1	1-3, 5, 12-14, 20-22, 24	Jones, Ollivier, Osaki
2	4, 23	Jones, Ollivier, Osaki, Morovič
3	6, 7, 10, 11, 15, 16, 18, 19, 25, 26, 29, 30	Jones, Yeung
4	9, 28	Jones, Yeung, Morovič

Ground	Claims	Basis for Rejection (§103)
5	8, 17, 27	Jones, Yeung, Vetro

The '268 patent claims priority to PCT Application No.

PCT/FR2007/052523, which claims priority to U.S. Provisional Application No. 60/921,579, filed 4/3/2007 ("Critical Date"). DOLBY-1001, Cover. While Dolby does not concede that the '268 patent is entitled to the claimed priority date, for purposes of this proceeding, each reference asserted in this Petition qualifies as prior art (as shown in the table below) even if the Critical Date is used as the priority date of the '268 patent. Morovič and Vetro are prior art at least because they were publicly available as of March 2007 and January 2004. DOLBY-1012, ¶¶15-22.

Each of the references listed below also constitutes analogous prior art because each are either from the same field of endeavor as the Challenged Claims or, at minimum, is reasonably pertinent to the same technical problems addressed by the '268 patent. *See* DOLBY-1003, ¶¶70, 76, 79, 85, 88.

Reference	Filing Date	Publication Date
Jones	3/2/2001	5/30/2006
Ollivier	10/28/2005	5/3/2007
Osaki	9/7/2006	3/15/2007

Yeung	9/18/2006	9/13/2007
Morovič		3/2007
Vetro		1/2004

C. Claim Construction

All claim terms should be construed, to the extent necessary, according to the *Phillips* standard. *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005); 37 C.F.R. §42.100. Dolby submits that no claim terms need be expressly construed to resolve issues of controversy in the present Petition. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011). Dolby is not conceding that each challenged claim satisfies all statutory requirements (e.g., §112 requirements), nor is Dolby waiving any arguments concerning claim scope or grounds that can only be raised in a district court.

Patent Owner and The Walt Disney Company have submitted claim construction briefing in a district court litigation involving the '268 patent in the Central District of California (*InterDigital, Inc. et al. v. The Walt Disney Company et al.*, 2:25-cv-00895, CDCA) ("Litigation"), with respect to which Dolby is not a party. DOLBY-1052; DOLBY-1053; DOLBY-1054; DOLBY-1055. The proposed claim constructions are preliminary, and (as of the filing of this Petition) the district court has not issued a final claim construction order.

1. “Color Correcting”/“Color Correction” (Claims 1, 3, 4, 6, 12, 15, 20, 22, 23, 25)

According to the '268 patent specification, “the phrase ‘color correction’ refers to a creative procedure to manually choose the right (preferred) colors on the content creation side (versus the consumer consumption side).” DOLBY-1001, 8:10-24. To the extent this description is lexicographic, the claim term *color correction* means “a creative procedure to manually choose the right (preferred) colors on the content creation side (versus the consumer consumption side).” DOLBY-1003, ¶¶63-64. The Board need not reach a determination regarding the construction of *color correction* because the asserted prior art satisfies both the plain meaning of this term and the lexicographic definition set forth in the specification. *Id.*; see §§III.A-III.C, *infra*.

II. THE '268 PATENT

A. Specification

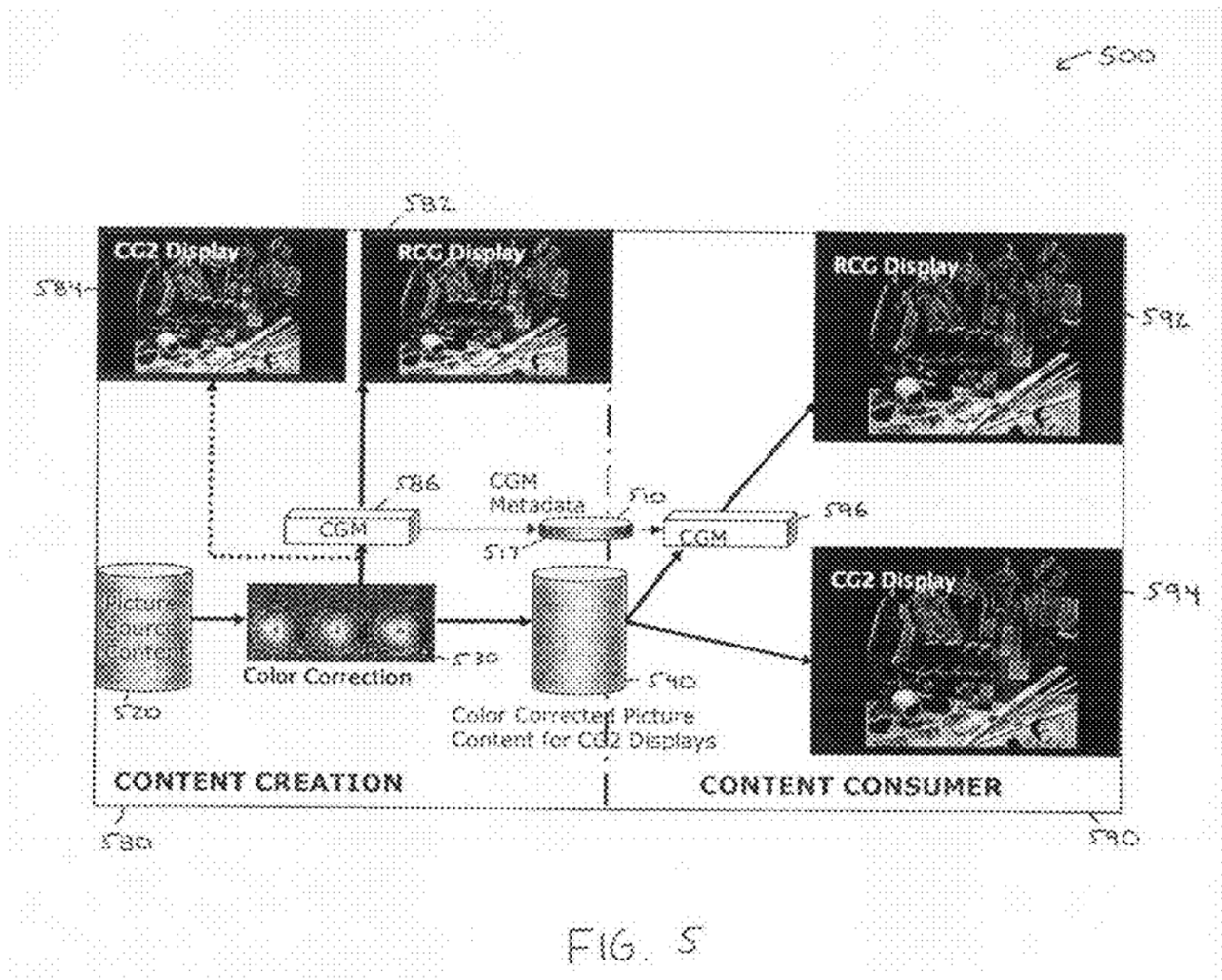
The '268 patent is focused on methods and systems for color correcting (e.g., color grading) picture content to provide more predictable visual results across different types of display devices that have different color gamuts. DOLBY-1001, Abst., 1:10-14. The specification distinguishes a “reference color gamut” (RCG) and “reference type” displays (“RCG displays”) that use the RCG from a different, non-reference gamut (e.g., “CG2”) and corresponding “non-

reference type” displays (“CG2 displays”). *Id.*, 7:7-18. According to the ’268 patent specification, while content was often mastered on a “reference” display associated with a standardized color gamut (e.g., based on CRT phosphors and standards such as EBU, SMPTE-C, or Rec.709), consumer displays implemented “non-standard” or otherwise different gamuts, which could cause the content (when displayed on such devices) to appear visually different than intended. *Id.*, 1:15-30.

To address this problem, the specification describes performing color correction using at least one non-reference type display (having a non-reference gamut) and a reference type display, and generating “mastered” content and associated information (e.g., metadata) so that corrected content can be transformed/mapped for display across devices with different gamuts. *Id.*, Abst., 4:40-55. For example, the specification contemplates achieving consistent viewing by (i) producing “mastered display content” for a particular gamut (e.g., a master associated with one of RCG or CG2), and (ii) providing “metadata” (i.e., data that controls processing of the mastered display content) that can be conveyed either “in-band” or “out-of-band.” This, in turn, enables transformation/mapping of the mastered content for display in a different gamut context. *Id.*, 4:40-55, 7:30-50.

Figure 5 shows an example color correction workflow allegedly achieving such consistent viewing across consumer displays by using metadata that describes

a color gamut mapping and is generated during content creation.

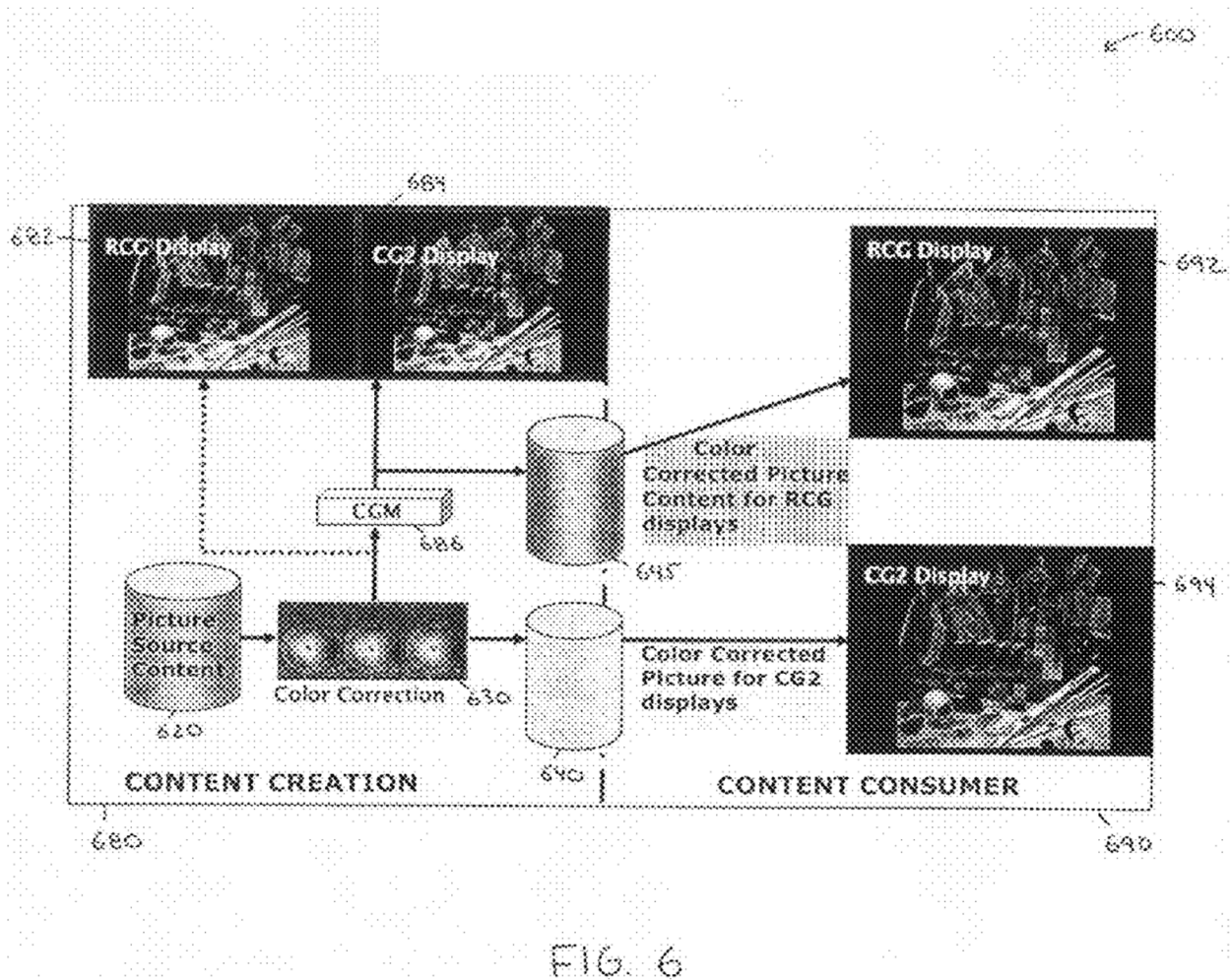


DOLBY-1001, FIG. 5

A content creation system (e.g., system 500) receives source picture content and performs a color-correction (“mastering”) process while monitoring the results on a CG2 display, thereby producing “mastered display content” that is mastered for the CG2 gamut. DOLBY-1001, 8:42-9:27. The system generates “metadata” (e.g., metadata 510) that specifies a color gamut mapping for transforming that mastered CG2 content into corrected content suitable for an RCG display. *Id.* On

the consumer side (e.g., content consumer system 550), a consumer electronic device receives the mastered display content and the associated metadata (whether in-band with the content or out-of-band), and uses a color gamut mapping module (e.g., CGM 586) to apply the metadata-specified mapping so that an RCG display can present corrected content consistent with the intended appearance, while a CG2 display can present the mastered CG2 content without requiring that same transformation. *Id.*

Figure 6 shows an example workflow in which the color-correction process produces separate “mastered” content versions (one intended for CG2 displays and another intended for RCG displays) on the content creation side.



DOLBY-1001, FIG. 6

The workflow 600 includes a content creation side 680 and a content consumer side 690, where an RCG display 682 is used on the content creation side 680 and, in addition, a CG2 display 684 may be used for proof viewing the content intended for consumption on RCG displays. DOLBY-1001, 9:26-38. The color-correction process results in a master for CG2 displays (e.g., for CG2 display 694) and a master for RCG displays (e.g., for RCG display 692), and the RCG master is

a derivative of the CG2 master. *Id.*, 9:39-43. The picture source content may be stored (e.g., in picture source content store 620), and the resulting masters may be stored separately, such as the RCG master in a color-corrected picture content store 645 and the CG2 master in a color-corrected picture content store 640. *Id.*, 9:50-55. On the content creation side 680, a color correction module 630 generates the CG2 master, and the CG2 mastered content is applied to a CGM module 686 that performs a color gamut mapping to generate the RCG master such that the CG2 mastered content is color corrected for display on the RCG display 682. *Id.*, 9:56-61. On the content consumer side 690, the RCG master and CG2 master are provided directly to the RCG display 692 and CG2 display 694, respectively, without the need for color gamut mapping on the consumer side. *Id.*, 9:62-67; DOLBY-1003, ¶¶43-55.

B. Relevant Prosecution

The '268 patent issued on 11/10/2015 from U.S. Patent App. No. 12/450,622 ("the '622 Application"). DOLBY-1001. The prosecution of the '622 Application included two Office Actions (*see* DOLBY-1002, 252-63, 555-63), one of which presented a §103 rejection based on US 2005/0152612 ("Spaulding"). DOLBY-1002, 254-62. The Examiner indicated in the first Office Action that certain dependent claims were allowable (then claims 8, 17, 27). *Id.*, 262. The Examiner withdrew the §103 rejection after arguments by the Applicant in a Response to

Office Action. *Id.*, 272-83. In finding the claims allowable, the Examiner identified various features recited in independent claims 1, 6, 12, 15, 20, and 25 as not described in Spaulding. *Id.*, 526-31, 852-53, 890-94; DOLBY-1003, ¶¶56-62.

