

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

138 EAST LCD ADVANCEMENTS LIMITED,

Patent Owner.

Case No. IPR2024-00959

U.S. Patent No. 7,428,082

PETITION FOR *INTER PARTES* REVIEW

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Ex. 1001	U.S. Patent No. 7,428,082 to Nakajima (“the ’082 patent”)
Ex. 1002	File History of U.S. Patent No. 7,428,082
Ex. 1003	Expert Declaration of Robert Stevenson, Ph.D. (“Stevenson”)
Ex. 1004	Curriculum Vitae of Robert Stevenson, Ph.D.
Ex. 1005	U.S. Patent Application Publication No. 2002/0030833 to Kuwata et al. (“Kuwata”)
Ex. 1006	U.S. Patent Application Publication No. 2001/0025303 to Fisher et al. (“Fisher”)
Ex. 1007	U.S. Patent No. 6,788,305 to Ohga (“Ohga”)
Ex. 1008	European Patent Application EP 0 998 140 to Shiohara et al. (“Shiohara”)
Ex. 1009	U.S. Patent No. 6,903,762 to Prabhu et al. (“Prabhu”)
Ex. 1010	U.S. Patent No. 5,477,264 to Sarbadhikari et al. (“Sarbadhikari”)
Ex. 1011	<i>Longitude Licensing Ltd. v. Google LLC</i> , No. 23-cv-03046-VC, Dkt. 46 (N.D. Cal. Oct. 27, 2023).
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Ex. 1013	<i>Longitude Licensing Ltd. v. Google LLC</i> , No. 23-cv-03046-VC, Dkt. 50 (N.D. Cal. Nov. 15, 2023).
Ex. 1014	<i>Longitude Licensing Ltd. v. Google LLC</i> , No. 23-cv-03046-VC, Dkt. 51 (N.D. Cal. Nov. 15, 2023).

I. PRECISE RELIEF REQUESTED

Petitioner Google LLC (“Petitioner”) requests review under 35 U.S.C. § 311 of claims 1-10 (“challenged claims”) of U.S. Patent No. 7,428,082 (“the ’082 patent”) and cancellation of the challenged claims under pre-AIA 35 U.S.C. §§ 102 and 103 based on the following prior art references and unpatentability grounds:

Prior art:

Exhibit	Description
1005	U.S. Patent Application Publication No. 2002/0030833 (“Kuwata”)
1006	U.S. Patent Application Publication No. 2001/0025303 (“Fisher”)
1007	U.S. Patent No. 6,788,305 (“Ohga”)

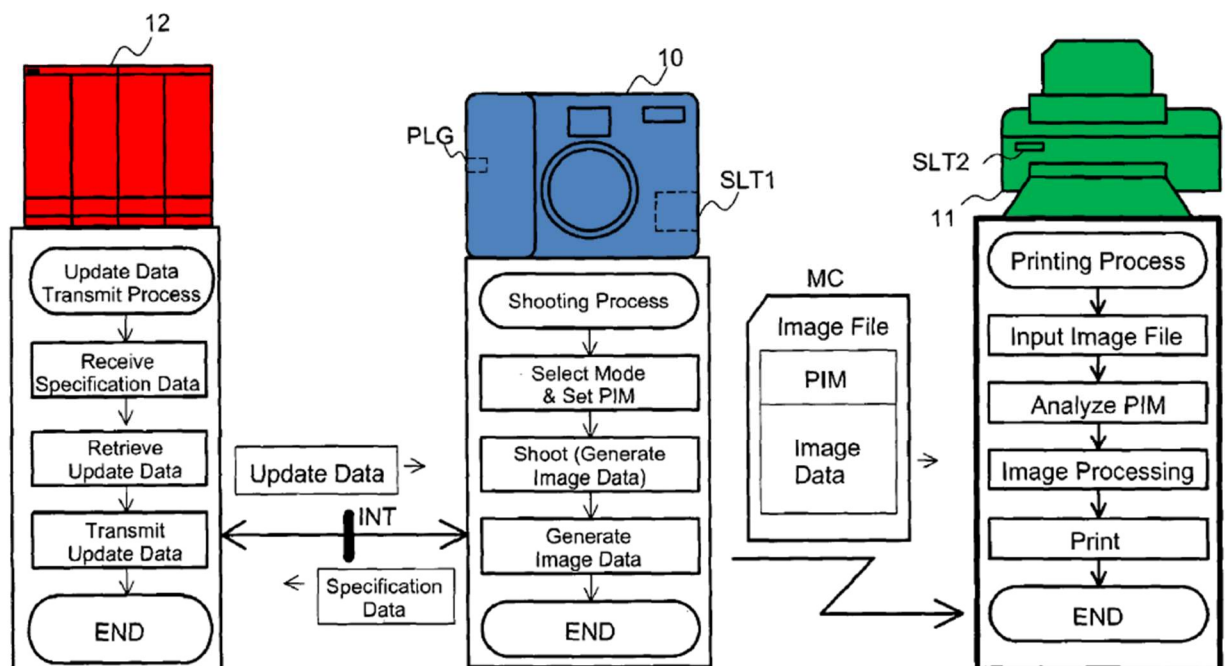
Unpatentability Grounds:

