UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WISCONSIN

RAH COLOR TECHNOLOGIES LLC, Plaintiff, v. QUAD/GRAPHICS, INC. Defendant.	Civil Action No. 2:18-cv-00087-JPS Hon. J. P. Stadtmueller JURY TRIAL DEMANDED

FIRST AMENDED 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 five 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; 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 Quad/Graphics, Inc. ("QG") is a Wisconsin corporation that maintains its principal place of business at N61 W23044 Harry's Way, Sussex, Wisconsin 53089-3995.

3. QG uses printer and camera hardware and software that employ color measurement and management techniques in the U.S. QG 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. Defendant is subject to this Court's general personal jurisdiction pursuant to due process and/or the Illinois Long Arm Statute, Illinois Statutes 735 § 5/2-209, due at least to its substantial business conducted in this District, including: (i) having transacted business within the State of Illinois and attempted to derive financial benefit from residents of the State of Illinois in this District, including benefits directly related to the instant patent infringement causes of action set forth herein; (ii) having placed its products and services into the stream of commerce throughout the United States and having been actively engaged in transacting business in Illinois and in this District, and (iii) having committed the complained of tortious acts in Illinois and in this District.

7. Defendant, directly and/or through subsidiaries and agents (including distributors, retailers, and others), makes, imports, ships, distributes, offers for sale, sells, uses, and advertises (including offering products and services through its websites, for

example, https://www.qg.com/capabilities/workflow and https://www.qg.com/capabilities/creative/photography) its products and/or services in the United States, the State of Illinois, and the Northern District of Illinois.

8. Defendant, directly and/or through its subsidiaries and agents (including distributors, retailers, and others), has purposefully and voluntarily placed one or more of its infringing products and/or services, as described below, into the stream of commerce with the expectation that they will be purchased and used by consumers in the Northern District of Illinois in an infringing manner. These infringing products and/or services have been and continue to be purchased and used by consumers in the Northern District of Illinois. Defendant has committed acts of patent infringement within the State of Illinois and, more particularly, within the Northern District of Illinois.

9. Defendant also maintains a regular and established place of business in Illinois and in this District including a production facility at 1000 Remington Blvd., Bolingbrook, IL 60490, a sales office at 1290 Remington Blvd., Bolingbrook, IL 60490, and an office at 8550 W. Bryn Mawr Ave., Chicago, IL 60490. Defendant also maintains a presence at client sites, including at 2650 Warrenville Rd., Downers Grove, IL 60515 ("Fresh Thyme"), 100 Schelter Road, Lincolnshire, IL 60069 ("Quill"), and 1211 W. 22nd St., Oak Brook, IL 60523 ("Ace").

10. Upon information and belief, Defendant's 1290 Remington Blvd. sales office engages in the sale of printing services that utilize methods claimed in the Patents-in-Suit.

11. Defendant's location at 8550 W. Bryn Mawr Ave. ("Chicago Office") is used for creative services, and employs approximately 27 creative personnel engaged in

the design of various printed color materials, and approximately 29 sales personnel. The Chicago Office has had at least a Xerox DocuColor 242 Press, and a Xerox Color C75 Press with EFI Fiery print server in the past, and currently has a Xerox Color C60 Printer with EFI Fiery print server, Command Workstation software, and Color Profiler Suite software. QG's Chicago Office also has an EFI ES-2000 spectrophotometer. QG's use of printers with EX Fiery print servers, Command Workstation, and Color Profiler Suite infringe certain Patents-in-Suit, as detailed in the Counts below. Employees at QG's Chicago Office also use at least Adobe Photoshop and InDesign software. Adobe Photoshop and InDesign software also infringe certain Patents-in-Suit, as detailed in the Counts below.

12. This Court's exercise of personal jurisdiction over Defendant is consistent with Illinois Long Arm Statute, Illinois Statutes 735 § 5/2-209, and traditional notions of fair play and substantial justice.

13. Venue is proper in this District under 28 U.S.C. §§1391(b) and (c) because Defendant is subject to personal jurisdiction in this District, and under 28 U.S.C § 1400(b) because Defendant has committed acts of infringement in this District and Defendant maintains a regular and established place of business in this District.

