

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF ILLINOIS

RAH COLOR TECHNOLOGIES LLC,

Plaintiff,

v.

R. R. DONNELLEY & SONS  
COMPANY,

Defendant.

Civil Action No.

JURY TRIAL DEMANDED

**COMPLAINT**

This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code and relates to seven U.S. patents owned by RAH Color Technologies LLC (“RAH Color Technologies”): U.S. Patent Nos. 6,995,870; 7,312,897; 7,729,008; 8,760,704; 7,830,546; 8,817,314; and 8,537,357 (collectively, the “Patents-in-Suit”).

**THE PARTIES**

1. Plaintiff RAH Color Technologies is a limited liability company organized under the laws of the Commonwealth of Virginia. RAH Color Technologies maintains an office at 7012 Colgate Drive, Alexandria, Virginia 22307. RAH Color Technologies owns numerous United States patents generally related to the field of color management. Dr. Richard A. Holub manages RAH Color Technologies and is a named inventor of the Patents-in-Suit.

2. Defendant RR Donnelley & Sons (“RRD”) is a Delaware corporation that maintains its principal place of business at 111 South Wacker Drive, Chicago, Illinois, 60606.

3. RRD uses printer and camera hardware and software that employ color measurement and management techniques in the U.S. RRD also uses color measurement and management techniques to set-up and print materials, and provide printing and photography services, that it sells to customers in the U.S.

### **JURISDICTION AND VENUE**

4. This Complaint states causes of action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 100 *et seq.*, and, more particularly 35 U.S.C. § 271.

5. This Court has subject matter jurisdiction of this action under 28 U.S.C. §§ 1331 and 1338(a) in which the district courts have original and exclusive jurisdiction of any civil action for patent infringement.

6. Personal jurisdiction is proper because RRD is transacting business in this jurisdiction and RRD’s principal place of business is in this District.

7. Venue is proper in this District under 28 U.S.C. §§1391(b) and (c), and 1400(b) because RRD is subject to personal jurisdiction in this District, resides in this District and has regularly conducted business in this District.

### **BACKGROUND FACTS REGARDING RAH COLOR TECHNOLOGIES**

8. RAH Color Technologies is owned by Dr. Richard A. Holub, and is a named inventor of all its patent assets. Dr. Holub holds a Ph.D. in Neurophysiology and

has studied and worked extensively in the fields of vision and color reproduction for over forty years.

9. For example, between 1983 and 1994, Dr. Holub worked for several leading companies including Eastman Kodak (following its acquisition of Eikonix Corp., which Dr. Holub joined in 1983), Agfa/Bayer and SuperMac Technologies where he served as Chief Color Scientist, Technology Consultant, and Principal Engineer, respectively, and had responsibility for developing and/or managing development of color technologies for new products.

10. Dr. Holub has additionally been a leader in development, research, and education in the graphic arts industry.

11. For example, for ten consecutive years beginning in 1993-94, Dr. Holub was elected to and served on the Board of Directors of The Technical Association of the Graphic Arts (“TAGA”), now a part of the Printing Industries of America. For nine of those ten years, Dr. Holub was an officer, serving three years as Technical Vice President and Papers Chair, two years as Executive Vice President, two years as President and two years as Immediate Past President. During his three years as Technical VP, Dr. Holub organized four technical conferences, including TAGA’s first-ever international conference, and, in addition, TAGA’s contributions to the Graphic Arts Show Company’s “Concepts” Conference in two successive years.

12. Between 1995 and 1998, Dr. Holub taught in various instructional programs at Rochester Institute of Technology, especially taking responsibility for research methods courses offered to Master’s students pursuing the technology concentration in the School of Printing Management and Sciences (subsequently renamed

the School of Print Media). During that time he served on thesis committees for a number of students in the Master's program. Many graduates of that program hold significant positions in the publishing and printing industries. In addition, during the early 1990's, Dr. Holub served as a key technical contributor to early standards developed by CGATS, the Committee for Graphic Arts Technical Standards.

13. Spanning almost two decades, Dr. Holub's R&D work (alone and with collaborators) resulted in 11 papers presented to TAGA's Annual Technical Conference, all of which subsequently appeared in published Conference *Proceedings*. His research also resulted in the contribution of at least four (4) important papers to refereed journals, including the *Journal of Imaging Technology* and *Color Research and Application*, as well as contributions to symposia organized by The Society for Imaging Science and Technology (IS&T), the Society of Photo-Optical Instrumentation Engineers (SPIE), and the Institute of Electrical and Electronics Engineers (IEEE).

14. In 1994, Dr. Holub began work on a new business that would leverage inventive developments in color measurement, imaging system architecture, user-interface and color reproduction technologies to implement open and accurate color reproduction in a networked environment. Over the next several years, Dr. Holub rented laboratory/demo space from RIT Research Corp., hired students from the Rochester Institute of Technology as well as software and hardware contractors to assist him in developing a first product prototype. The prototype combined instrumentation for fully automatic display calibration with software support for highly accurate soft-proofing. During this time, he also prepared and filed the first two in a series of significant patent disclosures to cover implementations of inventive concepts.

15. Dr. Holub formed Imagicolor Corporation in 1998 to commercialize his prototype described above in paragraph 14. Further efforts at business development continued, however, investment did not materialize and Imagicolor was eventually dissolved.

16. Though commercialization of the prototype did not come to fruition, Dr. Holub continued to innovate, and pursue patents on those innovations, with the United States Patent Office. In 2005, RAH Color Technologies LLC was formed as a vehicle for an on-going licensing program for companies whose products depend on Dr. Holub's innovations.

**BACKGROUND FACTS REGARDING THE RAH COLOR TECHNOLOGIES  
PATENT PORTFOLIO**

17. The United States Patent Office has awarded Dr. Holub 30 patents to date, including the following Patents-in-Suit:

- United States Patent No. 6,995,870, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '870 Patent);
- United States Patent No. 7,312,897, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '897 Patent);
- United States Patent No. 7,729,008, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '008 Patent);
- United States Patent No. 8,760,704, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '704 Patent);
- United States Patent No. 7,830,546, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '546 Patent);
- United States Patent No. 8,817,314, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '314 Patent); and
- United States Patent No. 8,537,357, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '357 Patent).