III. UNPATENTABILITY

A. [GROUND 1] – Claims 1-3, 5, 12-14, 20-22, And 24 Are Obvious Over Jones-Ollivier-Osaki

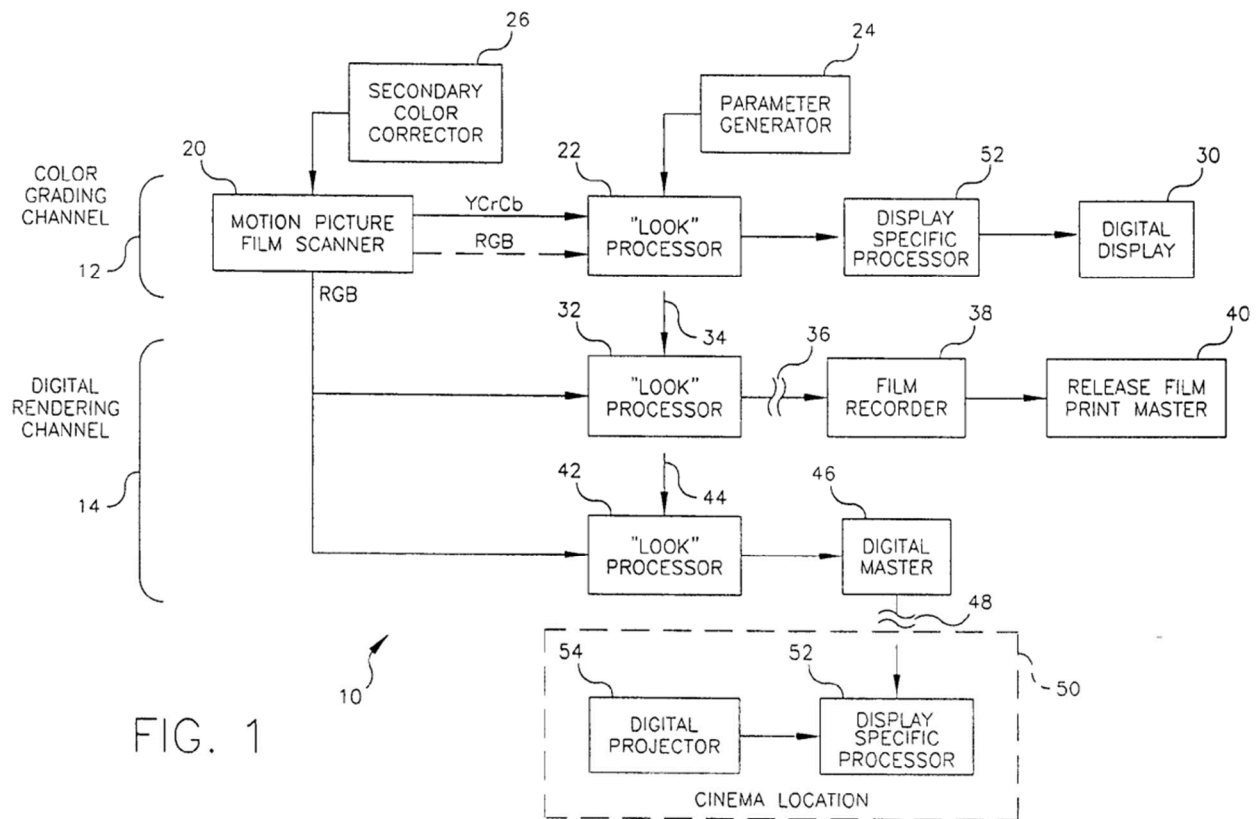
1. Jones-Ollivier-Osaki

(a) Jones

Jones is focused on a “digital mastering system” in which motion picture content is processed through a “digital color grading channel 12” and a “digital rendering channel 14.” DOLBY-1004, 4:34-38. In channel 12, a colorist performs a creative pre-visualization workflow to establish a desired “look.” *Id.* This workflow involves generating creative “look parameters” that allow “a myriad of different ‘looks’ and creative effects” to be imparted to digital image signals representing the motion picture content. *Id.*, 6:17-56. The output of the colorist’s work (the look parameters generated during pre-visualization) is then used in digital rendering channel 14 to render that “look” into mastered data, producing a mastered output file. *Id.*, 4:34-38, 10:26-44; DOLBY-1003, ¶¶66.

The Jones system takes source picture content in the form of “digital image signals” received from a “motion picture film scanner 20” and processes those signals through “look” processing blocks to produce mastered deliverables.

DOLBY-1004, 7:3-18, FIG. 1. This is shown in Figure 1:



DOLBY-1004, FIG. 1

As shown above, in the digital projection path of channel 14, the digital image signals ("RGB" signals) are modified and adjusted in a "look" processor and then "recorded as a digital master 46." *Id.*, 7:3-18. Digitally mastered output may be used "to create a digital cinema distribution master 46 for playback/projection using the digital projector 54," directly tying master 46 to a projector-based output environment. *Id.*, 10:26-44; DOLBY-1003, ¶67.

In Jones, different reproduction environments can introduce variables that

make it harder to maintain or reconstruct the intended “look,” motivating approaches, including device-dependent processing of digital image signals, that preserve intent across reproduction contexts. DOLBY-1004, 1:16-28, 2:43-50, 2:58-3:5. Consistent with this theme, Jones describes a wider-gamut display device 30 used during pre-visualization (“preferably a wider-gamut device such as a digital projector”) and notes that digital projectors can provide a wider gamut than conventional CRT displays. *Id.*, 6:35-56. Device-dependent processing mechanisms (e.g., “display specific transforms”), as Jones describes, can remap values of the digital image signals (pre-visualized on the wider-gamut device) that would be outside of a limited gamut of a target display device so that the resulting values fall within this limited gamut. *Id.*, 2:58-63, 5:23-31, 6:35-56; DOLBY-1003, ¶68.

Jones’s architecture also includes a downstream output-processing stage for projection at a cinema location, where a processor applies projector specific transforms before projection. DOLBY-1004, 7:19-30. Jones also notes that “[v]ariations” of this digital projection path may be practiced, including one implementation in which display specific transforms are not imparted during rendering in the channel 14 digital projection path, leaving device-dependent processing for downstream output-related stages. *Id.*, 7:19-30, 7:31-50; DOLBY-1003, ¶69.

(b) Ollivier

Ollivier describes a device-centric post-production and distribution approach directed to reproducing content across different display types while avoiding the need to recreate a separate master file for each viewing environment. Ollivier explains that traditional consumer viewing environments have been based on CRT standards such as “REC609/REC709,” while other environments (e.g., digital cinema projectors) can involve different color settings (e.g., “P7V2”), and that increasing display diversity creates distribution complexity if content must be tailored to each display technology specifically. DOLBY-1005, 1:12-26¹; DOLBY-1003, ¶71.

To address this, Ollivier teaches maintaining a single underlying video sequence while separately storing and communicating “correction information” that can be translated into one or more lookup tables (LUTs) used to render the content appropriately on different display device types. DOLBY-1005, 2:2-33; *see id.*, 6:3-22; DOLBY-1003, ¶72.

Ollivier’s approach is illustrated in its Figure 1, which depicts a translation module 22 that generates display-specific LUTs 21 for different display types.

¹ Citations to DOLBY-1005, DOLBY-1010, and DOLBY-1011 throughout are to the page numbers specified within the document, and not the PDF page numbers.

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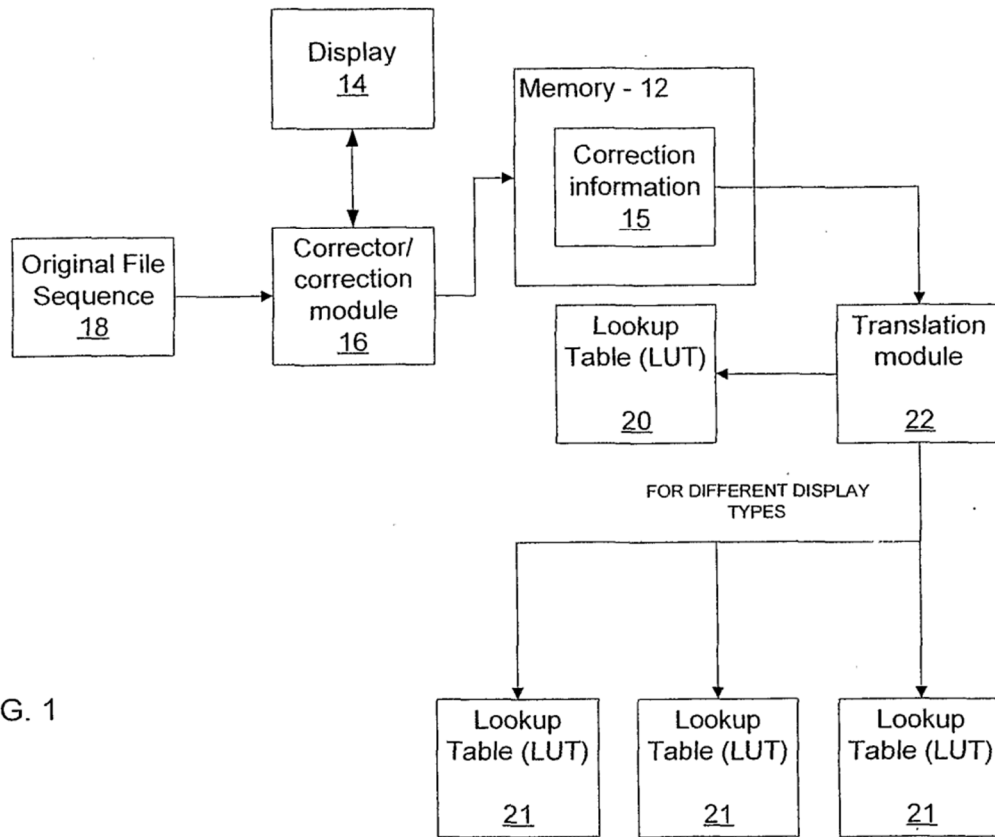


FIG. 1

DOLBY-1005, FIG. 1

As shown above, correction information 15 is stored separately from the original video signal and translation module 22 translates that correction information into a first LUT (e.g., LUT 20), such that the original sequence and the LUT can be combined to provide a corrected video sequence. DOLBY-1005, 6:3-22. Additional LUTs (display-specific LUTs 21) are created and stored for different display types, including a LUT 21 “for CRT displays.” *Id.*, 6:23-7:6. Each LUT 21 provides, for example, “formatting and adjustments needed to conform the sequence for display

on a given display type.” *Id.*, 10:14-23; *see id.*, 6:23-7:6. Ollivier also describes an example of a “3D LUT” that represents “all possible combinations of color values resulting from all possible input color values after the application of [a] 3×3 matrix algorithm,” confirming that LUTs can encode complete input-to-output color transformations. DOLBY-1005, 10:29-11:12; DOLBY-1003, ¶73.

Ollivier also discloses how LUTs are provided for downstream application in consumer-side playback/output environments. LUTs may be provided to end users and distribution endpoints together with the video content, including by being written onto a transferable medium “along with the raw video data signals,” or transmitted “in conjunction with” the raw video data signals for receipt and use prior to display. DOLBY-1005, 7:13-27; DOLBY-1003, ¶74.

This downstream application architecture is further illustrated in Figure 3:

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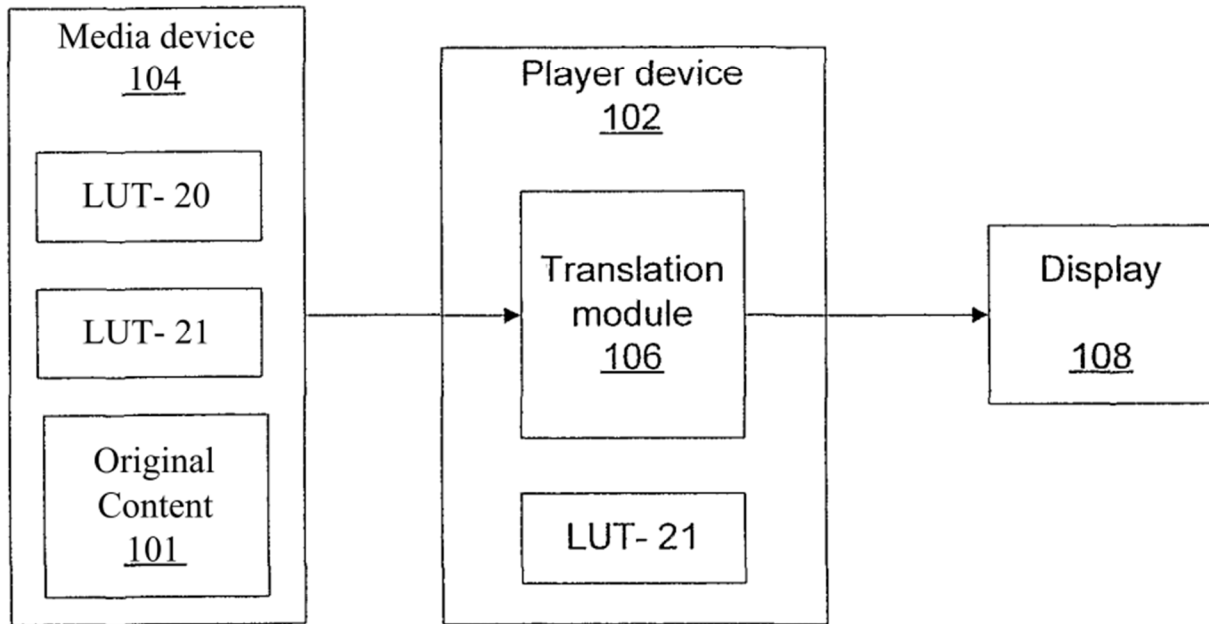


FIG. 3

DOLBY-1005, FIG. 3

As shown above, a consumer-side player device 102 includes a translation module 106 and a stored LUT 21, and outputs the processed video for presentation on a display 108. *See* DOLBY-1005, 8:12-9:14. The translation/output path applies the appropriate LUT (e.g., LUT 21 for CRT) to the corrected sequence (e.g., the LUT 20 and original sequence combination) to yield output suitable for the selected display type. *Id.*; DOLBY-1003, ¶75.

(c) Combination of Jones and Ollivier

A person of ordinary skill in the art (“POSITA”)² seeking to implement the mastering workflow within Jones’ disclosed color correction process would have looked for opportunities to extend its broader objective of preserving the intended “look” across displays having different color gamut constraints, including output to narrower-gamut display classes (e.g., CRT/video monitor contexts). *See* DOLBY-1004, 1:16-28, 2:43-50, 2:58-3:5; DOLBY-1003, ¶¶91-92. This would have motivated the POSITA to seek well-known, device gamut-specific-driven techniques for generating and carrying mapping information that enables consistent reproduction on different output devices. *Id.*

In seeking such techniques, a POSITA would have found Ollivier, which describes a device-centric post-production and distribution approach that maintains a single underlying video sequence and separately stores and communicates “correction information” translated into one or more LUTs for rendering content, from the video sequence, on different display device types. *See* DOLBY-1005, 2:2-33. Ollivier teaches storing the correction information separately from the original video signal and using a translation module to translate that correction information into a first LUT (e.g., LUT 20) such that the original sequence and

² *See* DOLBY-1003, ¶¶23-24 (defining a “POSITA”).

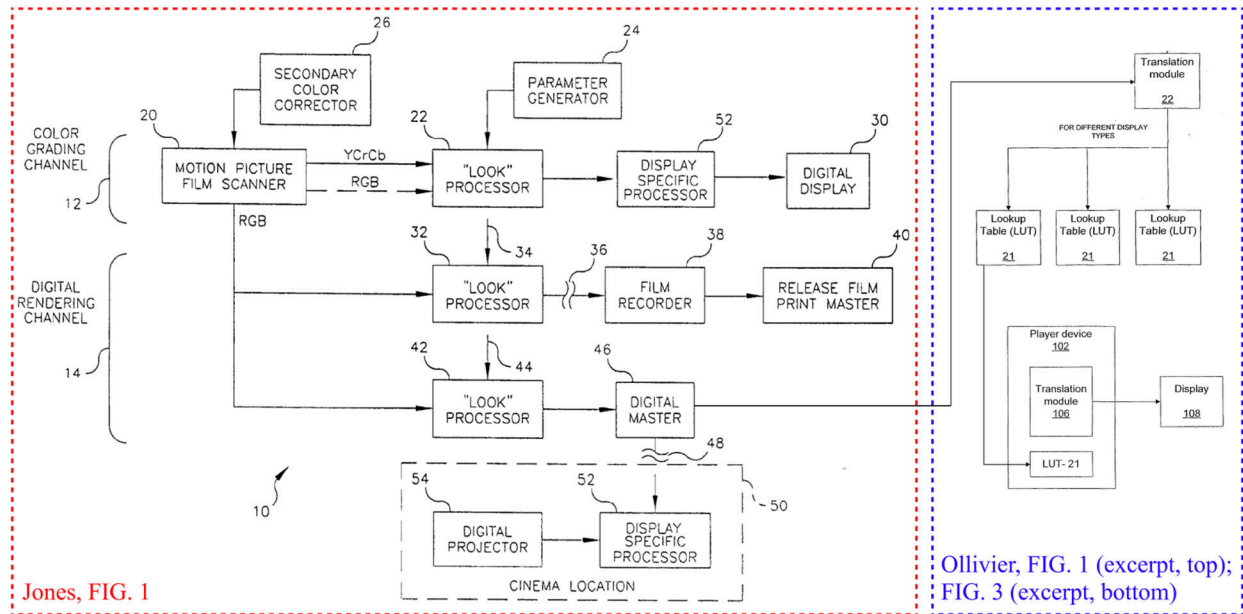
LUT can be combined to provide a corrected video sequence. *Id.*, 6:3-7:6. These LUTs may be provided to end users/distribution endpoints together with the video content (e.g., written onto a transferable medium). *Id.*, 7:13-27; DOLBY-1003, ¶93.