BACKGROUND FACTS REGARDING RAH COLOR TECHNOLOGIES

14. 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.

15. 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.

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

17. 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 "Conceppts" Conference in two successive years.

18. 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.

19. 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).

20. 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.

21. Dr. Holub formed Imagicolor Corporation in 1998 to commercialize his prototype described above in paragraph 20. Further efforts at business development

continued, however, investment did not materialize and Imagicolor was eventually dissolved.

22. 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

23. 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); and
- United States Patent No. 8,537,357, entitled "System for Distributing and Controlling Color Reproduction at Multiple Sites" (the '357 Patent).

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

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

26. 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, including three of the largest manufacturers of digital cameras. RAH Color Technologies has licensed its innovations to two additional manufacturers with extensive experience in the color measurement and management space. RAH Color Technologies has also licensed its innovations to one of the largest providers of print services in the world. Additionally, 13 major companies have entered into end-user license agreements with RAH Color Technologies.

27. 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.

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

QG'S AWARENESS OF THE PATENTS-IN-SUIT

29. On February 2, 2016, counsel for RAH Color Technologies (Global IP Law Group, LLC) sent a letter to QG's General Counsel, Jennifer Kent, offering it a license to RAH Color Technologies' patented technology. The February 2, 2016 letter brought each of the Patents-in-Suit to QG's attention, and specifically identified QG's Accused Print Servers, Accused Color Managed Systems, and Accused Digital Camera Systems, as using the technology claimed by the Patents-in-Suit.

30. On March 18, 2016, counsel for RAH Color Technologies sent a message to Ms. Kent, seeking confirmation of receipt of the February 2, 2016 letter.

31. On March 18, 2016, Ms. Kent replied that she had no record of the February 2, 2016 letter.

32. The same day, counsel for RAH Color Technologies provided an additional copy of the February 2, 2016 letter.

33. On March 24, 2016, Jason Pauls, QG's Director of Global IP, sent a letter to counsel for RAH Color Technologies seeking clarification of RAH Color Technologies' intent.

34. On March 31, 2016, counsel for RAH Color Technologies provided the information requested by Mr. Pauls, reiterating that QG is infringing the Patents-in-Suit.

35. On April 14, 2016, QG sent a letter requesting compliance with Wisconsin Statute 100.197.

36. On May 12, 2016, counsel for RAH Color Technologies provided its response to the letter in full compliance with Wisconsin Statute 10.197, including detailed claim charts for the Patents-in-Suit.

37. On June 22, 2016, Jeffrey Costakos (Foley & Lardner LLP) sent counsel for RAH Color Technologies a letter informing RAH Color Technologies of his retention as outside counsel handling the matter.

38. On September 14, 2016, RAH Color Technologies met with Mr. Costakos and Mr. Pauls in Milwaukee to discuss resolution of the matter, and again on January 24, 2017.

39. QG has not agreed to enter into a licensing agreement with RAH Color Technologies for its infringing activities.

40. QG promotes its capabilities of accurately measuring and managing color in support of QG'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, QG 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.

41. QG 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.

42. QG 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 QG 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

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

44. 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.

45. QG uses a Xerox C60 production press at its Chicago Office, which includes an EFI Fiery print server, Command Workstation, and Color Profiler Suite.

46. "QG 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 47-60 of Count I, paragraphs 66-67 of Count II, paragraphs 73-75 of Count III, paragraphs 81-87 of Count IV, paragraph 93 of Count V, paragraph 100 of Count VI, and paragraphs 106-108 of Count VII.

47. QG Accused Print Servers provide control for processing color images.

48. QG Accused Print Servers include an interface that QG employees use on a computer. Using the interface, QG 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.

49. QG Accused Print Servers communicate with two or more Fiery servers using a network interface.

50. QG 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 QG Accused Print Server Color Management Module ("CMM") used to process profiles.

51. QG 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.

52. QG 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.

53. One example of a calibration-verification system used by QG Accused Print Servers is "Calibrator Mode" in Command Workstation.

54. One example of verification testing used by QG 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).

55. QG Accused Print Servers are ICC v.4 compliant, which means the CMM uses the ICC-defined Perceptual Reference Medium Gamut ("PRMG"), or similarly structured descriptions of device gamuts for gamut mapping.