18. The United States Patent Office has considered nearly 500 references during the prosecution of Dr. Holub's patent applications.

19. Hundreds of subsequently filed patent applications by third parties have cited to Dr. Holub's patents.

20. RAH Color Technologies has licensed the technology covered by its patents to six of the largest manufacturers of color imaging and printing products for consumer and professional segments in the world. RAH Color Technologies has also licensed its innovations to two additional manufacturers with extensive experience in the color measurement and management space. Additionally, 13 major companies have entered into end-user license agreements with RAH Color Technologies.

21. These industry-leading companies have each recognized the contributions Dr. Holub has made to the fields of color management, remote proofing, and measurement and control of color product quality.

22. All right, title, and interest in the Patents-in-Suit are held by RAH Color Technologies.

#### **RRD'S AWARENESS OF THE PATENTS-IN-SUIT**

23. On June 5, 2009, counsel for RAH Color Technologies (Global IP Law Group, LLC) sent correspondence to RRD offering a sale of certain patents owned by RAH Color Technologies.

24. On August 24, 2015, counsel for RAH Color Technologies sent a letter to RRD offering it a license to RAH Color Technologies' patented technology. The August 24, 2015 letter brought each of the Patents-in-Suit to RRD's attention and specifically

identified RRD's Accused Print Servers, Accused Print Workflow Systems, and Accused Digital Camera Systems as using the technology claimed by the Patents-in-Suit.

25. Paul Rodriguez, VP, Chief Intellectual Property Counsel at RRD acknowledged receipt of the letter on August 26, 2015.

26. On October 2, 2015 RRD requested claim charts and on December 11, 2015, counsel for RAH Color Technologies provided RRD with four infringement claim charts for the '870, '008, '704, and '546 patents.

27. On March 9, 2016 counsel for RAH Color Technologies met with Mr. Paul Rodriguez and Mr. James Warmus from RRD and discussed the patent claims and identified the manner in which RRD infringes the patent claims.

28. On the same day, counsel for RAH Color Technologies provided RRD with a proposed draft of a non-disclosure agreement ("NDA.")

29. After some negotiation of the terms of the NDA, RRD and RAH Color Technologies signed an NDA by May 17, 2016.

30. On October 26, 2016, RRD stated that in the absence of any information regarding license rates for equipment users as opposed to equipment manufacturers, it was not in a position to make a counteroffer.

31. No further licensing discussions have taken place.

32. At no time has RRD raised any invalidity argument with respect to any of the Patents-in-Suit.

33. At no time has RRD raised any non-infringement argument with respect to any of the Patents-in-Suit.

34. RRD promotes its capabilities of accurately measuring and managing color in support of RRD's business of setting up, processing and printing materials and the photography services that it sells and offers for sale to customers in the U.S. As part of its business, RRD uses camera and printer hardware and software that employ color measurement and management techniques in the U.S. which, alone or in combination, infringe various claims of the Patents-in-Suit.

35. RRD has in the past and continues to directly infringe the asserted claims of the Patents-in-Suit pursuant to 35 U.S.C. § 271(a) by using methods and using, making and importing systems, software, and apparatuses covered by the asserted patent claims identified below.

36. RRD has in the past and continues to directly infringe the asserted claims of the Patents-in-Suit pursuant to 35 U.S.C. § 271(g) by selling and/or offering to sell printed and photographic documents and materials that RRD made using methods covered by the asserted patent claims to its customers within the United States.

#### **COUNT I: INFRINGEMENT OF U.S. PATENT '870 CLAIM 34**

37. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 of this Complaint as though set forth in full herein.

38. Claim 34 of the '870 Patent provides:

Claim 34 Preamble	A method for providing control to a user for processing color images comprising the steps of:
Element A	providing an interface operable at a computer through which the user is able to select a plurality of sites having one or more color input or output devices;
Element B	communicating between said sites through a network interface at said sites; and



Element C	providing information for transforming input color image data into output color image data for the color input or output devices at said plurality of sites such that colors produced by the color devices appear substantially the same within colors attainable by each of the devices, wherein said information for transforming comprises information relating the color gamuts of different ones of said color devices to each other and user preferences for color reproduction for at least one of the color devices.
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39. RRD uses EFI Fiery print servers.

40. EFI Fiery print servers include Command Workstation.

41. On information and belief, RRD's EFI Fiery print servers include Color Profiler Suite.

42. "RRD Accused Print Servers" include EFI Fiery print servers together with Command Workstation and Color Profiler Suite, and other print servers and software that include the same or equivalent functionality described in paragraphs 43 to 56 of Count I, paragraphs 62 to 63 of Count II, paragraphs 69 to 71 of Count III, and paragraphs 77 to 80 of Count IV.

43. RRD Accused Print Servers provide control for processing color images.

44. RRD Accused Print Servers include an interface that RRD employees use on a computer. Using the interface, RRD employees are able to select and access two or more sites (e.g., Fiery servers) having a color output device (e.g., a printer or printing press) associated with the site.

45. RRD Accused Print Servers communicate with two or more Fiery servers using a network interface.

46. RRD Accused Print Servers provide information for transforming input color image data into output color image data for the color input or output devices at the

sites via, for example, International Color Consortium (“ICC”) profiles (including version 4 (“ICC v.4”)-compliant profiles) and the RRD Accused Print Server Color Management Module (“CMM”) used to process profiles.

47. RRD Accused Print Servers use color profiles to provide information used to transform input color image data into output color image data for color input or output devices.

48. RRD Accused Print Servers use color profiles and calibration-verification to ensure that colors produced by the devices appear substantially the same within colors attainable by each of the devices.

49. One example of a calibration-verification system used by RRD Accused Print Servers is “Calibrator Mode” in Command Workstation.