A POSITA would have recognized that Ollivier's LUT-based framework would address a well-known problem identified by Jones (e.g., that different display classes impose different reproduction constraints). *See* DOLBY-1004, 2:53-3:55; DOLBY-1005, 1:12-26, 6:23-7:6, 9:33-10:13, 7:13-27. The POSITA would have thereby viewed Ollivier's approach as a compatible extension to Jones's framework for preserving the intended look. DOLBY-1004, 2:53-3:55; DOLBY-1005, 1:12-26, 6:23-7:6, 9:33-10:13, 7:13-27; DOLBY-1003, ¶¶94-95.

Jones-Ollivier would have provided a system in which, consistent with Jones, a rendering pipeline generates a Jones-like master (master 46) that is for display on the wider-gamut projector encompassing, for example, display device 30 as a projector-class pre-visualization device and projector 54 as a playback/projection device. DOLBY-1004, 6:35-56, 7:3-18, 10:27-44. Ollivier further supplies a mechanism to generate and distribute mapping information (e.g., display-specific LUTs 21) enabling that mastered content to be reproduced on narrower-gamut reference-class devices, such as a CRT display with the Rec.709 gamut. *See* DOLBY-1005, 6:23-7:6, 7:13-27, 9:33-10:13. By using the Jones-like

master for displaying the intended look of content on both the wider-gamut projectors and narrower-gamut display devices, this incorporation advances Jones' stated objective to enable "use of a digital projector [that] provides a wider gamut than a conventional CRT display and can display a broader range of colors..." DOLBY-1004, 6:35-56; DOLBY-1003, ¶¶96-97.

An example of the Jones-Ollivier system is visualized below based on Jones' Figure 1 and excerpts of Ollivier's Figure 1 and 3:



Jones-Ollivier

In the example shown above, the Jones-Ollivier system would have yielded a Jones-like master (e.g., master 46) in the digital rendering channel based on the "look" established in the color grading channel. The Master is then distributed for downstream output processing (e.g., as shown for projection using projector 54 at

cinema location 50). DOLBY-1004, 10:26-44; *id.*, 7:19-30. The master may also be provided to an Ollivier-like downstream playback/output path that applies display-specific LUTs (e.g., LUTs 21) to conform the content for a selected output display type (e.g., CRT). *See* DOLBY-1005, 6:23-7:6, 10:13-23; DOLBY-1003, ¶¶98-99. In this manner, Jones-Ollivier would have leveraged Ollivier's LUT-based display-type conversion mechanism to provide mapped output from the Jones-like master for display on a selected output device (e.g., a CRT display). DOLBY-1005, 6:23-7:6, 10:29-11:12. This configuration may be implemented based on Jones's pre-existing color grading and rendering channels. DOLBY-1004, 7:19-30, 10:26-44; DOLBY-1005, 7:28-8:11; DOLBY-1003, ¶100.

The Jones-Ollivier system would have also generated, carried, and applied a color gamut mapping that converts projector-class color values into color values suitable for a narrower-gamut display class. *See* DOLBY-1004, 6:35-56. Per Ollivier, after a Jones-like master is generated as a "digital cinema distribution master" (per Jones), display-related correction information (including LUTs) would be determined and communicated to address differences between display technologies. For example, Ollivier contrasts traditional viewing based on CRT standards (such as REC609/REC709) with digital cinema projector color settings (such as P7V2) but recognizes that increasing display diversity creates distribution complexity if each display technology must be addressed specifically. DOLBY-

1005, 1:12-26; DOLBY-1003, ¶101.

Consistent with this objective, Ollivier teaches generating and using display-specific LUTs 21 for different output display types, explicitly including a CRT display type. DOLBY-1005, 10:14-23. This functionality provides a mechanism that defines how color values associated with a master are to be converted for reproduction on an output device with different (and potentially narrower) display capability, as suggested by Ollivier's REC609/REC709 CRT context and its display-specific LUT conversion approach. *See* DOLBY-1005, 1:12-26, 12:1-13. Incorporation of these teachings into the Jones system is also obvious from Jones's disclosures regarding its architecture, color correction process, and downstream device-specific processing. *See* DOLBY-1003, ¶¶101-103; *see* DOLBY-1004, 2:58-63, 5:23-31, 6:23-7:30, FIG. 2.

Jones-Ollivier would have also improved the Jones system by enabling a Jone-like master to be provided for output on a broader set of display devices, including narrower-gamut devices (e.g., CRT display with a Rec.709 gamut). *See* DOLBY-1005, 6:23-7:6, 7:13-27, 10:29-11:12. This extension may be implemented without altering Jones' pre-existing color grading channel or digital rendering channel because Ollivier's teachings may be incorporated as downstream processing applied to a Jones-like master. DOLBY-1004, 7:19-30; DOLBY-1003, ¶104.

Finally, a POSITA would have reasonably expected to succeed in combining the teachings of Jones and Ollivier. DOLBY-1003, ¶105. This is because the combination involves merely combining prior art elements according to known methods to yield predictable results. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415–21 (2007); MPEP 2143. Jones already contemplates applying device-specific (projector-specific) transforms downstream in connection with output to a particular device at a cinema location. DOLBY-1004, 7:19-30. Ollivier supplies implementation details for carrying out that type of downstream device-dependent processing through generating and applying a display-specific LUT (e.g., LUT 21) to conform the content for a selected output display type, including a CRT display type (e.g., Rec.709 gamut). DOLBY-1005, 6:23-7:6, 7:13-27, 10:29-11:12; DOLBY-1003, ¶¶105-107.

(d) Osaki

Osaki describes a device-centric color management approach directed to reproducing content across different output devices that may have different color gamuts. Osaki explains that different display/output devices (e.g., projector vs. CRT) can have different gamuts and that gamut conversion/compression may be used so that video data can be appropriately reproduced on the target output device. DOLBY-1006, [0005]-[0007]; DOLBY-1003, ¶77.

Osaki's conversion mechanism also involves generating and using an

explicit LUT mapping (e.g., a 3D LUT) that maps color values from an input gamut to an output gamut. A LUT generator facilitates the LUT generation process by acquiring input-gamut and output-gamut information and creates a LUT that embodies the mapping relationship. DOLBY-1006, [0122], [0123]. The LUT includes table data mapping first-gamut color values to second-gamut color values, and a color converter uses the LUT to convert input RGB values (first-gamut color values) into output RGB values (second-gamut color values). *Id.*, [0067]-[0069]. As one example, imagery created for reproduction on a projector device may be reproduced on a CRT, thereby enabling narrower-gamut CRT-oriented output relative to a projector-oriented input. *Id.*, [0091]-[0093]; *see id.*, [0065], [0074], [0157]; DOLBY-1003, ¶78.

(e) Combination of Jones-Ollivier and Osaki

As discussed above, Jones-Ollivier would have incorporated Ollivier's functionality of generating display-specific LUT (e.g., 21) for use in downstream transformation of a master of the type contemplated by Jones (e.g., master 46) for display on an output display device (e.g., CRT display). Further, a POSITA would have found it obvious to implement the display-specific LUT to specify color gamut mapping information as described, e.g., by Osaki, because, among other reasons, applying LUT-based display-specific transformations using color gamut mappings was a well-known configuration for similar types of color correction

systems around the Critical Date. DOLBY-1003, ¶108.

For example, Osaki describes converting content between device gamuts using a LUT-based mapping (e.g., projector to CRT). *See* DOLBY-1006, [0056]-[0061], [0065], [0067]-[0069], [0091]-[0093], [0122], [0123]. And, like Ollivier, Osaki describes generating a LUT mapping for converting content intended for one device class to another device class and applying the LUT to convert content for output on a different device class (e.g., projector to CRT). *Id.*, [0067]-[0069]. Osaki further describes that this downstream transformation involves deriving second-gamut values from first-gamut values (i.e., a device-gamut mapping). *Id.*; *see id.*, [0091]-[0093]. Moreover, because the information used for this downstream transformation is derived from the LUT mapping, Osaki describes a LUT mapping for device-gamut conversion that encodes mapping information relating to two color gamuts. *Id.* Osaki also contemplates projector-to-CRT gamut conversion, further indicating that its LUT mapping can be used to apply a projector-to-CRT color transformation. DOLBY-1006, [0091]-[0093]. Thus, based on Osaki's teachings, a POSITA would have found it obvious to configure Ollivier's display-specific LUT 21 to encode mapping information of the type described in Osaki. DOLBY-1003, ¶109.

As combined, Jones-Ollivier-Osaki would have provided a display-specific LUT 21 that includes information for performing a color gamut mapping.

DOLBY-1003, ¶110. In the combination, Ollivier's translation module 22 (configured to generate display-specific LUTs) is further configured to generate display-specific LUT 21 using LUT generation techniques such as those described in Osaki for device-gamut conversion. DOLBY-1005, 6:23-7:6; DOLBY-1006, [0091]-[0093]. Moreover, in Jones-Ollivier-Osaki, display-specific LUT 21 (when implemented according to Osaki's LUT mapping techniques) would encode a LUT mapping of the type described in Osaki and would be applied downstream in Ollivier's consumer-side playback/output path. DOLBY-1006, [0067]-[0069], [0091]-[0093].

In the specific context of Jones-Ollivier-Osaki, this would involve a color transformation of a master to content that is displayed on a CRT display device (e.g., Rec.709 gamut), and Osaki specifically contemplates projector-to-CRT conversion, further confirming the applicability of its teachings to the Jones-Ollivier framework. DOLBY-1003, ¶110. Jones and Ollivier also support combination with Osaki because each suggests the same general type of LUT-based or display-specific transformation context. *See* DOLBY-1004, 6:35-56; DOLBY-1005, 10:29-11:12. A POSITA would have therefore reasonably expected to succeed in combining the teachings of Jones, Ollivier, and Osaki. *See* DOLBY-1003, ¶111-13.

2. Analysis

(a) Claims 1, 2, 3, 5

[1.pre]

To the extent the preamble is limiting, Jones-Ollivier-Osaki satisfies the requirements of [1.pre]. As discussed in §III.A.1(e), Jones-Ollivier-Osaki would have provided a digital mastering system configured to perform Jones’ color correction process (***method for color correcting***). This process involves “a digital color grading channel [12] which allows a colorist to pre-visualize a particular ‘look’ and a digital rendering channel [14] which allows the colorist to render that ‘look’ into the mastered data.” DOLBY-1004, 4:39-48; *see* DOLBY-1001, 8:10-14; DOLBY-1003, ¶147.

[1.1]³

Jones-Ollivier-Osaki would have performed Jones’ color grading process

³ In *SuperGuide*, the Federal Circuit “conclude[d] that the plain and ordinary meaning of . . . the phrase ‘at least one of’ means ‘one or more.’” *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 888 (Fed. Cir. 2004) (citing *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999)). However, *SuperGuide* is inapplicable because the recitation of ***non-reference type display*** and ***reference type display*** within [1.1] do not represent “a series of categories of criteria,” and because the term “and” is not used to “separate the categories of criteria...” *Id.*

(*color correction*) on motion picture film content (e.g., digital motion picture data received from motion picture film scanner 20) (*source picture content*) using a display device 30 (*non-reference type display*). DOLBY-1003, ¶148.

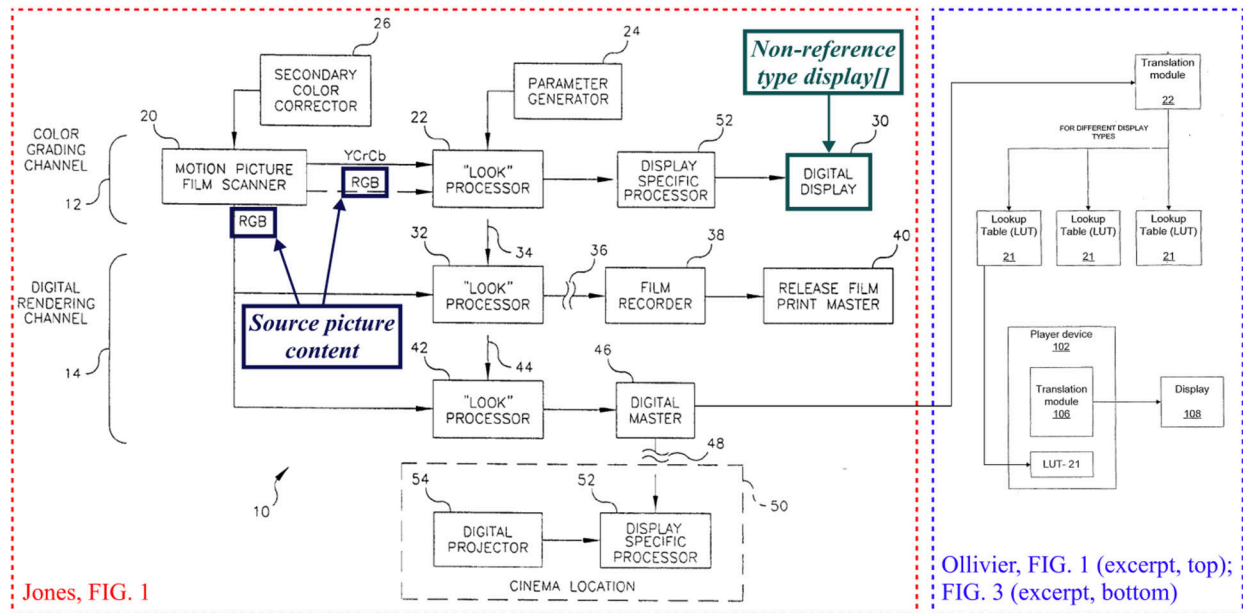
As discussed in §I.C.1, the '268 patent explains that “color correction” refers to “a creative procedure to manually choose the right (preferred) colors on the content creation side (versus the consumer consumption side).” DOLBY-1001, 8:10-14. Jones similarly describes a pre-visualization workflow that “allows the colorist to render creative ‘looks’ into the data (i.e., into a digital master)...” DOLBY-1004, 4:39-48. More specifically, the colorist uses display device 30 to pre-visualize a “look” for digital image signals, which results in creative “‘look’ parameters” that “allows a myriad of different ‘looks’ and creative effects to be imparted to the digital signals.” *Id.*, 6:17-35. Thus, like the '268 patent specification, Jones-Ollivier-Osaki would have enabled a manual color grading/correction workflow. DOLBY-1003, ¶149.

In Jones-Ollivier-Osaki, a colorist adjusts digital image signals to reflect a creative “look” (*performing color correction*) by modifying motion picture film content (*source picture content*) while visualizing the digital image data using display device 30. Display device 30 is an example of *a non-reference type display* because Jones describes it as a “wider-gamut device such as a digital projector” with a color gamut that is different from the color gamuts of certain

output displays (e.g., CRT displays). DOLBY-1004, 6:35-56. Jones also states that “use of a digital projector provides a wider gamut than a **conventional CRT display device** and can display a broader range of colors...” *Id.* Similarly, the ’268 patent specification identifies “cathode ray tube (CRT) phosphor colors” as defining a “single color gamut,” which are “current standards for use in determining the reference color gamut (RCG) for displays.” DOLBY-1001, 1:15-25.

The ’268 patent specification further suggests examples of “non-reference” (or “CG2”) displays that are “wide gamut displays,” making it “possible to display a wider range of colors than was previously possible.” *Id.*, 2:29-37. Indeed, an example of a CG2 color gamut identified in the ’268 patent specification is “XYZ for **Digital Cinema**.” *Id.*, 2:38-49. Jones similarly describes using display device 30 for pre-visualization to perform manual color adjustments in the process of “creat[ing] a **digital cinema** distribution master 46 for playback/projection using the projector 54” (DOLBY-1004, 10:27-44). Thus, because Jones and the ’268 patent each address wider-gamut displays (e.g., digital cinema projectors), a POSITA would have understood and/or found it obvious that Jones’ display device 30 represents an example of a ***non-reference type display***. Moreover, as discussed in more detail in [1.1.1], *infra*, Jones suggests (or renders obvious) that, in some instances, projector 54 (*see* FIG. 1) is a display device with a wide gamut, and

thus, also represents an example of a *non-reference type display*. DOLBY-1003, ¶150.



Jones-Ollivier-Osaki

[1.1.1]

Jones-Ollivier-Osaki would have mastered motion picture film content (*source picture content*) to provide a Jones-like master (*mastered color corrected picture content*) for playback/projection on a projector, which Jones suggests and/or renders obvious is a wider-gamut device (*non-reference type display*). DOLBY-1003, ¶151.