56. 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.

57. A workflow using the PRMG employs the PRMG, or similarly structured descriptions of gamuts, 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).

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

59. QG Accused Print Servers allow user preferences to be set by a user for color reproduction.

60. QG employees use the user preferences of QG Accused Print Servers to set user preferences for color reproduction.

61. Direct infringement occurs when QG practices the claimed method.

62. QG has had knowledge of the '870 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Print Servers infringe claim 34 of the '870 patent since at least May 12, 2016.

63. As a direct and proximate result of QG'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

64. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 63 of this Complaint as though set forth in full herein.

65. 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.

66. Command Workstation in QG Accused Print Servers allows for CMYK/Grayscale Processing methods, including GCR.

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

68. Direct infringement occurs when QG practices the method claim.

69. QG has had knowledge of the ’870 Patent since at least February 2, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Print Servers infringe claim 39 of the ’870 patent since at least May 12, 2016.

70. As a direct and proximate result of QG’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

71. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1 to 63 of this Complaint as though set forth in full herein.

72. 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.

73. In QG Accused Print Servers, the Color Profiler Suite includes a verification function that checks whether color data is rendered properly compared to a reference.

74. 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.

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

76. Direct infringement occurs when QG practices the method claim.

77. QG has had knowledge of the ’870 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Print Servers infringe claim 43 of the ’870 patent since at least May 12, 2016.

78. As a direct and proximate result of QG 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 32

79. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 45-46 of this Complaint as though set forth in full herein.

80. Claim 32 of the ’897 Patent provides:

Claim 32 Preamble	A method for providing control to a user for processing color images comprising the steps of:
Element A	providing an interface through which said user is able to select one or more sites, each having one or more color input or output devices, wherein at least one of said sites is capable of being remotely located with respect to said user;
Element B	providing information regarding identity or location of said one or more sites useable for communication with 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 sites comprising at least information representing the gamuts or a relationship between the gamuts of said color devices, wherein said information for transforming comprises at least user preferences for color reproduction by at least one of the color devices.

81. QG Accused Print Servers provide a graphical user interface that QG employees interact with on a computer. Using the interface, QG 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. Sites connect to the QG Accused Print Servers over a network, and can be in different locations.

82. As an example, Command WorkStation can be used to select a site by DNS name or IP address.

83. QG Accused Print Servers provide color profiles compliant with the ICC version 4 specification. These profiles provide the information needed to transform input color images into output color images through the use of AToB-type and BToA-type transformations.

84. QG Accused Print Servers are ICC v.4 compliant, which means the CMM uses the ICC-defined Perceptual Reference Medium Gamut ("PRMG"), or similarly structured descriptions of device gamuts for gamut mapping.

85. 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, and provides the information needed for relating one color gamut (e.g., an input device) to another color gamut (e.g., an output device).

86. The profiles used by QG Accused Print Servers include color reproduction preferences. For example, Command WorkStation provides options for CMYK/Grayscale Processing such as Full (Source GCR) and Full (Output GCR). These

GCR preferences control the amount of black ink to use, and are incorporated into the profiles, upon information and belief.

87. In QG Accused Print Servers, Color Profiler Suite also allows users to modify color preferences for colors (e.g., Lightness, Contrast, Saturation) using the Global Color Edit feature, which modifies gamut mapping operations upon information and belief.

88. Direct infringement occurs when QG uses the software.

89. QG has had knowledge of the '897 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Print Servers infringe claim 32 of the '897 patent since at least May 12, 2016.

90. As a direct and proximate result of QG'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 '897 CLAIM 33

91. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42, 45-46, and 79-90 of this Complaint as though set forth in full herein.

92. Claim 33 of the '897 Patent provides:

Claim 33	The method according to claim 32 wherein said user preferences include at least one aspect of the utilization of one or more neutral colorants.

93. QG Accused Print Servers provide options for CMYK/Grayscale Processing such as Full (Source GCR) and Full (Output GCR). These GCR (gray component replacement) preferences control the amount of black ink to use.

94. Direct infringement occurs when QG uses the software.

95. QG has had knowledge of the '897 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Print Servers infringe claim 33 of the '897 patent since at least May 12, 2016.