50. One example of verification testing used by RRD Accused Print Servers is Color Profiler Suite, which ensures that the rendering device renders colors accurately (i.e., substantially the same within colors attainable by the device).

51. RRD Accused Print Servers are ICC v.4 compliant, which means the CMM uses the ICC-defined Perceptual Reference Medium Gamut (“PRMG”) for gamut mapping.

52. The PRMG provides a standardized gamut representation for image data in coordinates for the ICC-defined Profile Connection Space (“PCS”) used for transforming colors between devices having different gamuts.

53. A workflow using the PRMG employs the PRMG to map colors from an input device to an output device using an intermediate color-to-color’ transformation (i.e., input device gamut in PCS values to PRMG).

54. The ICC profiles include user preferences for color reproduction for at least one of the color devices.

55. RRD Accused Print Servers allow user preferences to be set by a user for color reproduction.

56. RRD employees use the user preferences of RRD Accused Print Servers to set user preferences for color reproduction.

57. Direct infringement occurs when RRD practices the claimed method.

58. RRD has had knowledge of the '870 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Servers infringe claim 34 of the '870 patent since at least October 2, 2015.

59. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT II: INFRINGEMENT OF U.S. PATENT '870 CLAIM 39**

60. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 59 of this Complaint as though set forth in full herein.

61. Claim 39 of the '870 Patent provides:

Claim 39	The method according to claim 34 wherein said user preferences for color reproduction include at least one aspect of the utilization of one or more neutral colorants.
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62. Command Workstation in RRD Accused Print Servers allows for CMYK/Grayscale Processing methods, including GCR.

63. GCR controls the amount of black ink (i.e., a neutral colorant) used when rendering colors.

64. Direct infringement occurs when RRD practices the method claim.

65. RRD has had knowledge of the '870 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Servers infringe claim 39 of the '870 patent since at least October 2, 2015.

66. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT III: INFRINGEMENT OF U.S. PATENT '870 CLAIM 43**

67. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 59 of this Complaint as though set forth in full herein.

68. Claim 43 of the '870 Patent provides:

Claim 43	The method according to claim 34 further comprising the step of verifying whether said information for transforming properly transforms said color image data at one or more of said sites.
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69. In RRD Accused Print Servers, the Color Profiler Suite includes a verification function that checks whether color data is rendered properly compared to a reference.

70. The verification process entails printing a measurement page using a specific color profile for a device, measuring those rendered colors, and comparing the measured values to expected values for that profile.

71. If the transformation is occurring properly, then the difference between measured and expected values will be within tolerance.

72. Direct infringement occurs when RRD practices the method claim.

73. RRD has had knowledge of the '870 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Servers infringe claim 43 of the '870 patent since at least October 2, 2015.

74. As a direct and proximate result of RRD acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

#### **COUNT IV: INFRINGEMENT OF U.S. PATENT '897 CLAIM 61**

75. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 39 to 42 of this Complaint as though set forth in full herein.

76. Claim 61 of the '897 Patent provides:

Claim 61 Preamble	A computer-readable medium encoded with a computer program for providing control to a user for processing color images comprising:
Element A	a screen through which the user is able to select one or more sites according to information regarding identity or location of said one or more sites, each of said one or more sites having one or more color output devices;
Element B	one or more screens enabling the user to control conversion of color image data for each of said color output devices for said one or more selected sites in accordance with user preferences for color reproduction; and
Element C	one or more modules enabling the user to select verification of color reproduction of each of said color output devices in accordance with a reference expressible in device independent units.

77. RRD Accused Print Servers include a screen that RRD employees use on a computer. Using the screen, RRD employees are able to select and access two or more sites (e.g., Fiery servers) having a color output device (e.g., a printer or printing press) associated with it.

78. Command WorkStation has one or more screens that enable RRD employees to control conversion of color image data for color printers by setting user preferences for color reproduction such as setting ICC profiles.

79. One example of verification testing used by RRD Accused Print Servers is Color Profiler Suite, which includes the Color Verification Assistant module.

80. Color Verification Assistant enables a user to select verification of color reproduction of each of the color output devices in accordance with a reference expressible in device independent units.

81. Direct infringement occurs when RRD uses the software.

82. RRD has had knowledge of the '897 Patent since no later than August 26, 2015.

83. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

#### **COUNT V: INFRINGEMENT OF U.S. PATENT '008 CLAIM 28**

84. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 of this Complaint as though set forth in full herein.

85. Claim 28 of the '008 Patent provides:

Claim 28 Preamble	A method for color rendering using a computer system having a display coupled to said computer system, said method comprising the steps of:
Element A	displaying on the display a menu of selections which enable a user to select at least user preferences for color reproduction; and
Element B	storing in memory at least tonal transfer curves for a plurality of color channels, color image data, and one or more color transformations for converting a first set of color coordinates into a second set of coordinates wherein said tonal transfer curves and said one or more color transformations are at least partly in accordance with calibration data in device-independent units of color and are useable in combination to control rendering of said color image data, and at least one of said one or more color transformations is a chromatic adaptation transform useable to compensate for change in viewing conditions.

86. RRD uses Prinergy prepress workflow management system.

87. Prinergy includes Kodak ColorFlow software.

88. “RRD Accused Print Workflow Systems” include the Kodak Prinergy prepress workflow management system together with Kodak ColorFlow software, Kodak InSite Prepress Portal software, and Kodak Preps Imposition software, and other prepress workflow management systems that include the same or equivalent functionality described in paragraphs 89 to 94 of Count V, paragraph 100 of Count VI, paragraphs 106 to 108 of Count VII, paragraphs 114 to 116 of Count VIII, paragraphs 122 to 124 of Count IX, paragraphs 130 to 131 of Count X, paragraph 137 of Count XI, paragraphs 143 to 155 of Count XII, and paragraphs 161 to 165 of Count XIII.

89. The user interface of Kodak ColorFlow software in RRD Accused Print Workflow Systems shows a menu of selections for user preferences for color reproduction.