In the digital rendering channel 14, RGB signals are processed using the “look” established during color grading and “recorded as a digital master 46,” and that this mastering output may be a “digital cinema distribution master 46 for

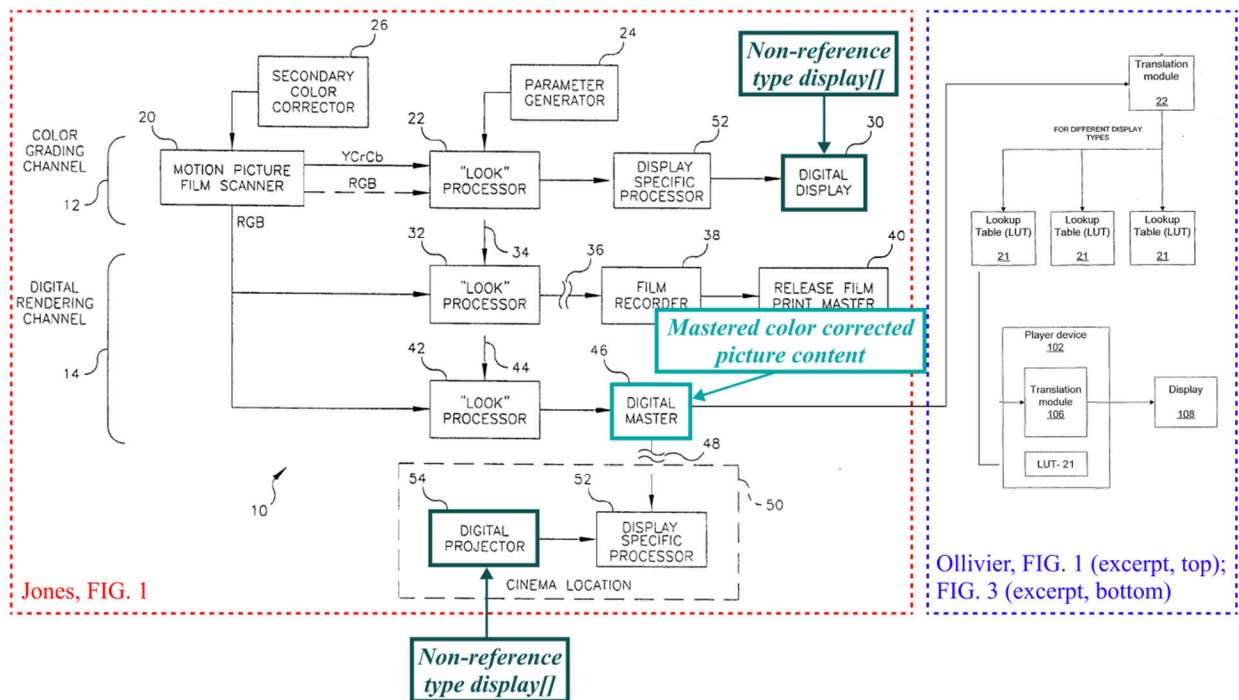
playback/projection using the digital projector 54.” DOLBY-1004, 7:3-18; *id.*, 10:26-44. This corresponds to mastering source picture content (digital motion picture data from scanner 20) to provide a mastered deliverable (Jones-like master) that embodies the colorist’s intended “look” as rendered into mastered data. *Id.*, 4:34-38, 7:3-18, 10:26-44; DOLBY-1003, ¶152.

Further, display device 30 used in the color grading channel 12 is “preferably a wider-gamut device such as a digital projector,” and thus is different from a standard gamut device and thereby represents an example of a *non-reference type display*. DOLBY-1004, 6:35-56. Similarly, Jones also states that “use of a digital projector provides a wider gamut than a conventional CRT display device and can display a broader range of colors,” suggesting that a projector-type output device (e.g., projector 54) may be a wider-gamut display (*non-reference type display*). In Jones-Ollivier-Osaki, the mastering process for rendering a master involves use of a wide-gamut device as pre-visualization for creating look parameters used for later generating master 46. DOLBY-1004, 6:35-56; *id.*, 10:26-44. Thus, a POSITA would have understood and/or found obvious that use of the wide-gamut display in pre-visualization to ensure the Jones-like master provides a creative “look” suggests that the master embodies color information relating to (*for display*) on a similar wider-gamut display type (*non-reference type display*). DOLBY-1003, ¶153.

Jones' disclosure further suggests that, once rendered, master 46 is in a format that would have been understood to be *for display* on a projector-type output device. Indeed, the "digitally mastered output could now be used...to create a digital cinema distribution master for playback/projection using the digital projector 54." DOLBY-1004, 10:27-44. In describing the creation of master 46, Jones also describes that "processed digital signals are then recorded as a digital master 46, such as magnetic tape, a hard drive or a CD/DVD-ROM)." *Id.*, 7:3-18; DOLBY-1003, ¶154.

Jones also suggests (or renders obvious) that, in some instances, projector 54 (*see* annotated figure below) is a display device with a wide gamut, and thus, is different from a standard gamut device and thereby represents an example of a *non-reference type display*. In describing display device 30 as a "wider-gamut device," Jones further indicates that an example of such a wider-gamut device is a "digital projector." DOLBY-1004, 6:35-56. In the same paragraph, Jones later describes that "a digital projector provides a wider gamut than a conventional CRT display device and can display a broader range of colors," confirming that certain types of digital projectors have wider color gamuts relative to conventional CRT displays. *Id.* And, because projector 54 (i.e., an output display device for master 46) is a "digital projector," Jones suggests and/or renders obvious that the master is for display on a wider-gamut device (*non-reference type display*) because "a

digital cinema distribution master 46 [is] for playback/projection using the digital projector 54.” *Id.*, 10:45-59; DOLBY-1003, ¶155.



Jones-Ollivier-Osaki

[1.1.2]

Jones-Ollivier-Osaki would have generated a display-specific LUT (*metadata*) using Ollivier’s LUT framework and applied that LUT downstream to a Jones-like master (*mastered color corrected picture content*) to conform the mastered content for display on a CRT display (*reference type display*). Based on Jones and Osaki , a POSITA would have understood and/or found obvious that the display-specific LUT would include a projector-to-CRT color gamut mapping (*color gamut mapping*) to the extent needed to render projector-class colors within

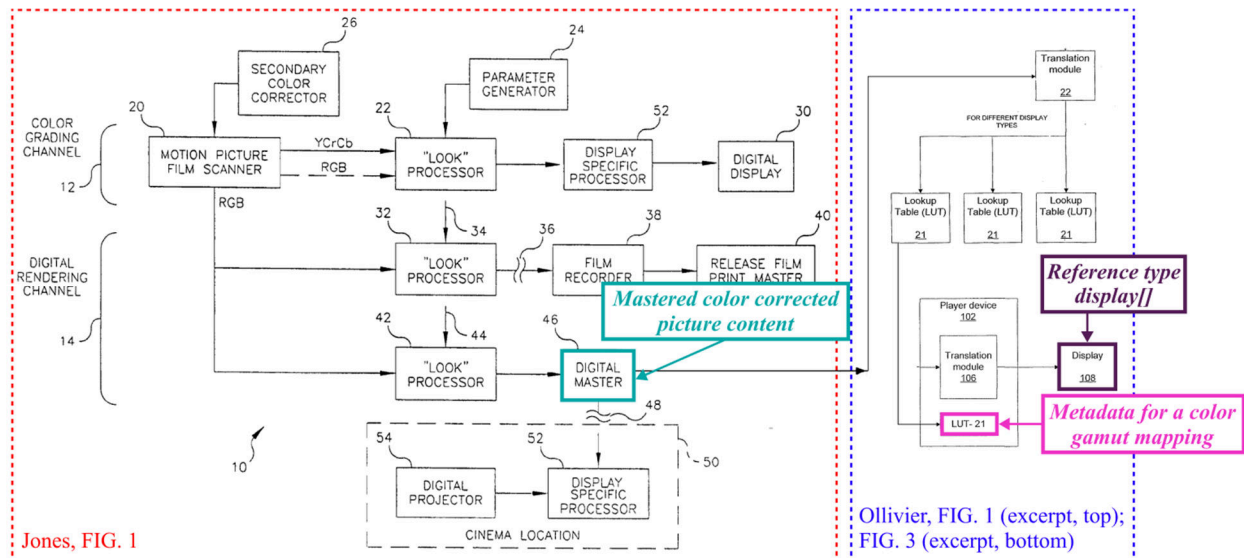
the CRT's reproducible gamut. DOLBY-1004, 6:35-56; DOLBY-1005, 4:22-33, 6:23-7:6; DOLBY-1006, [0062], [0067], FIG. 2B; DOLBY-1003, ¶156.

As explained in §III.A.1(e), in Jones-Ollivier-Osaki, a device-specific LUT (*metadata*) is generated on the content-creation side using Ollivier's LUT framework and is provided for downstream processing of the master to enable output to a CRT display. DOLBY-1003, ¶157. In Ollivier, the display-specific LUTs (e.g., LUT 21 for CRT display) is created and stored for communication to consumer-side playback/output endpoints. DOLBY-1005, 6:23-7:6, 7:13-27. Thus, once the master is generated, the display-specific LUT is applied downstream by the consumer-side playback/output path to transform the color values of the mastered content for CRT display. *Id.*

Further, Osaki describes that a LUT may serve as a device-gamut mapping for converting projector-oriented content for reproduction on a CRT display. DOLBY-1006, [0091]-[0093], [0067]-[0069], [0122], [0123], FIG. 2B. Specifically, Osaki explains that the LUT enables deriving a "color data value in [a] second gamut from the color data value in [a] first gamut," and outputting video data in the second gamut by referencing the LUT. *Id.*, [0067].

In Jones-Ollivier-Osaki, the display-specific LUT would be similarly configured such that applying LUT downstream to a master implements a projector-to-CRT color gamut mapping in the manner described in Osaki.

DOLBY-1003, ¶158. This is consistent with Jones’s recognition that device-specific processing can include “re-mapping any output values that are out of the gamut of the display device such that such values would be within the display device gamut.” DOLBY-1004, 6:35-56. Thus, in Jones-Ollivier-Osaki, applying display-specific LUT downstream to a Jones-like master to conform the content for CRT display would involve (and be implemented as) a projector-to-CRT *color gamut mapping* in the manner taught by Osaki and consistent with Jones’s device-specific transform concept. DOLBY-1003, ¶¶159-60; *see* DOLBY-1005, 1:12-18, 4:22-33, 10:14-23, 10:29-11:12; DOLBY-1006, [0062], FIG. 2B.



Jones-Ollivier-Osaki

[1.1.3]

Jones-Ollivier-Osaki would have mastered motion picture film content
(*source picture content*) to provide a Jones-like master (*mastered color corrected*

picture content) that is mastered based on only (*mastered only for*) a digital projector, which Jones suggests and/or renders obvious is a wider-gamut display (*non-reference type display*). DOLBY-1003, ¶164; *see* DOLBY-1004, 6:35-56, 10:26-44; DOLBY-1005, 1:12-18, 4:22-33, 10:14-23, 10:29-11:12; DOLBY-1006, [0056]-[0061], [0091]-[0093].

As discussed for [1.pre], [1.1], and [1.1.1] above, Jones' correction process involves a colorist performing creative color grading by pre-visualizing content on display device 30 to establish a desired "look," and then the digital rendering channel 14 "render[s] that 'look' into the mastered data." DOLBY-1004, 4:34-38; *see id.*, 6:17-35, 10:26-44; DOLBY-1001, 8:10-14. Display device 30 is "preferably a wider-gamut device such as a digital projector," and Jones states that "use of a digital projector provides a wider gamut than a conventional CRT display device and can display a broader range of colors...." DOLBY-1004, 6:35-56. Thus, in Jones, the creative "look" parameters that are rendered into master 46 are determined through pre-visualization on display device 30 as a wider-gamut device. A POSITA would have understood that the resulting mastered output reflects the color information and creative adjustments established in that wider-gamut viewing context. DOLBY-1003, ¶165. In this sense, the motion picture film content is *mastered only* for a wider-gamut non-reference class because the mastering step is performed by rendering the colorist-established look into the

master based on pre-visualization on a wider-gamut device. DOLBY-1004, 4:34-38; *id.*, 6:35-56, 10:26-44.

Further, in Jones, the purpose of the digital rendering channel 14 is “to create a digital cinema distribution master 46 for playback/projection using the digital projector 54.” DOLBY-1004, 10:26-44; *see id.*, 7:3-18. As discussed for [1.1.1], Jones also describes that a “digital projector provides a wider gamut than a conventional CRT display device.” DOLBY-1004, 6:35-56. This disclosure suggests and/or renders obvious that, in some instances, digital projector 54 is similarly a wider-gamut display device (relative to CRT displays), and thus, represents an example of a *non-reference type display* for which a master is authored. DOLBY-1003, ¶166. Indeed, Jones attributes its master as a “**digital cinema** distribution master,” which aligns with the ’268 patent’s identification of “XYZ for **Digital Cinema**” as an example of “[a]n extended color gamut” to “utilize [a] wider color gamut.” *Compare* DOLBY-1004, 10:26-44, 11:26-33, and DOLBY-1001, 2:38-49.

[2]

Jones-Ollivier-Osaki would have provided a display-specific LUT (*metadata*) to the consumer-side playback/output path associated with a CRT display (*reference type display*) for consumption at least in-band with respect to a Jones-like master (*mastered color corrected picture content*), by distributing the

LUT with the mastered content (e.g., on transferable media and/or in conjunction with transmission of the content) for downstream application prior to display.

DOLBY-1005, 7:13-27; DOLBY-1003, ¶167.

As discussed for [1.1.2], display-specific LUTs (e.g. LUTs 21) are for different display types (including CRT) and, in Jones-Ollivier-Osaki, communicated downstream use in consumer-side playback/output. DOLBY-1005, 6:23-7:6; DOLBY-1003, ¶168. Ollivier further explains that the LUTs may be provided to end users and distribution endpoints together with the video content, including by being written onto a transferable medium “along with the raw video data signals,” or transmitted “in conjunction with” the raw video data signals for receipt and use prior to display. DOLBY-1005, 7:13-27. A POSITA would have understood that providing a display-specific LUT in this manner (e.g., accompanying the mastered content as part of the same delivered media/transmission) is an example of providing the display-specific LUT at least *in-band* with respect to a master. DOLBY-1003, ¶168.

Further, Jones-Ollivier-Osaki also renders obvious that the display-specific LUT may be provided *out-of-band*. In Osaki, LUT mapping information is stored (e.g., in memory) and/or transmitted (e.g., via a recording medium or communication means) for later application by a downstream conversion system. DOLBY-1006, [0065], [0074], [0157]. A POSITA would have understood and/or

found obvious that the display-specific LUT may likewise be provided as separate mapping data for later application by the consumer-side playback/output path that drives the CRT display, i.e., *out-of-band* with respect to the Jones-like master. DOLBY-1003, ¶169.

[3]

Jones-Ollivier-Osaki would have performed a projector-to-CRT color gamut mapping using the display-specific LUT (*metadata*) to verify the result of the color correction when the display content (derived from a Jones-like master) is rendered on a CRT display (*reference type display*). DOLBY-1003, ¶170.

As discussed above for claim 1, in Jones, the objective of the creation-side color correction workflow is to preserve an intended “look” despite differences in reproduction environments, including where a display device’s characteristics (e.g., gamut) may constrain reproduction. *See* DOLBY-1004, 1:16-28, 2:43-50, 2:58-3:5, 6:35-56. A POSITA would have understood that Jones provides a framework in which display/device-dependent transforms are relevant to confirming that the intended look will be preserved when content is rendered on a target display device having different reproduction constraints. DOLBY-1003, ¶171.

In Ollivier, display devices are similarly used to allow an “operator to correct/adjust [an] original video image.” DOLBY-1005, 5:14-25. Ollivier further

describes implementations where display device 14 is a display type that is “commonly used in the post-production business,” such as a “quality check tool to validate display related LUTs.” DOLBY-1005, 5:1-13. Thus, a POSITA would have understood and/or found obvious that, in some implementations of Jones-Ollivier-Osaki, a colorist may use a display used for color correction (e.g., Ollivier’s device 14) that performs a quality check (*verify*) how content transformed using a display-specific LUT will appear on that display (e.g., as a CRT display) (*display content is rendered on the reference type display*). DOLBY-1003, ¶172.

[5]

Jones-Ollivier-Osaki would have utilized a CRT display (*reference type display*), which is an example of a *cathode ray tube display*. The combined system would have also utilized a projector-class display device (*non-reference type display*), such as display device 30 and/or digital projector 54, which a POSITA would have understood and/or found obvious may be implemented as a *digital light processing display*. DOLBY-1006, [0091]-[0093], [0122], [0123]; DOLBY-1004, 6:35-56, 10:26-44; DOLBY-1003, ¶173.