96. As a direct and proximate result of QG'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 '897 CLAIM 36

97. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42, 45-46, and 79-90 of this Complaint as though set forth in full herein.

98. Claim 36 of the '897 Patent provides:

Claim 36	The method according to claim 32 wherein said user preferences include at least one aspect of the utilization of colorants in excess of three.

99. QG Accused Print Servers provide options for CMYK/Grayscale Processing such as Full (Source GCR) and Full (Output GCR). Neutral colors, such as black or gray or white, can be produced using a combination of cyan, magenta, and/or yellow ink. GCR uses black ink instead to generate neutral colors.

100. In QG Accused Print Servers, Color Profiler Suite also allows users to modify color preferences, such as lightness, contrast, and saturation. Modification of any of these parameters will change how much of cyan, magenta, yellow, and black ink should be used.

101. Direct infringement occurs when QG uses the software.

102. QG has had knowledge of the '897 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Print Servers infringe claim 36 of the '897 patent since at least May 12, 2016.

103. As a direct and proximate result of QG'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 '897 CLAIM 37

104. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42, 45-46, and 79-90 of this Complaint as though set forth in full herein.

105. Claim 37 of the '897 Patent provides:

Claim 37	The method according to claim 32 wherein said user preferences are capable of being expressed at least in part by annotations to the image data, said annotations being displayable with but separable from said image data and shareable between two or more said sites.

106. In QG Accused Print Servers, Command WorkStation allows for the addition of annotations to soft proofs. These annotations can express user preferences.

107. Upon information and belief, the annotations are separate from the image and can be removed without altering the image.

108. Upon information and belief, the annotations included with the image can be shared with other sites, for example when providing feedback or approvals from remote customers.

109. Direct infringement occurs when QG uses the software.

110. QG has had knowledge of the ’897 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Print Servers infringe claim 37 of the ’897 patent since at least May 12, 2016.

111. As a direct and proximate result of QG’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 VIII: INFRINGEMENT OF U.S. PATENT ’008 CLAIM 28

112. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 of this Complaint as though set forth in full herein.

113. 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.

114. QG uses Prinergy prepress workflow management system, and, at its Chicago office location, uses at least Adobe Photoshop and InDesign, and an EFI Fiery print server with EFI Command Workstation and EFI Color Profiler Suite (EFI components collectively, "Fiery Print Server"). Prinergy includes Kodak ColorFlow software.

115. "QG Accused Color Managed Systems" include the Kodak Prinergy prepress workflow management system together with Kodak ColorFlow software, Kodak InSite Prepress Portal software, Kodak Preps Imposition software, Adobe Photoshop, Adobe InDesign, EFI Fiery print servers together with Command Workstation and Color Profiler Suite, and other prepress workflow management systems and color managed software that include the same or equivalent functionality described in paragraphs 116-122 of Count VIII, paragraph 128 of Count IX, paragraphs 134-136 of Count X, paragraphs 142-144 of Count XI, paragraphs 150-153 of Count XII, paragraphs 159-160 of Count XIII, and paragraph 166 of Count XIV.

116. The user interface of Kodak ColorFlow software in QG Accused Color Managed Systems shows a menu of selections for user preferences for color

reproduction. In QG Accused Color Managed Systems, Photoshop, for example, has a graphical user interface that includes preferences for color rendering, as does the graphical user interface of Command Workstation.

117. In QG Accused Color Managed Systems, Kodak ColorFlow uses ICC v.4-compliant 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. Adobe Photoshop also uses ICC v.4-compliant profiles, and automatically installs such profiles on a computer during the installation process. Adobe Photoshop and InDesign can embed color profiles into a color image or document as well. Additionally, upon information and belief, Fiery Print Server includes ICC v.4-compliant profiles (including tonal transfer curves, AToB-type and BToA-type transforms) for specific color presses (e.g., Xerox C60), and generates and stores calibration curves for color presses (e.g., Xerox C60).