90. RRD Accused Print Workflow Systems use ICC profiles that include tonal transfer curves, and tagged elements (e.g., “AToB0” and “BToA0” transforms) that are used to transform color coordinates from, for example, an input color image to a particular output device, such as a color printer or color display for rendering.

91. RRD Accused Print Workflow Systems store print jobs that include color images.

92. On information and belief, RRD calibrates its color-rendering devices from time to time, resulting in adjustments to tonal transfer curves and color transformations that are made in accordance with data from the calibration.

93. Calibration devices in general (and, on information and belief, the specific calibration device used by RRD) use device-independent color units, such as density,  $L^*a^*b^*$  and/or CIEXYZ, resulting in device-independent calibration data.

94. RRD Accused Print Workflow Systems store in memory ICC profiles that include a chromatic adaptation transform (indicated by a chromaticAdaptationTag (“chad” tag)) that is useable to account for changes in viewing conditions.

95. Direct infringement occurs when RRD practices the claimed method.

96. RRD has had knowledge of the ’008 Patent since no later than August 26, 2015, and RAH Color Technologies’ allegations of how RRD Accused Print Workflow Systems infringe claim 28 of the ’008 patent since at least October 2, 2015.

97. As a direct and proximate result of RRD’s acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.



**COUNT VI: INFRINGEMENT OF U.S. PATENT '008 CLAIM 29**

98. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 97 of this Complaint as though set forth in full herein.

99. Claim 29 of the '008 Patent provides:

Claim 29	The method according to claim 28 further comprising the step of enabling the user to display a reproduction of said color image data on the display, and to associate annotations with said reproduction.
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100. RRD Accused Print Workflow Systems, through InSite Prepress Portal, allow a user to review print jobs for proofing, for example, and allow a user to make annotations to those print jobs.

101. Direct infringement occurs when RRD practices the method claim.

102. RRD has had knowledge of the '008 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Workflow Systems infringe claim 29 of the '008 Patent since at least October 2, 2015.

103. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT VII: INFRINGEMENT OF U.S. PATENT '008 CLAIM 30**

104. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 97 of this Complaint as though set forth in full herein.

105. Claim 30 of the '008 Patent provides:

Claim 30	The method according to claim 28 wherein said storing step further comprises storing in the memory gamut data of at least the color output device or another color device in device independent units of color for use in combination with said tonal transfer curves and said one or more color transformations to control rendering of said color image data for improved color matching between said color output device and said another color device.
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106. RRD Accused Print Workflow Systems are ICC v.4 compliant, which means the RRD Accused Print Workflow Systems' CMM uses the ICC-defined PRMG.

107. The data stored on RRD Accused Print Workflow Systems includes a gamut mapping from the PRMG to the gamut of a color output device, by way of a perceptual rendering transformation from PCS to a representation of the gamut of the output device. Such mapping uses the PRMG as a source gamut.

108. RRD Accused Print Workflow Systems use the PRMG gamut data and the color output device gamut data together with the tonal transfer curves and color transformations (e.g., BToA0) to improve color matching between the color output device (for which the ICC v.4 profile was created) and a representative color output device (i.e., another color device) having the PRMG.

109. Direct infringement occurs when RRD practices the method claim.

110. RRD has had knowledge of the '008 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Workflow Systems infringe claim 30 of the '008 Patent since at least October 2, 2015.

111. As a direct and proximate result of RRD acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain damages.

**COUNT VIII: INFRINGEMENT OF U.S. PATENT '008 CLAIM 31**

112. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 97 of this Complaint as though set forth in full herein.

113. Claim 31 of the '008 Patent provides:

Claim 31 Preamble	The method according to claim 28 further comprising the steps of
Element C	enabling display of parts of said color image data which are outside the gamut of the color output device and
Element D	storing a data structure in said memory whose inputs are color values and whose outputs indicate whether input values are either in or out of gamut for the color output device.

114. RRD Accused Print Workflow Systems support version 4 ICC profiles, which means they can use/process profiles containing the “gamutTag” defined in ICC v.4.

115. The gamutTag allows RRD Accused Print Workflow Systems to display colors of a print job that are outside the gamut of the device used to render the print job.

116. The gamutTag is a data structure that uses color values as inputs and outputs a value indicating whether the input color value is in-gamut or out-of-gamut for a particular rendering device.

117. Direct infringement occurs when RRD practices the method claim.

118. RRD has had knowledge of the '008 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Workflow Systems infringe claim 31 of the '008 Patent since at least October 2, 2015.

119. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT IX: INFRINGEMENT OF U.S. PATENT '008 CLAIM 33**

120. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 97 of this Complaint as though set forth in full herein.

121. Claim 33 of the '008 Patent provides:

Claim 33	The method according to claim 28 further comprising the step of providing a colorant-to-colorant transformation which enables proofing or simulation of one output device by another.
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122. RRD Accused Print Workflow Systems support version 4 ICC profiles, which means they can use/process Device Link profiles defined by ICC v.4.

123. A Device Link profile provides a colorant-to-colorant transformation by using a specialized structure with device A-specific inputs linked to device B-specific outputs.

124. In RRD Accused Print Workflow Systems, ColorFlow provides Device Link profiles to simulate one output device (e.g., an offset press set up to print in accordance with the GRACoL C1 standard) by another.

125. Direct infringement occurs when RRD practices the method claim.

126. RRD has had knowledge of the '008 Patent since no later than August 26, 2016, and RAH Color Technologies' allegations of how RRD Accused Print Workflow Systems infringe claim 33 of the '008 Patent since at least October 2, 2015.

127. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT X: INFRINGEMENT OF U.S. PATENT '008 CLAIM 36**

128. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 103 of this Complaint as though set forth in full herein.

129. Claim 36 of the '008 Patent provides:

Claim 36	The method according to claim 29 further comprising the step of enabling communication with one or more other computer systems through a network interface of said computer system, in which said annotations are communicated to one or more users at one or more other computer systems.
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130. In RRD Accused Print Workflow Systems, InSite Prepress Portal uses a client-server architecture to communicate between client devices and servers using a web browser.