As discussed for claim 1, Ollivier describes output of a device-specific LUT 21 to an output display device (e.g., CRT display), which involves a projector-to-CRT gamut conversion. DOLBY-1005, 6:23-7:6. Thus, in Jones-Ollivier, an

output display device is at least a CRT display (*cathode ray tube display*).

DOLBY-1003, ¶174.

Jones also describes display device 30 as “preferably a wider-gamut device such as a digital projector” (DOLBY-1004, 6:35-56) and further describes creation of a “digital cinema distribution master 46 for playback/projection using the digital projector 54” (*id.*, 10:26-44). Further, “use of a digital projector provides a wider gamut than a conventional CRT display device.” *Id.*, 6:35-56. Around the Critical Date, digital projectors were well-known to be implemented using established projection/display technologies, including digital light processing (DLP).

DOLBY-1003, ¶¶174-76. A POSITA would have understood that at least some implementations of Jones’s disclosed wide-gamut digital projector (including projector 54) could be realized using DLP display technology. *Id.*; see DOLBY-1007, [0035] (“...the digital cinema projector is a DLP projector...”). Thus, it would have been obvious that certain implementations of the Jones-Ollivier system would have involved a Jones-like master being output to a digital projector functioning as a *digital light processing display*. DOLBY-1004, 6:35-56, 10:26-44.

(b) Claims 12-14, 20-22, 24

Other than specific aspects addressed below, Jones-Ollivier-Osaki renders the limitations and claims listed below obvious in the same manner as explained

above for corresponding claim limitations listed in the table below. DOLBY-1003,

¶177.

Limitation	Corresponding Limitation
[1.pre]	[12.pre], [20.pre]
[1.1]	[12.1], [20.1]
[1.1.1]	[12.1], [20.1.1]
[1.1.2]	[12.2], [20.1.2]
[1.1.3]	[12.3], [20.1.3]
[2]	[13], [21]
[3]	[22]
[4]	[23]
[5]	[14], [24]

[12.pre]

To the extent the preamble is limiting, Jones-Ollivier-Osaki satisfies the requirements of [12.pre]. As discussed for [1.pre], Jones-Ollivier-Osaki would have provided a digital mastering system (e.g., system 10) configured to perform Jones' color correction process in a system implementation (*system for color correcting*), including a digital color grading channel 12 and a digital rendering channel 14. DOLBY-1004, 4:34-38; *see* DOLBY-1001, 8:10-14; DOLBY-1003,

¶178.

[12.1]

As discussed for [1.1], Jones-Ollivier-Osaki would have implemented a Jones-like color grading channel and digital rendering channel (collectively *color correction module*), which perform color correction on motion picture film content (*source picture content*) using a wide-gamut device (e.g., display device 30) (*non-reference type display*) to provide a master (e.g., master 46) (*mastered color corrected picture content*) for display on a projector-class non-reference display (e.g., digital projector 54). DOLBY-1004, 4:39-48, 6:17-35, 6:35-56, 10:27-44; DOLBY-1001, 1:15-25, 2:29-37, 2:38-49, 8:10-14; DOLBY-1003, ¶¶179-80.

[12.2]

As discussed for [1.1.2], Jones-Ollivier-Osaki would have implemented a *color gamut mapping module* by generating a display-specific LUT (*metadata*) using Ollivier's LUT framework and applying that LUT downstream to a Jones-like master (*mastered color corrected picture content*) to conform the mastered content for display on a CRT display (*reference type display*). A POSITA would have found it obvious that the display-specific LUT would include a projector-to-CRT color gamut mapping (*color gamut mapping*) to the extent needed to render projector-class colors within the CRT's reproducible gamut. DOLBY-1003, ¶181. This is obvious from Jones's teaching that device-specific processing can include re-mapping out-of-gamut values into the target device gamut, and Osaki's

disclosure that a LUT may serve as a device-gamut mapping for converting projector-oriented content for reproduction on a CRT display (e.g., Rec.709 color gamut). DOLBY-1004, 6:35-56; DOLBY-1005, 4:22-33, 6:23-7:6; DOLBY-1006, [0062], [0067], FIG. 2B.

[20.pre], [20.1], [20.1.1], [20.1.2], [20.1.3]

Claim 20 is presumed to invoke 35 U.S.C. §112, ¶6 based on the recitation of “means for” phrase in various limitations. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). Dolby addresses each below, providing means-plus-function (MPF) interpretations where appropriate.⁴ DOLBY-1003, ¶182.

Term	Function	Structure
<i>means for performing color correction</i> (Claims 20, 25)	Performing color correction on source picture content, using at least one of a non-reference type display and a	<u>Structure</u> : Color Correction Module (430, 530, 630). <i>See</i> DOLBY-1001, FIGS. 4-6.

⁴ While Dolby has provided MPF interpretations for certain terms recited in claims 20 and 25 based on the '268 patent specification, Dolby expressly reserves the right to argue that the specification fails to disclose sufficient corresponding structure for one or more of these terms under § 112, ¶6.

	reference type display	<u>Algorithm</u> : Manual adjustment via a user interface (GUI) comprising selection means (keyboard, mouse, buttons) allowing a colorist to manually tune colors. <i>See</i> DOLBY-1001, 8:11-24; 13:58–63.
<i>means for mastering the source picture content</i> (Claims 20, 25)	Mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays	<u>Structure</u> : Color Correction Module (530, 630) coupled to a Picture Content Store (540, 640). <i>See</i> DOLBY-1001, FIG. 5. <u>Algorithm</u> : Logic for storing the manually corrected content as a master file for the wide-gamut (non-reference) display. <i>See</i> DOLBY-1001, 9:1-7;

		FIGS. 5, 6.
<i>means for generating metadata</i>	Generating metadata for a color gamut mapping that color transforms the mastered color corrected picture content for display on reference type displays	<u>Structure</u> : Color Gamut Mapping (CGM) Module (586) coupled to a Metadata Store (517). <i>See</i> DOLBY-1001, FIG. 5. <u>Algorithm</u> : Calculating a transformation (e.g., difference) between the non-reference and reference gamuts using a look up table (e.g., 3D-LUT or gain-offset-gamma (GOG) function. <i>See</i> DOLBY-1001, 7:51-65, 9:8-19

means for performing color correction

As discussed for [1.1], Jones discloses a color grading channel 12 (DOLBY-1004, 4:34-38) where a colorist utilizes a look processor 22 and display device

30 (*id.*, 6:35-56). This combination of hardware and software allows a colorist to manually apply creative adjustments (“looks”) to the digital signals. Jones also describes the “subjective creative control of a colorist” using these tools. *Id.*, 2:58-63. Thus, Jones discloses the corresponding structure that performs the claimed function. DOLBY-1003, ¶183.

means for mastering the source picture content

As discussed in [1.1.1], Jones describes using a digital projector 30, which provides a “wider gamut” (***non-reference***) than conventional CRT displays. DOLBY-1004, 6:35-56. The colorist grades content on this wide-gamut display. The resulting data is recorded as master 46 in the “digital rendering channel 14.” *Id.*, 7:3-18. The master is a “digital cinema distribution master” for projection on the wide-gamut projector 54. *Id.*, 10:26-44. Thus, Jones discloses the structure (rendering channel) performing the function of mastering for the non-reference display. DOLBY-1003, ¶184.

means for generating metadata

As detailed in [1.1.2], Jones-Ollivier-Osaki would have leveraged Ollivier’s teachings to supply the structure for generating metadata. In Ollivier, a translation module 22 (corresponding structure, CGM module) translates correction information 15 into a display-specific LUT 21 (corresponding structure, metadata). DOLBY-1005, 6:3-22. LUT 21 is stored separately (metadata store) and is

specifically generated for different display types, including “CRT displays” (reference type display). *Id.*, 6:23-7:6. Osaki further describes that such LUTs serve as a device gamut mapping (DOLBY-1006, [0091]-[0093]) generated by a LUT generator (*id.*, [0122]) to convert first gamut values (projector) to second gamut values (CRT). DOLBY-1003, ¶185.

[22]

Claim 22 is presumed to invoke 35 U.S.C. §112, ¶6 based on the recitation of the MPF term identified below.

Term	Function	Structure
<i>means for performing the color gamut mapping</i>	Performing the color gamut mapping using the metadata to verify a result of the color correction	<u>Structure</u> : CGM Module (596, 786). <i>See</i> DOLBY-1001, FIGS. 5, 7. <u>Algorithm</u> : Applying LUT or GOG parameters to the mastered content to simulate the reference display appearance. <i>See</i> DOLBY-1001, 9:12-19.

In Jones, a color grading preview channel 12 designed to allow a colorist to “pre-visualize” the look (DOLBY-1004, 4:34-38). Look processor 22 applies “display specific transforms” (CGM) via LUT 110 to map the content to the display currently being used. *Id.*, 6:35-56. This structure allows the user to verify (pre-visualize) how the content appears on different target displays, matching the claimed function and structure. DOLBY-1003, ¶¶185-86.

B. [GROUND 2] – Claims 4 And 23 Are Obvious Over Jones-Ollivier-Osaki-Morovič

1. Jones-Ollivier-Osaki-Morovič

(a) Morovič

Morovič is focused on the International Color Consortium (ICC) framework. DOLBY-1010, 167-169. Its disclosure addresses the challenge of verifying how color content will appear across different reproduction media, identifying “proofing” as a critical stage in the workflow. *Id.*, 186. “Soft proofing” refers to using a computer display “to simulate or preview a piece of printed output,” and, more broadly, “proofing” refers to “the production of a sample of output of any kind to simulate a sample of output of any other kind.” *Id.* This encompasses simulating a target display (e.g., a television) on a grading display (e.g., display used for color correction). DOLBY-1003, ¶86.

To achieve accurate proofing, Morovič’s system accounts for differences between the source gamut (e.g., the grading environment) and the destination

gamut (e.g., the target device). DOLBY-1010, 160, 183. When a destination gamut is smaller than the source, Morovič explains that a “colour gamut mapping” is applied to ensure source colors are mapped inside the destination gamut (e.g., via clipping or compression). *Id.*, 167, 183. Morovič also details that in proofing contexts, specific rendering intents (such as relative colorimetric or perceptual) are used to map the target’s colorimetry to the proofing device, thereby simulating the target’s appearance constraints on the preview display. *Id.*, 189-190; DOLBY-1003, ¶87.

(b) Combination

A POSITA seeking to implement the pre-visualization workflow within Jones’ disclosed color grading channel 12 would have recognized that professional color grading environments often require verification of content intended for distribution targets (e.g., television displays) on the available grading display. DOLBY-1003, ¶¶113-15 (citing DOLBY-1013, DOLBY-1014, and DOLBY-1015 as examples of well-known color grading systems described in Jones’ Background section); DOLBY-1004, 4:34-38, 6:17-35. A POSITA would have therefore sought well-known verification techniques to implement within Jones’ display device 30. DOLBY-1003, ¶116. This advances Jones’ objective of allowing a colorist to have an “optimal view” of the results and to address “a myriad of different ‘looks’ and creative effects.” DOLBY-1004, 3:45-55, 6:17-34, 11:26-33.

Morovič reflects one well-known example to achieve color grading verification through “soft proofing,” a process where a computer display is used “to simulate or preview” content output. DOLBY-1010, 186. Morovič also broadly describes “proofing” as “the production of a sample of output of any kind to simulate a sample of output of any other kind.” *Id.*; DOLBY-1003, ¶116. A POSITA would have recognized that Morovič’s soft proofing architecture (target simulation plus gamut mapping) provides a compatible enhancement to Jones’ pre-visualization framework, which already structurally separates the “look” transform (LUT 106) from the gamut-remapping display transform (LUT 110). DOLBY-1003, ¶117. A POSITA would have thereby been motivated to configure Jones’ color grading channel 12 to incorporate soft proofing capabilities for non-film targets (e.g., a television standard) and would have implemented this by applying a color gamut mapping (e.g., Ollivier’s display-specific CRT LUT 21) in generating the proof. *Id.*

As combined, Jones-Ollivier-Osaki-Morovič would have allowed a colorist to use the wide-gamut grading projector (display device 30) to visualize/proof how the content would appear on a standard target display. The proof would have been generated by applying the display-specific LUT, consistent with Morovič’s suggestion to use similar LUT-related information. *Id.*, 167-69. This is accomplished in a similar manner as described in Jones and Ollivier, where

parameters are loaded to apply specific transforms. DOLBY-1004, 6:63-66; DOLBY-1005, 6:23-7:6; DOLBY-1010, 183. This enables a predictable, implementation-consistent way to utilize Jones' existing hardware to verify appearance across different devices, a core requirement of color management described by Morovič. DOLBY-1010, 159; DOLBY-1003, ¶117. The combination is also obvious from Jones, which attributes parameters as being "reconfigurable" so that its system supports "any number of experimental 'looks'." DOLBY-1004, 4:18-25, 5:45-55; DOLBY-1003, ¶118.

A POSITA would have reasonably expected to succeed in combining the teachings of Jones and Morovič. The combination involves merely combining prior art elements according to known methods to yield predictable results. *KSR*, 550 U.S., at 415-21; MPEP 2143. Jones already contemplates a pre-visualization workflow using programmable LUTs to emulate various end products and explicitly teaches re-mapping out-of-gamut values for the display device. DOLBY-1004, 4:12-25, 6:35-56. Morovič supplies the industry-standard definition and requirements for "soft proofing" (simulating one device on another via gamut mapping) to ensure appearance matching. DOLBY-1010, 183-186; DOLBY-1003, ¶¶119-21.

2. Analysis

(a) Claims 4, 23

[4]

A POSITA would have found it obvious to implement Jones-Ollivier-Osaki-Morovič such that a display-specific LUT (*metadata* representing *color gamut mapping*) is applied color grading (*during the color correction*) and further applied for rendering content for display on a CRT display (*during...subsequent consumer consumption*). DOLBY-1003, ¶188.

As discussed above for claim 1, Jones teaches a creation-side workflow in which a colorist performs creative color correction through pre-visualization and establishes a desired “look,” which is then rendered into mastered data. DOLBY-1004, 4:34-48, 10:26-44. Jones also suggests applying “display specific transform” during color grading (*during the color correction*) as “an algorithm for re-mapping any output values that are out of the gamut of the display device such that such values would be within the display device gamut.” DOLBY-1004, 6:35-56; DOLBY-1003, ¶189.

A POSITA would have also found it obvious to implement the Jones-Ollivier-Osaki-Morovič system using a soft-proofing configuration such that content corresponding to a Jones-like master is rendered as a simulation of a CRT display (*reference type display*) as a colorist is manually performing color corrections within Jones’ color grading channel 12, and in doing so, applying a display-specific LUT (*color gamut mapping*). DOLBY-1003, ¶190. Morovič

describes “soft proofing” where a display is used “to simulate or preview a piece of printed output” or output of “any kind.” DOLBY-1010, 186; *see* DOLBY-1004, 1:65-2:24; 6:35-56. This configuration would have thereby advanced Jones’ contemplated use of color grading channel 12 to help “pre-visualize[] a certain ‘look’ that can be applied to the digital image signals....” DOLBY-1004, Abst.

Further, similar to the discussion of [1.1.2] (Ground 1), Jones-Ollivier-Osaki-Morovič would have similarly provided a device-specific LUT (*metadata for a color gamut mapping*) that is generated on the content-creation side using Ollivier’s LUT framework and is further applied for rendering content for display on a CRT display device (*during...subsequent consumer consumption*). In Ollivier, the display-specific LUTs is created and stored for communication to consumer-side playback/output endpoints. DOLBY-1005, 6:23-7:6, 7:13-27. Thus, once the Jones-like master is generated, the display-specific LUT is applied downstream by the consumer-side playback/output path to transform the color values of the mastered content for CRT display. DOLBY-1005, 10:29-11:12; DOLBY-1003, ¶¶191-92.

[23]

See [4].

C. [GROUND 3] – Claims 6, 7, 10, 11, 15, 16, 18, 19, 25, 26, 29, And 30 Are Obvious Over Jones-Yeung

1. Jones-Yeung

(a) Yeung

Yeung describes a color processing approach directed to reproducing motion picture content across multiple distribution environments that can differ in viewing conditions and device characteristics. DOLBY-1007, Abst. Yeung identifies multiple target environments, including “digital cinema, conventional cinema, network television and packaged media in various formats, including...DVD and VHS.” *Id.*, [0027]. Processing techniques include a “color gamut mapping,” which enables transformation of “a color gamut of one color space to the color gamut of another color space.” *Id.*, [0018]. This is accomplished using a gamut mapper (e.g., gamut mapper 222), which “maps the color gamut of an image input color space to the color gamut of a display image output color space.” *Id.*, [0031]. This enables downstream stages to account for display-specific characteristics. DOLBY-1003, ¶80.