118. QG Accused Color Managed Systems store print jobs or other types of files that include color images.

119. In general, color profiles, including those automatically installed by Photoshop and InDesign, included with Fiery Print Server, and used by Kodak ColorFlow, are created using a calibrated device (e.g., a calibrated reference color monitor). To calibrate a device, colors having known reference values are rendered and measured using a calibration device. If the measured color values deviate from the known reference values, then output curves and/or tone reproduction curves will be adjusted so the rendered colors will match the known reference color values. Once the

device is calibrated, a profile (including relevant tagged elements such as "AToB0" and "BToA0" transforms, "chad" chromatic adaptation transform) is created using a similar process. As a result, any curves and transformations are generated based on a calibrated state of the rendering device.

120. On information and belief, QG calibrates its color-rendering devices (e.g., Xerox C60) from time to time, resulting in adjustments to tonal transfer curves and color transformations that are made in accordance with data from the calibration.

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

122. QG Accused Color Managed 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.

123. Direct infringement occurs when QG practices the claimed method.

124. QG has had knowledge of the '008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Color Managed Systems infringe claim 28 of the '008 patent since at least May 12, 2016.

125. As a direct and proximate result of QG'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 29

126. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 112-125 of this Complaint as though set forth in full herein.

127. 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.

128. QG Accused Color Managed 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. Adobe Photoshop and InDesign allow users to add notes to a color image or document as well. Fiery Print Server allows users to add annotations to images.

129. Direct infringement occurs when QG practices the method claim.

130. QG has had knowledge of the ’008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Color Managed Systems infringe claim 29 of the ’008 patent since at least May 12, 2016.

131. As a direct and proximate result of QG’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 30

132. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 112-125 of this Complaint as though set forth in full herein.

133. 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.

134. QG Accused Color Managed Systems are ICC v.4 compliant, which means the QG Accused Color Managed Systems' color management module ("CMM") uses the ICC-defined PRMG, or similarly structured gamut data.

135. The data stored on QG Accused Color Managed Systems includes a gamut mapping from the PRMG, or similarly structured gamut data, 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, or similarly structured gamut data, as a source gamut.

136. QG Accused Color Managed Systems use the PRMG, or similarly structured gamut data, and the color output device gamut data together with the tonal transfer curves and color transformations (e.g., BToA0, AToB0) 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.

137. Direct infringement occurs when QG practices the method claim.

138. QG has had knowledge of the '008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Color Managed Systems infringe claim 30 of the '008 patent since at least May 12, 2016.

139. As a direct and proximate result of QG 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 31

140. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 112-125 of this Complaint as though set forth in full herein.

141. 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.

142. QG Accused Color Managed Systems support version 4 ICC profiles, which means they can use/process profiles containing the "gamutTag" defined in ICC v.4.

143. The gamutTag allows QG Accused Color Managed Systems to display colors of a print job that are outside the gamut of the device used to render the print job. For example, Photoshop includes a "Gamut Warning" feature that identifies out-of-gamut colors. InDesign includes a similar feature that warns a user if selected colors are out-of-gamut.

144. 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.

145. Direct infringement occurs when QG practices the method claim.

146. QG has had knowledge of the ’008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Color Managed Systems infringe claim 31 of the ’008 patent since at least May 12, 2016.

147. As a direct and proximate result of QG’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 ’008 CLAIM 33

148. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 112-125 of this Complaint as though set forth in full herein.

149. 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.

150. QG Accused Color Managed Systems support version 4 ICC profiles, which means they can use/process Device Link profiles defined by ICC v.4. Device link profiles can be used for proofing and for simulating color reproduction of a different rendering device (e.g., using a proofer to simulate how colors would appear when rendered by a digital press).

151. 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.

152. 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.

153. Additionally, Photoshop can convert colors in an image or document to a Device Link color profile. Color Profiler Suite can create custom Device Link profiles.

154. Direct infringement occurs when QG practices the method claim.

155. QG has had knowledge of the ’008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Color Managed Systems infringe claim 33 of the ’008 patent since at least May 12, 2016.

156. As a direct and proximate result of QG’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 ’008 CLAIM 36

157. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42, 112-125, and 126-131 of this Complaint as though set forth in full herein.

158. 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.

159. In QG Accused Color Managed Systems, InSite Prepress Portal uses a client-server architecture to communicate between client devices and servers using a web

browser. Command Workstation uses a similar architecture to communicate with multiple printers and print servers, and includes the ability to export data and files with other computer systems. Additionally, Photoshop and InDesign allow users to send and share color images and documents with other users over a network through its Creative Cloud Assets feature.