131. InSite Prepress Portal allows a user to review print jobs for proofing, for example, and allow a user to make annotations to those print jobs. These annotations are communicated between users through the client-server architecture.

132. Direct infringement occurs when RRD practices the method claim.

133. RRD has had knowledge of the '008 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Workflow Systems infringe claim 36 of the '008 Patent since at least October 2, 2015.

134. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XI: INFRINGEMENT OF U.S. PATENT '008 CLAIM 41**

135. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 84 to 97 of this Complaint as though set forth in full herein.

136. Claim 41 of the '008 Patent provides:

Claim 41	The method according to claim 28 further comprising the step of configuring a workflow for processing said color image data by assembling elements representative of said workflow on the display.
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137. In RRD Accused Print Workflow Systems, Prinergy includes icons representing steps of a workflow that an RRD employee can drag and drop onto a tableau, organize sequentially, and functionally link by connecting arrows to define a Prinergy workflow.

138. Direct infringement occurs when RRD practices the method claim.

139. RRD has had knowledge of the '008 Patent since no later than August 26, 2015, and RAH Color Technologies' allegations of how RRD Accused Print Workflow Systems infringe claim 41 of the '008 Patent since at least October 2, 2015.

140. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XII: INFRINGEMENT OF U.S. PATENT '704 CLAIM 17**

141. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 86 to 88 of this Complaint as though set forth in full herein.

142. Claim 17 of the '704 Patent provides:

Claim 17 Preamble	A method of color reproduction comprising the steps of:
Element A	connecting two or more programmable computers in a network provided by LAN, WAN or Internet for communication using one or more network protocols, wherein at least two of said two or more programmable computers are linked to color rendering devices;
Element B	providing data for storage in memory associated with said network, said data comprising:
Element C	graphical menu elements used by one or more of said two or more programmable computers to provide a user interface on a display enabling a user to initiate execution of programs for receiving color measurements and verifying the accuracy of transforming input colors having a device independent interpretation for rendering on one or more of said color rendering devices by comparing measured colors to reference colors with respect to an error criterion;
Element D	at least one file comprising a header and tags identifying a plurality of data structures within said file, said data structures holding information related to color transformation, wherein at least one of said data structures is a three-dimensional array whose inputs are device- independent color values and each of whose outputs indicate whether the corresponding input color is inside or outside of a color gamut, wherein said file is communicable between nodes of said network; and

Element E	tonal transfer functions expressing the relationship between digital command codes and rendered density values for each of the color channels of at least one of said color rendering devices responsive to measurements and to user preferences expressed through said user interface; and
Element F	directing execution of one or more programs by one or more of said two or more programmable computers, said one or more programs comprising:
Element G	software for retouching color images or designing page layouts;
Element H	a program that receives measurement data representative of rendered output of at least one of said color rendering devices and accumulates a record of color reproduction performance of said at least one of said color rendering devices over time;
Element I	a program that uses said measurement data for comparing measured colors to reference colors to produce color error data; and
Element J	a program for modifying rendering by said at least one of said color rendering devices responsive to said color error data.

143. In using RRD Accused Print Workflow Systems for their intended purpose of centralizing control over multiple types of rendering devices, RRD connects two or more computers over a network, with each computer linked to a color rendering device.

144. RRD Accused Print Workflow Systems are software designed to be installed on a computer's memory.

145. The user interface of Kodak ColorFlow software in RRD Accused Print Workflow Systems includes a graphical user interface that allows a user to collect color or tonal characterization measurements.

146. A user of ColorFlow software can generate comparison reports which verify the accuracy of ICC profile-based color transformations from input to output by comparing measurements of rendered colors to expected values for those colors. Upon



information and belief, the comparison report includes whether the difference between values is within error tolerances.

147. ICC-profile based transformations convert color values to and from device-independent values used by the Profile Connection Space.

148. RRD Accused Print Workflow Systems use ICC profiles that include a header and tags, including “AToB0” and “BToA0” data structure tags used for transforming colors.

149. The ICC profiles used by RRD Accused Print Workflow Systems include a “gamutTag” data structure that uses PCS device-independent values as input, and that outputs values indicating if the input value is inside or outside of a color gamut. The gamutTag uses a three-dimensional array to calculate the output values.

150. In RRD Accused Print Workflow Systems, ColorFlow can export ICC profiles between different computers on the RRD Accused Print Workflow System network.

151. In RRD Accused Print Workflow Systems, ColorFlow generates calibration curves that provide digital command codes instructing a rendering device on how much ink to deposit to achieve a certain color. The calibration curves are calculated based on density measurements for each ink or colorant used, and can be adjusted and saved by a user.

152. Prinergy integrates with, and can launch, Preps Imposition software and PDF Editor for designing page layouts and editing files with images, respectively, as part of RRD Accused Print Workflow Systems.

153. Prinergy includes, and can launch, ColorFlow as part of RRD Accused Print Workflow Systems. ColorFlow receives color measurement data of colors rendered by a rendering device to generate color characterization and tonal characterization curves, for example. ColorFlow software stores these color measurements and other color data for rendering devices in a database.

154. ColorFlow software includes a Comparison Reports feature. These reports compare the results of measurements of colors as rendered versus reference target color values, with the difference between the measured and reference color values representing color error.

155. Colorflow software makes automated adjustments with the aid of the color error data generated for the Comparison Reports.

156. Direct infringement occurs when RRD practices the method claim.

157. RRD has had knowledge of the '704 Patent since no later than August 26, 2015, and RAH Technologies' allegations of how RRD Accused Workflow Systems infringe claim 17 of the '704 Patent since at least October 2, 2015.

158. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain damages.

### **COUNT XIII: INFRINGEMENT OF U.S. PATENT '704 CLAIM 18**

159. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36, 86 to 88, and 141 to 158 of this Complaint as though set forth in full herein.