The Yeung system is also directed to creation-side generation of masters for distribution. *Id.* This is visualized in Figure 1 (below):

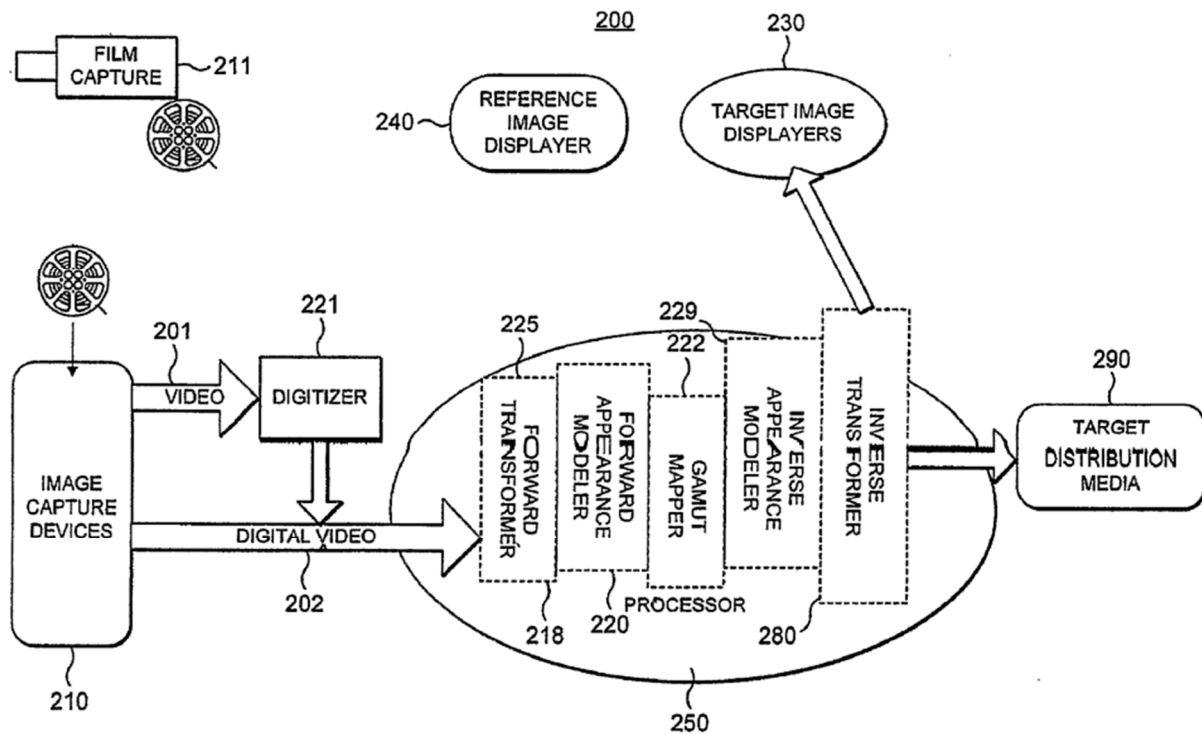


FIG. 1

DOLBY-1007, FIG. 1

Functionality associated with creation-side processes is accomplished using processor 250. This element “provides a color processed image master 290 to support media distribution.” DOLBY-1007, [0037]. Further, “the processed master image 290 is copied and the copy is distributed and displayed on display devices having device characteristics similar to a selected target image displayer 230.” *Id.* Examples of such target image display devices include “D-cinema projectors, high definition CRT monitors, computer monitors, LCD and LCOS displays...” *Id.*, [0039]; DOLBY-1003, ¶81.

Figure 5 shows examples of creation-side processes that may be

implemented by the processor 250 to “provide video image versions suitable for display by various display devices.” DOLBY-1007, [0027]; *see id.*, [0066]-[0068].

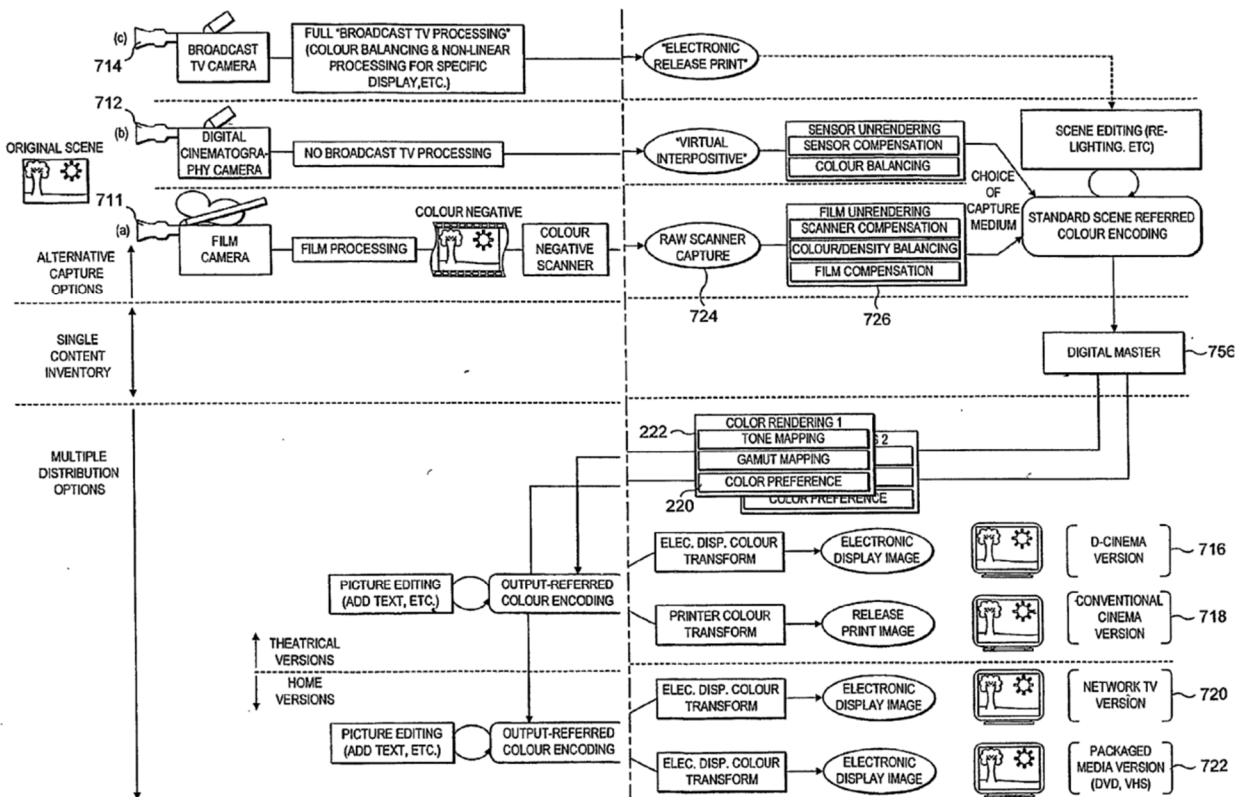


FIG. 5

FIG. 5 CONT'D

DOLBY-1007, FIG. 5 (left), FIG. 5 (CONT'D) (right)

The processing workflow shown above “allow[s] for consistent automation of color recovery during creation of distribution masters from [a] supermaster for a plurality of types.” DOLBY-1007, [0066]. Specifically, a digital master 756 is processed using gamut mapper 222 to create “distribution masters” for “various types of distribution paths 716, 718, 720...” *Id.* Yeung explains elsewhere that this “reduces the amount of expensive colorist’s work for each new version.” *Id.*,

[0057]. A POSITA would have understood that creation of these “distribution masters” involves color transformations by gamut mapper 222, including using “TONE MAPPING,” “GAMUT MAPPING” and “COLOR PREFERENCE.” DOLBY-1003, ¶¶82-84 (citing DOLBY-1008 and DOLBY-1009).

(b) Combination

As discussed in §III.A.1(a), Jones’ architecture also contemplates flexibility in when device-specific transforms are applied, including implementations where projector-specific transforms are applied downstream at a cinema location and variations where such transforms may be implemented earlier during rendering if projector requirements are known. DOLBY-1004, 4:34-38, 6:17-56, 10:26-44; DOLBY-1003, ¶122. A POSITA seeking to implement Jones’ digital mastering processes would have recognized that Jones’ broader objective (preserving an intended “look” while accommodating different device constraints) naturally motivates generation of additional deliverables tailored to different distribution environments (beyond the digital projection environment). DOLBY-1003, ¶123.

This extension is natural in distribution environments entail different viewing conditions and device characteristics. DOLBY-1003, ¶123. As discussed in §III.B.1(a), Yeung identifies examples of such distribution environments (digital cinema, conventional cinema, network television, packaged media) and directly addresses this problem space through a color management pipeline that includes

gamut mapping to adapt content for a selected output device/environment.

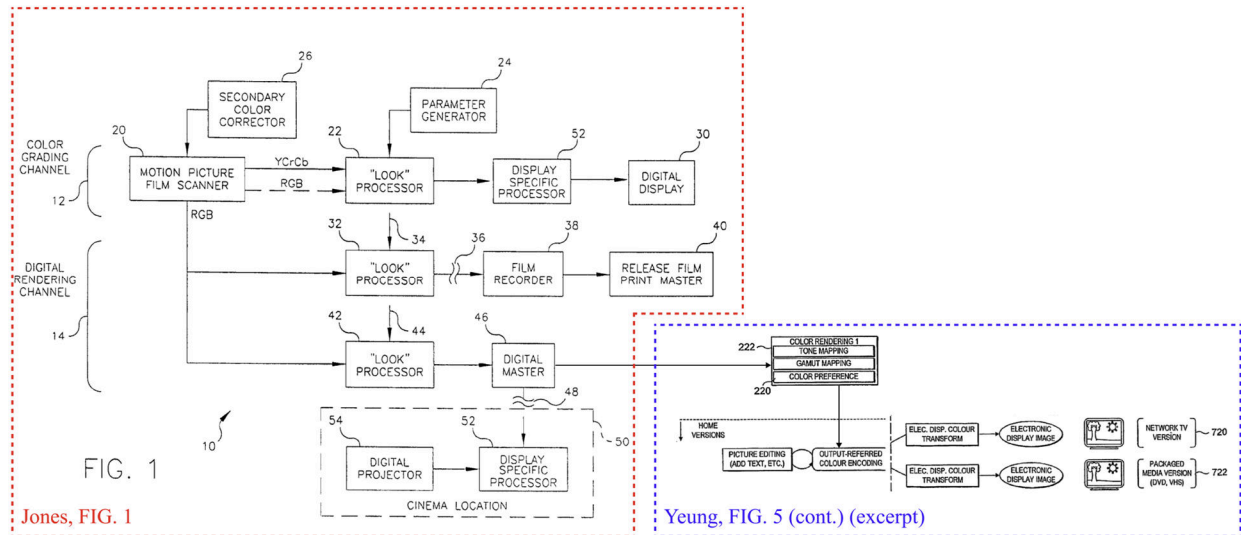
DOLBY-1007, [0027]. This approach “reduces the amount of expensive colorist’s work for each new version” (*id.*, [0057]), while also enabling output across “various types of distribution paths 716, 718, 720, and 722” (*id.*, [0066]).

A POSITA would have recognized that Yeung’s architecture (which leverages gamut mapping for environment-specific outputs) provides a compatible extension to Jones’ mastering framework, which already contemplates LUT-driven “look” rendering into a digital master and expressly addresses out-of-gamut remapping via display specific transforms for different display devices. DOLBY-1003, ¶124. This would have motivated the POSITA to incorporate Yeung’s techniques relating to the creation of environment-specific distribution masters into Jones’ system. *Id.*

As combined, Jones-Yeung would have generated environment-specific masters (e.g., for network TV, packaged media) derived from a Jones-like master. This may be accomplished in a similar manner as described in Yeung, where a supermaster 756 is processed using a gamut mapper to perform color transformations relating to a particular environment (and/or output display device characteristics). DOLBY-1007, [0031], [0066], FIG. 5. DOLBY-1003, ¶125. As shown in Yeung’s Figure 5, the derivation path includes a “gamut mapping” operation to map between the input and output gamuts of different color

spaces/devices. DOLBY-1007, [0031], FIG. 5. This is also obvious from Jones' disclosed flexibility as to where device-dependent transforms occur (e.g., downstream at cinema locations, or earlier during rendering when requirements are known) and thereby represents a predictable implementation of its teachings. DOLBY-1004, 7:19-30; DOLBY-1003, ¶125.

An example of the Jones-Yeung system is visualized below based on Jones' Figure 1 and excerpts of Yeung's Figures 5:



Jones-Yeung

In the example shown above, Jones-Yeung generates a Jones-like master (e.g., master 46) in the digital rendering channel based on the “look” established in the color grading channel. The Master is distributed for downstream output (e.g., for projection using projector 54 at cinema location 50). DOLBY-1004, 10:26-44; *id.*, 7:19-30. By incorporating Yeung's teachings, the master may also be provided as

(or used as the basis for) a Yeung-like digital supermaster (e.g., supermaster 756) that is processed on the content-creation side to generate environment-specific distribution masters along Yeung's distribution paths (e.g., 716, 718, 720, 722). DOLBY-1003, ¶126; *see* DOLBY-1007, [0041], [0066], FIG. 5.

Finally, a POSITA would have reasonably expected to succeed in combining the teachings of Jones and Yeung. The combination involves combining prior art elements according to known methods to yield predictable results. *KSR*, 550 U.S., at 415-21; MPEP 2143. Jones already contemplates a mastering workflow in which a “look” is rendered into a mastered output (master 46) that is distributed and also recorded to a storage medium, and further contemplates flexibility as to where device-dependent transforms are applied. DOLBY-1004, 7:3-18, 7:19-30. Yeung supplies implementation details for extending a mastered deliverable into multiple environment-specific distribution masters. DOLBY-1007, [0031], [0041], [0066], FIG. 5; DOLBY-1003, ¶¶127-29.

2. Analysis

(a) Claims 6, 7, 10, 11

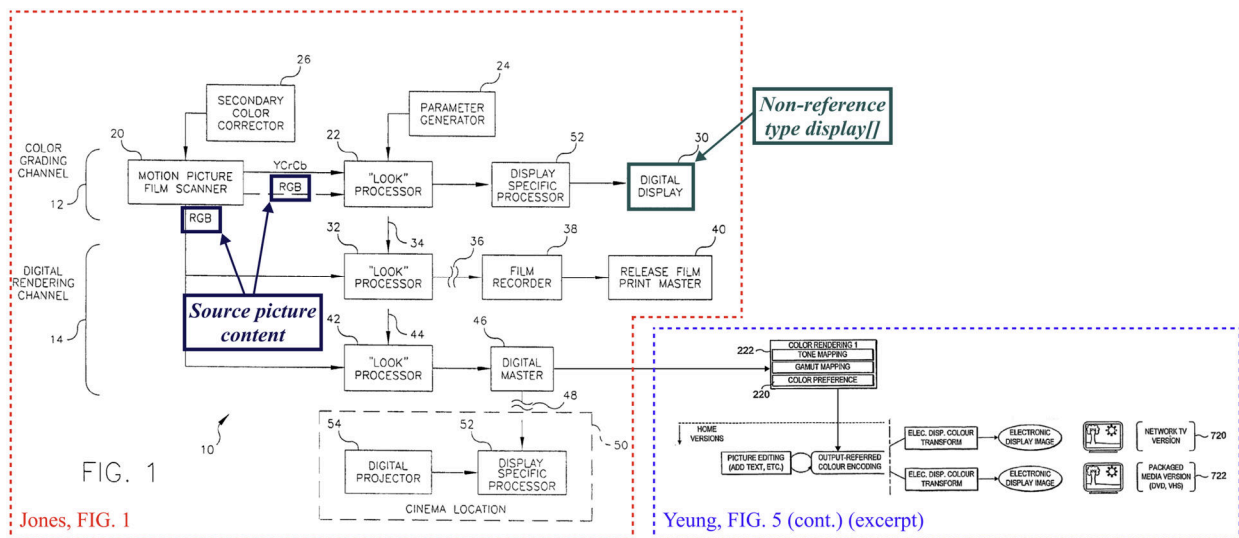
[6.pre]

To the extent the preamble is limiting, Jones-Yeung satisfies the requirements of [6.pre]. As discussed in §III.B.1(b), Jones-Yeung would have provided a digital mastering system configured to perform Jones' color correction

process (*method for color correcting*). DOLBY-1004, 4:34-38; *see* DOLBY-1001, 8:10-14; DOLBY-1003, ¶193.