160. 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. Photoshop and InDesign can send and share color images and documents, including any notes, with other users over a network through its Creative Cloud Assets feature. Fiery Print Servers can export color images that include annotations.

161. Direct infringement occurs when QG practices the method claim.

162. QG has had knowledge of the '008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies' specific allegations of how QG Accused Color ManagedSystems infringe claim 36 of the '008 patent since at least May 12, 2016.

163. As a direct and proximate result of QG'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 '008 CLAIM 41

164. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 112-125 of this Complaint as though set forth in full herein.

165. 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.

166. Prinergy includes icons representing steps of a workflow that an QG employee can drag and drop onto a tableau, organize sequentially, and functionally link by connecting arrows to define a Prinergy workflow.

167. Direct infringement occurs when QG practices the method claim.

168. QG has had knowledge of the ’008 Patent since at least March 18, 2016, and knowledge of RAH Color Technologies’ specific allegations of how QG Accused Color Managed Systems infringe claim 41 of the ’008 patent since at least May 12, 2016.

169. As a direct and proximate result of QG’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 ’704 CLAIM 17

170. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 of this Complaint as though set forth in full herein.

171. 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.

172. QG uses Prinergy prepress workflow management system. Prinergy includes Kodak ColorFlow software. Additionally, at least in its Chicago Office, QG uses a Xerox C60 production press that includes EFI Fiery print server, Command Workstation and Color Profiler Suite.

173. "QG Accused Print Workflow Systems" include the Kodak Prinergy prepress workflow management system together with Kodak ColorFlow software, Kodak InSite Prepress Portal software, Kodak Preps Imposition software, EFI Fiery print server in combination with Command Workstation and Color Profiler Suite, and other prepress workflow management systems that include the same or equivalent functionality described in paragraphs 174-186 of Count XV, and paragraphs 192-196 of Count XVI.

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

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

176. The user interface of Kodak ColorFlow software in QG Accused Print Workflow Systems includes a graphical user interface that allows a user to collect color or tonal characterization measurements. Similarly, Command Workstation has a graphical user interface that allows a user to collect measurements, at least for press calibration purposes.

177. 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. Command Workstation also includes a calibration feature that will compare measurements of rendered colors to expected values for those

colors to ensure that the rendering device (e.g., Xerox C60) is within calibration targets, and will adjust calibration settings so rendered output color values match those targets.

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

179. QG Accused Print Workflow Systems use ICC profiles that include a header and tags, including "AToB0" and "BToA0" data structure tags used for transforming colors.

180. The ICC profiles used by QG 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.

181. In QG Accused Print Workflow Systems, ColorFlow and Command Workstation can export ICC profiles between different computers on the QG Accused Print Workflow System network.

182. In QG 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. Similarly, color profiles used and stored by Command Workstation include density curves that can be edited using Command Workstation's Color Editor. Additionally, Command Workstation generates and stores calibration/density curves during the calibration process.

183. 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 QG Accused Print Workflow Systems. Similarly, Command Workstation includes Image Enhance Visual Editor for enhancing color images, as well as page layout editing features (e.g., Booklet Maker imposition).

184. Prinergy includes, and can launch, ColorFlow as part of QG 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. Similarly, Command Workstation receives color measurement data at least during a calibration process to generate tonal characterization curves. Upon information and belief, these curves are stored as part of a database linking specific curves to specific presses.

185. 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. Similarly, Command Workstation compares color measurement data with expected target color values, with the difference between measured and target values representing color error.

186. Colorflow software makes automated adjustments with the aid of the color error data generated for the Comparison Reports. Command Workstation adjusts calibration curves based on the color error to ensure that a device (e.g., C60 press) renders colors consistent with its expected, calibrated state.

187. Direct infringement occurs when QG practices the method claim.

188. QG has had knowledge of the '704 Patent since at least March 18, 2016, and knowledge of RAH Technologies' specific allegations of how QG Accused Workflow Systems infringe claim 17 of the '704 Patent since at least May 12, 2016.

189. As a direct and proximate result of QG'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 '704 CLAIM 18

190. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 170-189 of this Complaint as though set forth in full herein.