160. Claim 18 of the '704 Patent provides:

Claim 18	The method according to claim 17 wherein at least one of said color rendering devices is a press linked to one of said programmable computers, said method further comprising the step of utilizing a multi-dimensional color transformation to perform color matching between the color rendering device linked to another of said programmable computers and said press in accordance with a criterion for color error and a relationship between the color gamuts of said press and said another rendering device.
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161. In RRD Accused Print Workflow Systems, Prinergy centralizes control over multiple color rendering devices, including digital presses that are linked to computers on the Prinergy network.

162. Prinergy uses ICC color profiles that use AToB and BToA-type tags to match input colors to output colors, for example, when matching colors from a digital press and proofer devices. Both AToB and BToA-type tags use multidimensional transformations.

163. Prinergy also links source and output ICC profiles to generate ICC-compliant DeviceLink profiles that transform, multidimensionally, press colorant values directly to matching device colorant values.

164. In RRD Accused Print Workflow Systems, ColorFlow generates Comparison Reports that compare color output on, for example, a digital press and proofer, and will automatically make adjustments to provide consistent colors on both devices. Upon information and belief, adjustments are made based on color error tolerances.

165. When using ICC profiles to transform colors, Prinergy's Color Management Module performs a gamut mapping operation if the gamut of the press exceeds the gamut of the other color rendering device, for example, a proofer.

166. Direct infringement occurs when RRD practices the method claim.

167. RRD has had knowledge of the '704 Patent since no later than August 26, 2015.

168. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XIV: INFRINGEMENT OF U.S. PATENT '546 CLAIM 26**

169. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 of this Complaint as though set forth in full herein.

170. Claim 26 of the '546 Patent provides:

Claim 26 Preamble	A method of color image processing comprising the steps of:
Element A	capturing an image with a color input device;
Element B	processing said image digitally to produce image data in coordinates of a color space, wherein said processing modifies at least one of tone reproduction or chroma;
Element C	storing said image data in a file having a header for obtaining information related to said processing, wherein said information is used in transforming colors for reproduction, wherein said transforming expands the gamut of colors in at least one dimension of said color space.

171. "RRD Accused Digital Camera Systems" include digital cameras compliant with the Exif specification and have color processing settings (e.g., controlling color tone and white balance), and other digital cameras that include the same or equivalent functionality as described in paragraphs 175 to 187 of Count XIV, paragraphs

193 to 209 of Count XV, paragraphs 215 to 216 of Count XVI, and paragraphs 222 to 223 of Count XVII.

172. Three manufacturers of digital cameras are licensees to the Patents-in-Suit.

173. Digital cameras manufactured by licensees to the Patents-in-Suit are excluded from the definition of RRD Accused Digital Camera Systems.

174. Digital cameras manufactured and sold by major unlicensed manufacturers including for example Samsung, Sony, and Fujifilm are compliant with the Exif Specification and include color processing settings to modify tone reproduction.

175. For example, the Fujifilm X-T1 camera (“X-T1”) is a digital camera that is compliant with the Exif 2.3 specification and includes color processing settings.

176. RRD Accused Digital Camera Systems capture a color image using an image sensor.

177. RRD Accused Digital Camera Systems process the captured image using an image processor to produce a digital photograph. The digital photograph has colors that are defined by a color space, such as sRGB or Adobe RGB.

178. Digital cameras capture light (and its color information) using a photosensor (e.g., CMOS). The photosensor, in combination with a processor, converts the captured light into electronic pixel data representative of the light that struck each element of the photosensor. The electronic pixel data is converted into color coordinates for the camera’s color space.

179. RRD Accused Digital Camera Systems process images in accordance with color processing settings.

180. For example, the X-T1 includes Film Simulation settings such as Velvia/VIVID, which increases the saturation of colors in the digital photograph.

181. RRD Accused Digital Camera Systems store the image data as JPEG files compliant with the Exif specification on a memory card.

182. As an example, the Exif 2.3 specification requires a JPEG to be written in a file that has a header.

183. The header includes information related to color processing settings used, such as the Film Simulation setting used by the X-T1.

184. RRD Accused Digital Camera Systems use the information on color processing settings at the time of processing to transform colors.

185. For example, the Film Simulation information corresponds to color modifications used when processing the captured image to a color space.

186. RRD's Accused Digital Camera Systems use a color transformation that expands the gamut of colors in at least one dimension of the color space.

187. For example, the X-T1's Velvia/VIVID setting increases the saturation of colors in a digital photograph. This increase in saturation expands the gamut of colors of the original image in at least one dimension of a color space.

188. Direct infringement occurs when RRD practices the method claim.

189. RRD has had knowledge of the '546 Patent since no later than August 26, 2016, and RAH Color Technologies' allegations of how RRD Accused Digital Camera Systems infringe claim 26 of the '546 patent since at least October 2, 2015.

190. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XV: INFRINGEMENT OF U.S. PATENT '314 CLAIM 8**

191. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 171 to 173 of this Complaint as though set forth in full herein.

192. Claim 8 of the '314 Patent provides:

Claim 8 Preamble	A digital system for capturing a color image comprising:
Element A	one or more sensors which capture an image to provide electronic pixel data responsive to light of said image;
Element B	a programmable processor linked to said one or more sensors wherein said processor enables conversion of said electronic pixel data into digital image data in a three-dimensional color space and said conversion includes one or more operations which map an input gamut to an output gamut, wherein said input gamut corresponds to the receptive gamut represented by said electronic pixel data and said output gamut represents the gamut of colors which digital image data produced by said conversion are capable of representing in said three-dimensional color space and wherein the mapping by said one or more operations results in a decrease of saturation of at least colors of said input gamut which are not encompassed by said output gamut;
Element C	a display and user-interface which enable a user to express preferences for color processing and to view a rendering of said digital image data responsive to said color processing; and
Element D	storage for a file comprising said digital image data and a header, said header providing access to information stored in fields within said file, wherein said information is representative of a mapping of colors to adjust for illumination and to increase saturation, responsive to characteristics of the scene captured by said one or more sensors and in accordance with said preferences for color processing and wherein at least

	part of said information is communicated to an external computer system.
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193. As an example, the Fujifilm X-T1 (“X-T1”) is a digital camera that is compliant with the Exif 2.3 specification and includes color processing settings for white balance and saturation.