[6.1]

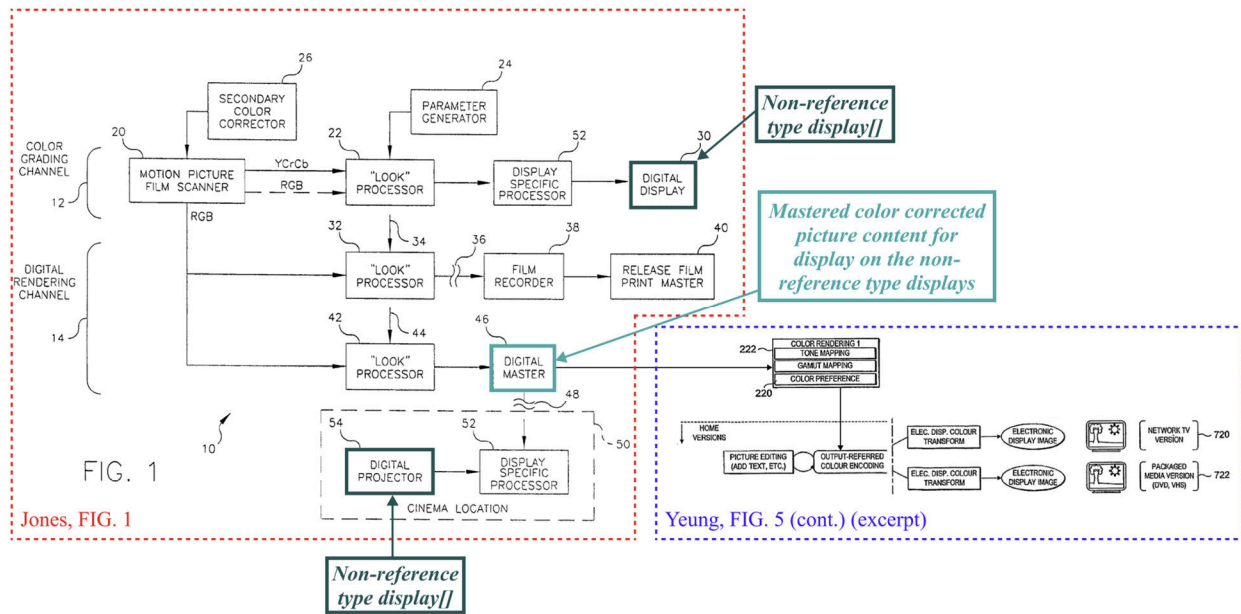
Jones-Yeung would have performed Jones' color grading process (*color correction*) on motion picture film content (*source picture content*) using a display device 30 (*non-reference type display*). DOLBY-1003, ¶194; *see* Ground 1 (addressing [1.1]); *see* DOLBY-1004, 4:39-48, 6:17-56, 10:27-44; DOLBY-1001, 1:15-25, 2:29-49, 8:10-14. Moreover, as discussed in more detail in [6.1.1], *infra*, Jones suggests (or renders obvious) that, in some instances, projector 54 is a display device with a wide gamut, which is different from a standard gamut and thereby represents an example of a *non-reference type display*.



Jones-Yeung

[6.1.1]

Jones-Yeung would have mastered motion picture film content (*source picture content*) to provide a master (*mastered color corrected picture content*) for playback/projection on a projector, which Jones suggests and/or renders obvious is a wider-gamut device (example of *non-reference type display* since its gamut is different from a standard gamut). See Ground 1 (addressing [1.1.1]); see DOLBY-1004, 4:34-38, 6:17-57, 7:3-18, 10:26-44; see DOLBY-1001, 8:10-14; DOLBY-1003, ¶195.



Jones-Yeung

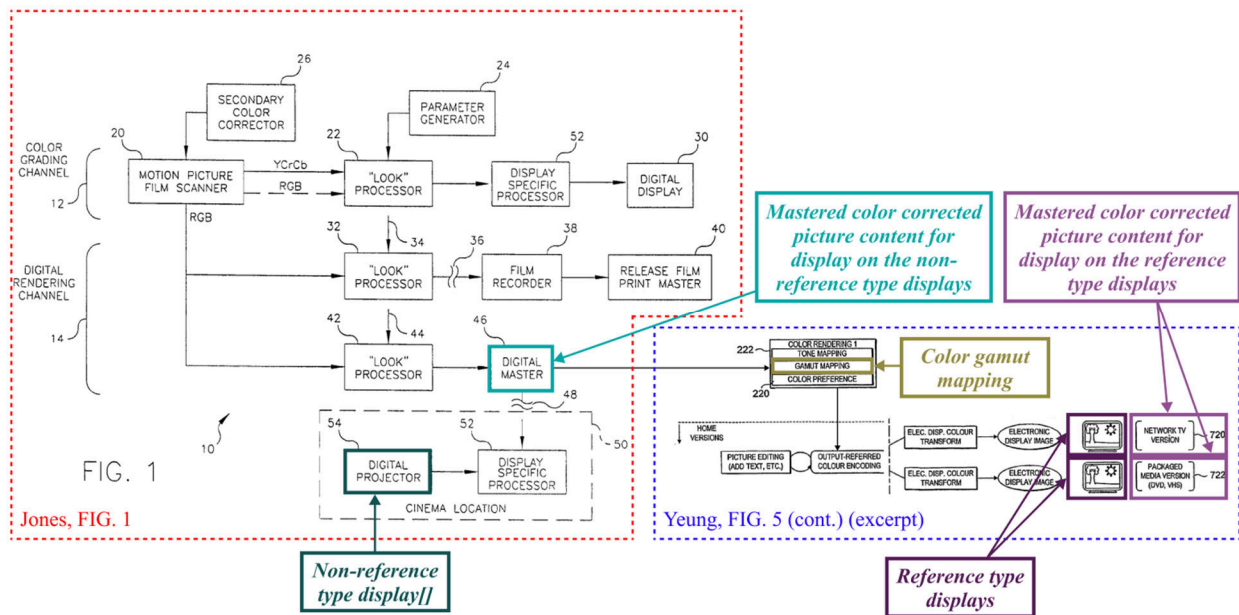
[6.1.2]

As discussed in [6.1.1], Jones-Yeung would have produced a Jones-like master ([non-reference] *mastered color corrected picture content*). DOLBY-1004, 7:3-18, 10:26-44. The master would have been further processed for

multiple distribution environments, such as a distribution master (e.g., for network TV, packaged media) ([reference] *mastered color corrected picture content*) for display on a display associated with a packaged media version (e.g., CRT device) (*reference type display*). DOLBY-1007, [0027]; DOLBY-1003, ¶196.

More specifically, Yeung describes “creation of distribution masters from [a] supermaster for a plurality of types,” such as “SD-HD movies, SD/DVD, HD/DVD and TV Broadcast.” DOLBY-1007, [0066]. This is shown in Yeung’s Figure 5, where “digital super master [756] [*sic*]⁵” is further mastered to generate “distribution masters” for “various types of distribution paths 716, 718, 720 and 722...” *Id.* As shown below, in Jones-Yeung, distribution masters (e.g., master 720 for network TV 720 and master 722 for packaged media) ([reference] *mastered color corrected picture content*) would have been generated using a gamut mapping of gamut mapper 222 applied to the Jones-like master. DOLBY-1003, ¶197.

⁵ Paragraph [0066] of Yeung incorrectly identifies digital master 756 from Figure 5 as “digital supermaster 750.”



Jones-Yeung

Yeung also confirms that the distribution masters 720 and 722 would have been understood to be created prior to distribution/display (i.e., on the content creation side). DOLBY-1003, ¶198. Yeung explains that processor 250 provides a “color processed image master 290 to support media distribution” and that the “processed master image 290 is copied and the copy is distributed and displayed,” confirming existence of mastered distribution content prior to receipt by a device associated with packaged media content. DOLBY-1007, [0037]. Yeung also identifies target display environments for such mastered outputs, including “high definition CRT monitors” (e.g., standard definition/HD television displays). *Id.*, [0033], [0039].

Like Yeung’s reference to packaged media versions (e.g., “SD/DVD,

HD/DVD”), the ’268 patent specification identifies “digital video disks (DVDs), television broadcasts, and/or via video over Internet Protocol (VoIP)” as being “encoded in a color space with a reference color gamut...” DOLBY-1001, 2:29-37. Therefore, a POSITA would have recognized a distribution master for the “DVD” packaged media version is an example of [reference] *mastered color corrected picture content*. DOLBY-1003, ¶199.

Moreover, in Jones-Yeung, Yeung’s distribution master (e.g., masters 720, 722) would have been generated by *applying a color gamut mapping* to the Jones-like master. Yeung identifies a “color gamut mapping” as “techniques that act on a color space to transform a color gamut of one color space to the color gamut of another color space.” DOLBY-1007, [0018]. Further, a “gamut mapper” maps “the color gamut of an image input color space to the color gamut of a display image output color space,” indicating that gamut mapping is used to adapt content to the gamut of a selected output display environment. *Id.*, [0031]; DOLBY-1003, ¶200.

Yeung also describes a “gamut mapping step” as part of producing output for a selected output device/environment, including “reduc[ing] colors according to output device (e.g. film to TV).” DOLBY-1007, [0041]. Yeung’s Figure 5 (cont’d) also depicts various distribution paths (network TV, packaged media (DVD, VHS)) that involve applying a “GAMUT MAPPING.” DOLBY-1007, FIG.

5 (cont'd). Jones-Yeung would have similarly leveraged a gamut mapping in generating a distribution master for a packaged media format using a master. *See* DOLBY-1007, [0018], [0041], [0066]. As discussed above, application of a gamut mapping in generating a distribution master from the Jones-like master using Yeung's processing technique is obvious from the '268 patent specification's characterization of "DVDs" and "television broadcasts" being "encoded in a color space with a reference color gamut." DOLBY-1001, 2:29-37. A POSITA would have understood and/or found obvious that Jones' mastering technique is expressly tied to projector-class output environments (e.g., "wider-gamut device such as a digital projector"). DOLBY-1004, 6:35-56; DOLBY-1003, ¶201.

[7]

As discussed for [6.1.2], Jones-Yeung would have generated a distribution master (e.g., masters 720, 722) (*mastered color corrected picture content*) by further processing a Jones-like master using Yeung's workflow for generating distribution masters. DOLBY-1007, [0027], [0066], FIG. 5 (cont'd). Jones-Yeung would have further configured the distribution master to be *used directly* by a consumer playback equipment (e.g., CRT display) (*consumer device*) in a home viewing environment. DOLBY-1007, [0027], [0057]; DOLBY-1003, ¶202.

Yeung describes multiple display environments ("network television and packaged media in various formats") for its distribution masters, including, "DVD

and VHS.” DOLBY-1007, [0027]. Yeung’s Figure 5 likewise depicts a “PACKAGED MEDIA VERSION 722 (DVD, VHS),” indicating that Yeung’s workflow produces a packaged media output intended for the packaged media distribution environment. *Id.*, FIG. 5. In Jones-Yeung, the packaged media output is derived from the Jones-like master and *for display* on a CRT display in home environment (*reference type display*). DOLBY-1004, 7:3-18, 10:26-44; DOLBY-1007, [0066], FIG. 5; DOLBY-1003, ¶203.

Yeung further confirms that its distribution masters (e.g., packaged media version 722) are displayed on a consumer playback equipment (e.g., CRT display) in a home viewing environment (*used directly by a consumer device*). DOLBY-1007, [0057] (noting that a “customer may want to turn the lights down in the living room” when watching the DVD version). Thus, a POSITA would have understood that, in Jones-Yeung, the distribution master is a consumer-facing deliverable used by consumer playback equipment in a home viewing environment. DOLBY-1003, ¶204. Yeung supports this through disclosure of a processor 250 that provides a “color processed image master 290 to support media distribution,” and that the “processed master image 290 is copied and the copy is distributed and displayed.” DOLBY-1007, [0037].

[10]

Jones-Yeung would have utilized a CRT display (*reference type display*),

which is an example of a *cathode ray tube display*. The combined system would have also utilized a projector-class display device (*non-reference type display*), such as display device 30 and/or digital projector 54, which a POSITA would have understood and/or found obvious may be implemented as a *digital light processing display*. DOLBY-1007, [0035], [0039]; DOLBY-1004, 6:35-56, 10:26-44; DOLBY-1003, ¶205.

As discussed for claim 1, Yeung describes output of a distribution master to an output display device (e.g., CRT display), which involves a color gamut conversion. DOLBY-1007, [0027] (“The resulting video images are suitable for display by CRT, LCD, or other display devices...”). Thus, in Jones-Yeung, an output display device is at least a CRT display (*cathode ray tube display*). DOLBY-1003, ¶206.

Jones also describes display device 30 as “preferably a wider-gamut device such as a digital projector” (DOLBY-1004, 6:35-56) and further describes creation of a “digital cinema distribution master 46 for playback/projection using the digital projector 54” (*id.*, 10:26-44). Further, “use of a digital projector provides a wider gamut than a conventional CRT display device.” *Id.*, 6:35-56. Around the Critical Date, digital projectors were well-known to be implemented using established projection/display technologies, including digital light processing (DLP), as confirmed by Yeung. DOLBY-1007, [0035] (“...the digital cinema projector is a

DLP projector...”); DOLBY-1003, ¶¶203-07. Thus, a POSITA would have found it obvious to implement Jones-Yeung such that Jones’s disclosed wide-gamut digital projector (e.g., projector 54) is a DLP projector (*digital light processing display*). DOLBY-1004, 6:35-56, 10:26-44.

[11]

As discussed in [6.1.2], Jones-Yeung would have produced a Jones-like master ([non-reference] *mastered color corrected picture content*) for playback/projection on a projector, which would have been understood or obvious to be a wide-gamut display (*non-reference type display*). DOLBY-1004, 7:3-18, 10:26-44; DOLBY-1001, 8:10-14; *See* DOLBY-1003, ¶208. Jones-Yeung would have further processed the master using Yeung’s technique to generate a distribution master (e.g., masters 720, 722) ([reference] *mastered color corrected picture content*). DOLBY-1007, [0027], [0066], FIG. 5 (cont’d). In Jones-Yeung, the distribution master would be derived from a Jones-like master, based on Yeung’s disclosure relating to “creation of distribution masters from [a] supermaster for a plurality of types...” (e.g., distribution masters for distribution paths 716, 718, 720 722 each being a *derivative of* supermaster 756). DOLBY-1007, [0066].

(b) Claims 15, 16, 18, 19, 25, 26, 29, 30

Other than specific aspects addressed below, Jones-Yeung renders the

limitations and claims listed below obvious in the same manner as explained above for corresponding claim limitations listed in the table below. DOLBY-1003, ¶209.

Limitation	Corresponding Limitation
[6.pre]	[15.pre], [25.pre]
[6.1]	[15.1], [25.1]
[6.1.1]	[15.2], [25.1.1]
[6.1.2]	[15.2], [25.1.2]
[7]	[16], [26]
[10]	[18], [29]
[11]	[19], [30]

[15.pre]

To the extent the preamble is limiting, Jones-Yeung satisfies the requirements of [15.pre]. As discussed for [6.pre], Jones-Yeung would have provided a digital mastering system (system 10) configured to perform Jones' color correction process in a system implementation (*system for color correcting*), including a digital color grading channel 12 and a digital rendering channel 14. DOLBY-1004, 4:34-38; *see* DOLBY-1001, 8:10-14; DOLBY-1003, ¶210.

[15.1]

As discussed for [6.1], Jones-Yeung would have implemented Jones's color grading channel and digital rendering channel (collectively *color correction*

module), which perform color correction on motion picture film content (*source picture content*) using a wide-gamut display (*non-reference type display*) to provide a master (*mastered color corrected picture content*) for display on a projector-class non-reference display (e.g., digital projector 54). DOLBY-1004, 4:39-48, 6:17-35, 6:35-56, 10:27-44; DOLBY-1001, 1:15-25, 2:29-37, 2:38-49, 8:10-14; DOLBY-1003, ¶211.

[15.2]

As discussed in [6.1.1], Jones-Yeung would have produced a Jones-like master (*mastered color corrected picture content*) for playback/projection on a projector, which would have been understood or obvious to be a wide-gamut display (*non-reference type display*). DOLBY-1004, 7:3-18, 10:26-44; DOLBY-1001, 8:10-14. Jones-Yeung would have included a *color gamut mapping module* implemented by Yeung's gamut mapper (e.g., 222) to perform a color gamut mapping with respect to the master to provide a distribution master for packaged media (e.g., DVD) (*mastered color corrected picture content*) for display on a display associated with a packaged media version (e.g., CRT device) (*reference type display*). DOLBY-1003, ¶212.