191. 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.

192. In QG Accused Print Workflow Systems, Prinergy centralizes control over multiple color rendering devices, including digital presses that are linked to computers on the Prinergy network. Command Workstation operates similarly by acting as a central control point for connected rendering devices.

193. Prinergy and Command Workstation use 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.

194. 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.

195. In QG 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. Similarly, Command Workstation compares color measurement data with expected target color values, with the difference between measured and target values representing color error, and adjusts calibration curves based on the color error to ensure that a device (e.g., C60 press) renders colors consistent with its expected, calibrated state.

196. When using ICC profiles to transform colors, the Color Management Module of Prinergy and EFI Print Server performs a gamut mapping operation if the gamut of the press exceeds the gamut of the other color rendering device, for example, a proofer.

197. Direct infringement occurs when QG practices the method claim.

198. QG has had knowledge of the ’704 Patent since at least March 18, 2016.

As a direct and proximate result of QG’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 ’357 CLAIM 1

199. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 of this Complaint as though set forth in full herein.

200. 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.

201. QG uses Heidelberg Prinect Image Control.

202. “QG Accused Color Measurement Systems” include Heidelberg Prinect Image Control and related hardware and software (e.g., Press Center, Prinect Color Toolbox) and other measurement devices and software that include the same or equivalent functionality described in paragraphs 204-211 of Count XVII, paragraphs 217-218 of Count XVIII, paragraph 224 of Count XIX, and paragraph 230 of Count XX.

203. QG Accused Color Measurement Systems are used for the measurement of color.

204. QG Accused Color Measurement Systems have an illumination source for color measurements, and moveable optics (e.g., lenses, mirrors, fiber optics) for collecting and measuring the light reflected from an object.

205. QG 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.

206. QG Accused Color Measurement Systems are calibrated on a regular basis using a reference that has a known standards-defined values (e.g., color calibration color) to ensure accuracy of color measurements.

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

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

209. QG 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.

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

211. Direct infringement occurs when QG uses the QG Accused Color Measurement Systems.

212. QG has had knowledge of the ’357 Patent since March 18, 2016.

213. As a direct and proximate result of QG'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 XVIII: INFRINGEMENT OF U.S. PATENT '357 CLAIM 4

214. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 200-214 of this Complaint as though set forth in full herein.

215. 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.

216. QG Accused Color Measurement Systems measure color strips/patches and color images rendered on paper.

217. QG Accused Color Measurement Systems automatically recognizes and locates the printed color strip/patches, as well as areas within a color image for measurement.

218. Direct infringement occurs when QG uses the apparatus claim.

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

220. As a direct and proximate result of QG'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 XIX: INFRINGEMENT OF U.S. PATENT '357 CLAIM 5

221. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 200-214 of this Complaint as though set forth in full herein.

222. 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.

223. QG Accused Color Measurement Systems include programs that calculate ΔE 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.

224. Direct infringement occurs when QG uses the apparatus claim.

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

226. As a direct and proximate result of QG'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 6

227. RAH Color Technologies incorporates by reference the allegations set forth in paragraphs 1-42 and 200-214 of this Complaint as though set forth in full herein.

228. 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.

229. QG 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.

230. Direct infringement occurs when QG uses the apparatus claim.

231. QG has had knowledge of the ’357 Patent since no later than August 26, 2015.

232. As a direct and proximate result of QG’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

233. QG 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 QG Accused Print Servers, QG Accused Color Managed Systems, QG Accused Print Workflow Systems, QG Accused Digital Camera Systems, and QG Accused Color Measurement Systems were and are using the technology claimed by the Patents-in-Suit since at least March 18, 2016; additional specific knowledge of how its Accused Systems infringe the ’870, ’897, ’008, ’704, and ’546 patents since at least May 12, 2016; QG’s failure to raise any non-infringement or invalidity argument before litigation; and the objectively high likelihood that its acts constitute patent infringement.

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

235. QG willful infringement and unwillingness to enter into license negotiations with RAHCT make this an exceptional case 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 QG as follows:

A. Adjudging, finding, and declaring that QG 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 QG'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 QG'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.

March 15, 2018

Respectfully submitted,

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