194. RRD Accused Digital Camera Systems have an image sensor (e.g., CMOS) to capture images.

195. Digital cameras in general capture light (and its color information) using a photosensor (e.g., CMOS). The photosensor, in combination with a processor, converts the captured light into electronic pixel data representative of the light that struck each element of the photosensor.

196. RRD Accused Digital Camera Systems have an image processor used in combination with the image sensor.

197. Digital cameras convert electronic pixel data into digital image data (e.g., digital photograph) in a three-dimensional color space. For example, the X-T1 has a CMOS sensor. The CMOS sensor outputs unprocessed electronic pixel data, which are converted by the image-processing engine to coordinates in the three-dimensional sRGB or Adobe RGB color space.

198. In RRD Accused Digital Camera Systems, the conversion process from unprocessed electronic pixel data to an image in a defined color space (e.g., sRGB or Adobe RGB) requires mapping an input gamut to an output gamut.

199. For example, the X-T1’s CMOS sensor has an input gamut corresponding to the range of colors the sensor can detect. The sRGB or Adobe RGB color spaces each



have a defined gamut corresponding to an output gamut. When the unprocessed electronic pixel data is converted into sRGB or Adobe RGB, only those colors in the electronic pixel data that are capable of being represented in the sRGB or Adobe RGB color space will be reflected in the digital image data.

200. In RRD Accused Digital Camera Systems, mapping by one or more operations results in a decrease of saturation of at least colors of the input gamut that are not encompassed by the output gamut.

201. RRD Accused Digital Camera Systems have a display and user-interface which include settings for color processing, such as white balance and Film Simulation settings in the X-T1.

202. In RRD Accused Digital Camera Systems, the display and user-interface allow a user to view captured images in accordance with any chosen color processing settings.

203. RRD Accused Digital Camera Systems have memory (e.g., memory buffer) for storing digital photographs at least temporarily.

204. RRD Accused Digital Camera Systems create JPEG digital image files compliant with the Exif specification that can be stored on memory.

205. For example, the Exif 2.3 specification is a file system format for storing images that requires the use of a header.

206. The Exif 2.3 required header provides access to information stored in fields within the file.

207. For example, JPEG files created by the X-T1 include fields for white balance and FilmMode (corresponding to the X-T1's Film Simulation setting).

208. The information is representative of a mapping of colors adjusted for illumination (e.g., white balance) and increased saturation (e.g., Velvia/VIVID Film Simulation). In both cases, the adjustment for illumination and the increase in saturation reflect the characteristics of the scene captured as well as user settings.

209. RRD Accused Digital Camera Systems can transfer image files (e.g., JPEGs) to another computer or device using a USB cable or using a Wi-Fi connection.

210. Direct infringement occurs when RRD uses the RRD Accused Digital Camera Systems.

211. RRD has had knowledge of the '314 Patent since no later than August 26, 2015.

212. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XVI: INFRINGEMENT OF U.S. PATENT '314 CLAIM 9**

213. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36, 171 to 173, and 191 to 212 of this Complaint as though set forth in full herein.

214. Claim 9 of the '314 Patent provides:

Claim 9	The system according to claim 8 wherein said three-dimensional color space comprised calibrated RGB coordinates.
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215. RRD Accused Digital Camera Systems create digital photographs using either the sRGB or Adobe RGB color space.

216. For example, the X-T1 can use either the sRGB or Adobe RGB color space. Both of these color spaces represent calibrated RGB coordinates since they have values that have been specified, and that have a defined relationship to CIE standards.

217. Direct infringement occurs when RRD puts to use the components of the system claim.

218. RRD has had knowledge of the '314 Patent since no later than August 26, 2015.

219. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XVII: INFRINGEMENT OF U.S. PATENT '314 CLAIM 12**

220. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36, 171 to 173, and 191 to 212 of this Complaint as though set forth in full herein.

221. Claim 12 of the '314 Patent provides:

Claim 12	The system according to claim 8 wherein said one or more sensors record image data of a moving object, and said programmable processor comprises a component that performs color transformations at video rates.
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222. RRD Accused Digital Camera Systems have a real-time viewfinder that captures a scene, including moving objects, in real-time and displays it on the RRD Accused Digital Camera System display.

223. Rendering image data of real-time captured images to the RRD Accused Digital Camera System display in real-time requires one or more transformations. At least one such transformation must occur at the refresh rate of the real-time image (i.e., at a video rate) captured using the real-time viewfinder.

224. Direct infringement occurs when RRD puts to use the components of the system claim.

225. RRD has had knowledge of the '314 Patent since no later than August 26, 2015.

226. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

#### **COUNT XVIII: INFRINGEMENT OF U.S. PATENT '357 CLAIM 1**

227. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 of this Complaint as though set forth in full herein.

228. Claim 1 of the '357 Patent provides:

Claim 1 Preamble	An apparatus for measurement of color comprising:
Element A	an illumination source which directs light to a color of or on an object;
Element B	optics for collecting light of said illumination source reflected from or transmitted through said object, in which at least said optics are moveable to measure said object;
Element C	a spectrograph for providing data representative of said light collected by said optics in accordance with a calibration enabling CIE colorimetry traceable to a standard; and
Element D	one or more programs executable by one or more processors to process said data provided by said spectrograph for comparison to reference data, to store said data provided by said

	spectrograph in a database of measurements in association with time of measurement information, to provide information of the grayness of a color for display to a user, and to communicate said data provided by said spectrograph or results of processing said data provided by said spectrograph, and said information to one or more computer systems using a network protocol.
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229. RRD uses Heidelberg Axis Control.

230. “RRD Accused Color Measurement Systems” include Heidelberg Axis Control and related software and other measurement devices and software that include the same or equivalent functionality described in paragraphs 232 to 240 of Count XVIII, paragraphs 246 to 247 of Count XIX, paragraph 253 of Count XX, and paragraph 259 of Count XXI.