[25.pre], [25.1], [25.1.1], [25.1.2]

Claim 25 is presumed to invoke 35 U.S.C. § 112, ¶6 based on the recitation of "means for" phrase in various limitations.

Term	Function	Structure
<i>means for performing color correction</i> (Claims 20, 25)	Performing color correction on source picture content, using at least one of a non-reference type display and a reference type display	<u>Structure</u> : Color Correction Module (430, 530, 630). <i>See</i> DOLBY-1001, FIGS. 4-6. <u>Algorithm</u> : Manual adjustment via a user interface (GUI) comprising selection means (keyboard, mouse, buttons) allowing a colorist to manually tune colors. <i>See</i> DOLBY-1001, 8:11-24; 13:58-63.
<i>means for mastering the source picture content</i> (Claims 20, 25)	Mastering the source picture content to provide mastered color corrected picture content for display on the non-reference type displays	<u>Structure</u> : Color Correction Module (530, 630) coupled to a Picture Content Store (540, 640). <i>See</i> DOLBY-1001, FIGS. 4-6.

		<u>Algorithm</u>: Logic for storing the manually corrected content as a master file for the wide-gamut (non-reference) display. See DOLBY-1001, 9:1-7; FIGS. 5, 6.
<i>means for mastering the source picture content... [for the reference type display]</i>	Mastering the source picture content to provide mastered color corrected picture content for display on the reference type displays using a color gamut mapping applied to the mastered content	<u>Structure</u>: CGM Module (686) coupled to a Color Corrected Picture Content Store (645). See DOLBY-1001, FIG. 6. <u>Algorithm</u>: Applying the gamut mapping (e.g., LUT, GOG) to the non-reference master to generate and store a distinct reference master file. See DOLBY-1001, 9:60-65, FIG. 6.

means for performing color correction

See §III.A.2(b) (addressing similar term in [20.1]); DOLBY-1003, ¶¶213-14.

means for mastering the source picture content

See §III.A.2(b) (addressing similar term in [20.1.1]); DOLBY-1003, ¶215.

means for mastering the source picture content... [for the reference type display]

As detailed for [6.1.2], Yeung describes a mastering system where a color processor 250 (corresponding structure, CGM module/processor) performs gamut mapping 222 (DOLBY-1007, [0031]) to create distinct digital masters for various target distribution paths (*id.*, [0066], FIG. 5). DOLBY-1003, ¶216.

D. [GROUND 4] – Claims 9 And 28 Are Obvious Over Jones-Yeung-Morovič

1. Jones-Yeung-Morovič

A POSITA would have found it obvious to configure Jones-Yeung-Morovič by implementing Morovič's proofing techniques into Jones' color grading channel 12 in a similar manner as discussed in Ground 3 in relation to Jones-Ollivier-Osaki-Morovič. *See* §III.C.1(b). That is, in Jones-Yeung-Morovič, Jones' color grading channel 12 would have leveraged Yeung's color gamut mapping (e.g., 3D LUT) in a similar manner as Ollivier's display-specific LUT in providing proofing techniques into Jones' color grading channel 12. DOLBY-1003, ¶¶130-37.

2. Analysis

(a) Claim 9

[9]

As discussed for [6.1] and [6.1.1], Jones-Yeung would have performed creation-side color correction on motion picture film content in a color grading channel and would have mastered the motion picture film content to provide a master (*mastered color corrected picture content*) for display on projector-class devices (*non-reference type displays*). DOLBY-1004, 4:34-38, 6:17-56, 7:3-18, 10:26-44. In Jones-Yeung-Morovič, a POSITA would have found it obvious to implement Jones' color grading channel 12 to incorporate well-known proofing techniques described in Morovič such that the system generates proofed color corrected content (*rendering the mastered color corrected content on the reference type display*) using a display-to-CRT LUT (*color gamut mapping that simulates the non-reference type display on the reference type display*), which would allow the colorist to preview how color corrected content would be displayed on a CRT display. DOLBY-1003, ¶217.

Yeung describes a creation-side workflow where generating distribution masters involves “simulating device specific colors” and allows “viewing on a first device, a representation of colors that are not available on the first device,” thereby allowing “a first device to simulate the look of a second device.” DOLBY-1007, [0007]; *see id.*, [0066], FIG. 5. A POSITA would have found it obvious to implement Jones-Yeung-Morovič using a similar configuration where Jones' color

grading channel 12 involves applying a color gamut mapping to proof how content would appear on a target output display (e.g., a CRT display) using a color gamut mapping to render content in a manner that simulates the non-reference type display (e.g., the digital projector/film look) on the reference type display.

DOLBY-1007, [0033], [0041]; DOLBY-1003, ¶217. This is supported by Yeung's disclosure that the system processes images "so as to have the appearance of having been... displayed on film." DOLBY-1007, [0007].

Morovič supports this implementation since "proofing" is "the production of a sample of output of any kind to simulate a sample of output of any other kind." DOLBY-1010, 183, 186. Further, because a destination gamut (e.g., TV) is smaller than a source gamut (e.g., Projector/Film), "gamut-mapping needs to be applied" to maintain the intended appearance. *Id.* A POSITA would have therefore found it obvious to implement Jones-Yeung-Morovič so that Jones' color grading channel 12 similarly includes rendering a proof that visualizes display on a CRT display using Yeung's gamut mapping to simulate a wide-gamut device (e.g., display device 30). Indeed, the '268 patent specification's describes that "[a] RCG display 782, using CG2 simulation via a CGM module 786, is used on the content creation side 780." DOLBY-1001, 10:17-23; DOLBY-1003, ¶218.

(b) Claim 28

[28]

See [9]. Claim 28 is presumed to invoke 35 U.S.C. § 112, ¶6 based on the recitation of *means for rendering*.

Term	Function	Structure
<i>means for rendering</i>	Rendering, the mastered color corrected picture content on the reference type display using a color gamut mapping that simulates the non-reference type display	<u>Structure</u> : CGM Module (786) or internal display circuitry. <i>See</i> DOLBY-1001, FIG. 7. <u>Algorithm</u> : Using a LUT or GOG to map/simulate the wide gamut content into the reference gamut for proofing. <i>See</i> DOLBY-1001, 10:15-22; FIG. 7.

Jones describes using “display specific transforms” to “emulate” the look of a specific release print (non-reference) on a digital projector or other display (DOLBY-1004, 3:31-44). Yeung further describes allowing “viewing on a first device, a representation of colors that are not available on the first device,” which allows a first device to simulate the look of a second device. DOLBY-1007, [0007]. This is done using the color Processor 250 and gamut mapper 222.

DOLBY-1003, ¶¶219-20.

E. [GROUND 5] – Claims 8, 17, And 27 Are Obvious Over Jones-Yeung-Vetro

1. Jones-Yeung-Vetro

(a) Vetro

Vetro describes concepts related to Part 7 of the MPEG-21 standard (ISO/IEC 21000-7). DOLBY-1011, Abst., 2. Vetro describes a “Digital Item Adaptation (DIA)” framework that addresses the “heterogeneity in our terminals, in our networks, and in the people who ultimately consume and interact with the information.” *Id.*, Abst. Vetro’s DIA involves adapting a “Digital Item” (e.g., multimedia content) using resource and descriptor adaptation engines to produce an “Adapted Digital Item.” *Id.*, 3, FIG. 1. Vetro also specifies tools to assist this adaptation, including “usage environment description tools” that describe terminal capabilities and characteristics of the “natural environment” (e.g., “lighting condition”) and “illumination characteristics” that affect visual display. *Id.*, 4. These tools enable “Universal Multimedia Access (UMA),” allowing users to adapt content for consumption on particular terminals and within specific environments. *Id.*, Abst., 4; DOLBY-1003, ¶89.

(b) Combination

A POSITA seeking to implement the distribution workflow within Jones-Yeung would have recognized that delivering a static, pre-rendered network TV

distribution master 720 does not account for real-time changes in a viewer's illumination conditions at playback. DOLBY-1003, ¶138; DOLBY-1007, [0041], [0057], [0066], FIG. 5. This limitation arises because such conditions can vary dynamically and are not necessarily known when that version is prepared upstream (i.e., before the time and place of consumption). DOLBY-1003, ¶139. Vetro addresses this problem by describing MPEG-21 Digital Item Adaptation (DIA) in the context of addressing heterogeneity across terminals, networks, and users to enable “Universal Multimedia Access (UMA).” *See* DOLBY-1011, 1.

Vetro provides standardized “usage environment description tools” that involve terminal capabilities. DOLBY-1011, 4. These tools account for characteristics, such as “natural environment,” and Vetro describes that “natural environment pertains to the physical environmental conditions around a User such as lighting condition.” DOLBY-1011, 4. For a visual environment, the tools also address “illumination characteristics that may affect the perceived display of visual information.” *Id.* These tools are used to enable a general adaptation framework in which a Digital Item is processed by an adaptation engine (resource and descriptor adaptation engines) to produce an adapted Digital Item. *Id.*, 3, FIG. 1; DOLBY-1003, ¶139.

A POSITA would have recognized that Vetro's tools provide a compatible extension to Jones-Yeung by advancing Yeung's desire to use a processor to

“flexibly tun[e] a target image in real time” and adjusting color space with respect to viewing environment conditions (e.g., “dark, dim, ambient lighting”). DOLBY-1007, [0036]; DOLBY-1003, ¶140. This would have motivated the POSITA to incorporate Vetro’s techniques relating to usage environment descriptors into Jones-Yeung. *Id.* In doing so, the POSITA would have modified Yeung’s architecture to not transmit a pre-rendered network TV distribution master 720, and instead, transmit a more flexible representation of the content (e.g., Supermaster 756) together with MPEG-21 DIA usage environment descriptors. DOLBY-1003, ¶140. This representation would be one that remains amenable to downstream adaptation (e.g., higher-quality or layered/scalable representation), which is obvious from Vetro’s discussion that Universal Multimedia Access is enabled by, among other things, “scalable content representation formats” plus standardized description tools. DOLBY-1011, 3.

When combined, Jones-Yeung-Vetro would have provided a system in which the modified distribution path performs adaptation closer to consumption so that the rendered presentation reflects the user’s then-current illumination conditions. DOLBY-1003, ¶¶142-43. A playback system then consumes standardized DIA descriptions (e.g., terminal display characteristics and illumination characteristics) as inputs to select or parameterize the type of real-time tuning contemplated within Yeung. DOLBY-1007, [0036]; DOLBY-1011, 4.

DOLBY-1011, 4. This enables a predictable way to account for scenarios where the customer “may want to turn the lights down in the living room,” while using standardized, interoperable description tools to ensure adaptation inputs are communicated and consumed across heterogeneous terminals. DOLBY-1007, [0057]; DOLBY-1003, ¶¶143-44. A POSITA would have also reasonably expected to succeed in combining the teachings of Jones, Yeung, and Vetro because the combination involves ng prior art elements according to known methods to yield predictable results. DOLBY-1003, ¶¶145-47.

2. Analysis

(a) Claims 8, 17, 27

[8]

As discussed in [6.1.1] and [6.1.2], Jones-Yeung would have generated an intermediate master (e.g., Jones’ master 46, Yeung’s supermaster 756) (*mastered color corrected picture content for display on non-reference type displays*) and a distribution master (e.g., masters 720, 722) (*mastered color corrected picture content for display on reference type displays*) for distribution to an output device (e.g., network TV device) (*consumer device*). DOLBY-1004, 7:3-18, 10:26-44; DOLBY-1007, [0066], FIG. 5 (cont’d). As discussed in §III.E.1(c), a POSITA would have found it obvious to configure Jones-Yeung-Vetro to provide the intermediate master and usage environment descriptors (e.g., illumination

characteristics) (*metadata*) instead of a pre-rendered distribution master in certain delivery scenarios. DOLBY-1003, ¶221; DOLBY-1011, 4. In these scenarios, the output device would have used descriptors and the intermediate master to reconstruct the distribution master before display. DOLBY-1011, 3-4.

A POSITA would have found it obvious to implement Jones-Yeung-Vetro to prevent transmission of pre-rendered distribution masters in all scenarios because Vetro indicates such a configuration would have been advantageous, e.g., to alleviate the burden of heterogeneity in terminals and users. DOLBY-1011, 1. As noted in Vetro, such configurations enable “Universal Multimedia Access” by utilizing standardized tools (like usage environment descriptors) to adapt content for diverse consumption environments, rather than relying on static versions. *Id.*, 1, 4; DOLBY-1003, ¶222.

In Vetro, a terminal (*consumer device*) is described in the context of an adaptation framework where a “Digital Item” (intermediate master representation) is processed by an adaptation engine using “usage environment description tools” (*metadata*) to produce an “Adapted Digital Item.” DOLBY-1011, 3, FIG. 1, 4. The usage environment tools describe characteristics such as the “natural environment” (e.g., lighting) and “illumination characteristics that may affect the perceived display of visual information.” *Id.*, 4; DOLBY-1003, ¶223.

In Jones-Yeung-Vetro, an output device configured to receive Yeung’s

distribution master (e.g., master 720) would have been similarly configured to reconstruct the distribution master (e.g., an adapted presentation suitable for the network TV environment) by applying adaptation logic using the usage environment descriptors to the intermediate master (e.g., Yeung's supermaster 756). DOLBY-1003, ¶¶224-25.

As discussed in §III.E.1(b), a POSITA would have recognized that such a configuration imparts predictable benefits to the Jones-Yeung architecture, e.g., enabling the rendered presentation to reflect the user's current illumination conditions (per Yeung's objective). DOLBY-1007, [0057]; DOLBY-1011, 4; DOLBY-1003, ¶¶226-28. Such advantages are particularly applicable to Yeung's network delivery distribution path, where a POSITA would have recognized that Yeung's concern for dynamic viewing environments (e.g., turning lights down) is predictably addressed by Vetro's illumination-based adaptation tools. The '268 patent specification describes "reconstructing" in a similar fashion. *See* DOLBY-1001, 7:19-25.⁶

[17], [27]

⁶ The term "reconstructing" is used once in the '268 patent specification. The paragraph containing this term also does not specify that its disclosure is directly tied to the implementation depicted in Figure 6.

See [8].

IV. DISCRETIONARY DENIAL IS NOT APPROPRIATE

Dolby believes that discretionary denial is unwarranted, and yet, Dolby intends to utilize the bifurcated briefing process contemplated by the March 26, 2025, Stewart Memorandum to rebut contentions if offered by Patent Owner to the contrary.

V. CONCLUSION AND FEES

The Challenged Claims are unpatentable. Petitioner authorizes charge of fees to Deposit Account No. 06-1050.

VI. MANDATORY NOTICES

A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)

Petitioner (Dolby Laboratories, Inc.), Dolby Laboratories Licensing Corporation, and Dolby International AB are the real parties-in-interest.

B. Related Matters Under 37 C.F.R. § 42.8(b)(2)

Petitioner is not aware of any disclaimers, reexamination certificates or petitions for *inter partes* review for the '268 patent. The '268 patent is the subject of the following civil action: *InterDigital, Inc. et al v. The Walt Disney Company et al.*, 2-25-cv-00895 (CDCA).

C. Lead And Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Petitioner provides the following designation of counsel.

Lead Counsel	Backup Counsel
W. Karl Renner, No. 41,265 Fish & Richardson P.C. 60 South Sixth Street Suite 3200 Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 Email: IPR07314-0053IP1@fr.com	Ryan Chowdhury, Reg. No. 74,466 Alex Yu, Reg. No. 74,295 Indranil Sarkar, Reg. No. 79,432 Fish & Richardson P.C. 60 South Sixth Street, Suite 3200 Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 IPR07314-0053IP1@fr.com

D. Service Information

Please address all correspondence and service to the address listed above.

Petitioner consents to electronic service by email at IPR07314-0053IP1@fr.com.

Respectfully submitted,

Dated: February 9, 2026

/W. Karl Renner/

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(Control No. IPR2026-00252)

Counsel for Petitioner

CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petition for *Inter partes* Review totals 13,949 words, which is less than the 14,000 allowed under 37 C.F.R. § 42.24.

Dated: February 9, 2026

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Counsel for Petitioner

CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on February 9, 2026, a complete and entire copy of this Petition for *Inter partes* Review, Power of Attorney, and all supporting exhibits were provided via Federal Express, to the Patent Owner by serving the correspondence address of record as follows:

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