231. RRD Accused Color Measurement Systems are used for the measurement of color.

232. RRD Accused Color Measurement Systems have an illumination source for color measurements.

233. RRD Accused Color Measurement Systems have optics (e.g., lenses, mirrors, fiber optics) for collecting and measuring light reflected from an object.

234. RRD Accused Color Measurement Systems have optics that move to make color measurements.

235. RRD Accused Color Measurement Systems are spectrophotometers that include a spectrograph for analyzing light, with measurements of the analyzed light presented in CIELAB (or similar) values.

236. RRD Accused Color Measurement Systems are calibrated on a regular basis using a reference that has a known standards-defined value to ensure accuracy of color measurements.

237. RRD Accused Color Measurement Systems include analysis software that processes the data from the spectrograph component for comparison to a reference to calculate color deviations.

238. In RRD Accused Color Measurement Systems, the analysis software stores the color measurement data with the time the measurement was taken.

239. RRD Accused Color Measurement Systems measure gray patches, presented as CIELAB (or similar) values, to provide information of the grayness of a color for display to a user.

240. In RRD Accused Color Measurement Systems, the analysis software communicates the color measurement data, including measurement of gray patches, to another computer system using a network.

241. Direct infringement occurs when RRD uses the RRD Accused Color Measurement Systems.

242. RRD has had knowledge of the '357 Patent since no later than August 26, 2015.

243. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, substantial damages in an amount not yet determined.

**COUNT XIX: INFRINGEMENT OF U.S. PATENT '357 CLAIM 4**

244. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 227 to 243 of this Complaint as though set forth in full herein.

245. Claim 4 of the '357 patent provides:

Claim 4	The apparatus according to claim 1 wherein said object represents media and said apparatus further comprises a program to analyze one or more images rendered on media by a rendering device in order to find areas of color for measurement.
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246. RRD Accused Color Measurement Systems measure color strips/patches rendered on paper.

247. RRD Accused Color Measurement Systems automatically recognizes and locates the printed color strip/patches for measurement.

248. Direct infringement occurs when RRD uses the apparatus claim.

249. RRD has had knowledge of the '357 Patent since no later than August 26, 2015.

250. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XX: INFRINGEMENT OF U.S. PATENT '357 CLAIM 5**

251. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 227 to 243 of this Complaint as though set forth in full herein.

252. Claim 5 of the '357 patent provides:

Claim 5	The apparatus according to claim 1 further comprising one or more programs that provide information of color errors, wherein said information of color errors is provided to color controls of a production system.
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253. RRD Accused Color Measurement Systems include programs that calculate  $\Delta E$  color error data. The color error data is provided to color controls of a press, and the color error values are used to calculate the necessary corrective adjustments.

254. Direct infringement occurs when RRD uses the apparatus claim.

255. RRD has had knowledge of the '357 Patent since no later than August 26, 2015.

256. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

**COUNT XXI: INFRINGEMENT OF U.S. PATENT '357 CLAIM 6**

257. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 36 and 227 to 243 of this Complaint as though set forth in full herein.

258. Claim 6 of the '357 patent provides:



Claim 6	The apparatus according to claim 1 wherein said optics and said illumination source are configured with respect to said object to reduce the contribution of light due to specular reflections to the light collected by said optics.
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259. RRD Accused Color Measurement Systems have optics and an illumination source in a 45°/0° configuration of optics (e.g., lenses, mirrors, fiber optics) that reduces the amount of specularly reflected light collected by its optics.

260. Direct infringement occurs when RRD uses the apparatus claim.

261. RRD has had knowledge of the '357 Patent since no later than August 26, 2015.

262. As a direct and proximate result of RRD's acts of patent infringement, RAH Color Technologies has been and continues to be injured and has sustained, and will continue to sustain, damages.

### **WILLFUL INFRINGEMENT**

263. RRD has infringed and continues to infringe the above identified claims of each of the Patents-in-Suit despite its knowledge of the Patents-in-Suit and its knowledge that at least RRD Accused Print Servers, RRD Accused Print Workflow Systems, and RRD Accused Digital Camera Systems were and are using the technology claimed by the Patents-in-Suit since August 24, 2015; additional specific knowledge of how its Accused Systems infringe the '870, '008, '704, and '546 patents since at least October 2, 2015; RRD's failure to raise any non-infringement or invalidity argument before litigation; and the objectively high likelihood that its acts constitute patent infringement.

264. RRD's infringement of the Patents-in-Suit is willful and deliberate, entitling RAH Color Technologies to enhanced damages under 35 U.S.C. § 284.

265. RRD willful infringement and unwillingness to enter into license negotiations with RAHCT make this an exceptional cases such that RACHT should be entitled to recover its attorneys' fees and costs incurred in relation to this matter pursuant to 35 U.S.C. §285.

**JURY DEMAND**

RAH Color Technologies demands a trial by jury on all issues so triable.

**PRAYER FOR RELIEF**

WHEREFORE, Plaintiff RAH Color Technologies requests that this Court enter judgment in its favor and against RRD as follows:

- A. Adjudging, finding, and declaring that RRD has infringed of the above-identified claims of each of the Patents-in-Suit under 35 U.S.C. § 271;
- B. Awarding the past and future damages arising out of RRD's infringement of the Patents-in-Suit to RAH Color Technologies in an amount no less than a reasonable royalty, together with prejudgment and post-judgment interest, in an amount according to proof;
- C. Adjudging, finding, and declaring that RRD's infringement is willful and enhanced damages and fees as a result of that willfulness under 35 U.S.C. § 284;
- D. Adjudging, finding, and declaring that this is an "exceptional" case pursuant to 35 U.S.C. § 285;
- E. Awarding attorney's fees, costs, or other damages pursuant to 35 U.S.C. §§ 284 or 285 or as otherwise permitted by law; and

F. Granting RAH Color Technologies such other further relief as is just and proper, or as the Court deems appropriate.

February 2, 2017

Respectfully submitted,

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