Ground	Basis
1	Kuwata and Fisher render obvious claims 1-3, 5-6, and 10
2	Kuwata, Fisher, and Ohga render obvious claims 1-6 and 10
3	Kuwata and Ohga render obvious claim 7
4	Ohga and Kuwata render obvious claim 8
5	Ohga anticipates claim 9
6	Ohga renders obvious claim 9

II. THE '082 PATENT

The '082 patent describes processing image data “based on image processing control data ... related to the image data.” Ex. 1001, 1:7-10. An “image output system,” depicted below, includes “a **digital still camera (DSC) 10** as an image related data generator, a **color printer 11** as an image processing apparatus and an image output apparatus, and an **update data storage server (UDS server) 12** as an update data transmit apparatus.” *Id.*, 5:46-52.

Fig.1

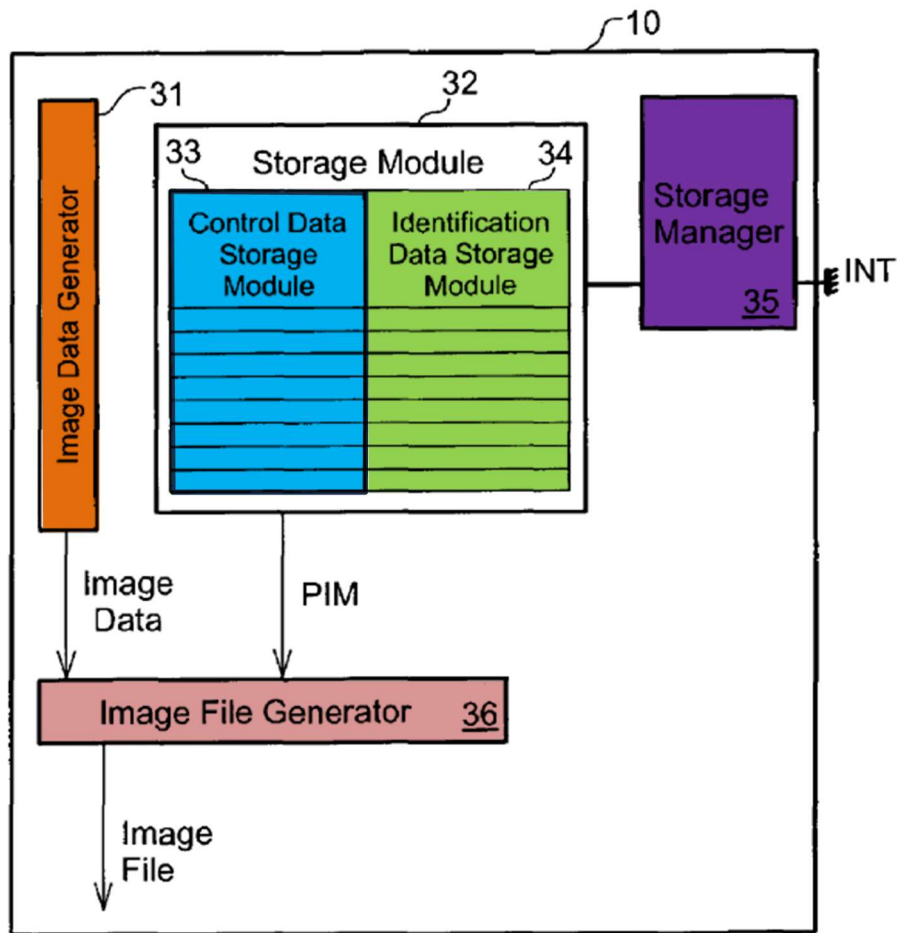


Id., FIG. 1.¹

¹ All colored annotations added unless otherwise noted.

DSC 10, shown below, includes an **image data generator** that “generates image data from the information regarding the light rays collected by the image generation circuit.” *Id.*, 7:24-27. A **control data storage module** stores image processing control data, also called “PIM parameters” or “PIM” in the specification. *Id.*, 5:59-62, 7:27. The image processing control data may include “various information,” including the camera’s “gamma values,” “setting parameters for contrast and color balance,” “color space parameters,” and shooting-condition parameters. *Id.*, 6:59-60, 6:63-7:2. An **identification data storage module** “stores identification data that identifies the PIM.” *Id.*, 7:53-54. A **storage manager** manages the image processing control data and communicates with the server to acquire update data corresponding to the image processing control data that may “correspond[] to the image related data generator and the image output device specified by the identification data.” *Id.*, 3:2-5, 7:34-41. An **image file generator** “generates an image file and transmits the image file to the printer.” *Id.*, 5:58-59, 7:29-33. The image file contains the image data and related image processing control data. *Id.*, 5:59-62, 7:29-32.

Fig.3



Id., FIG. 3.

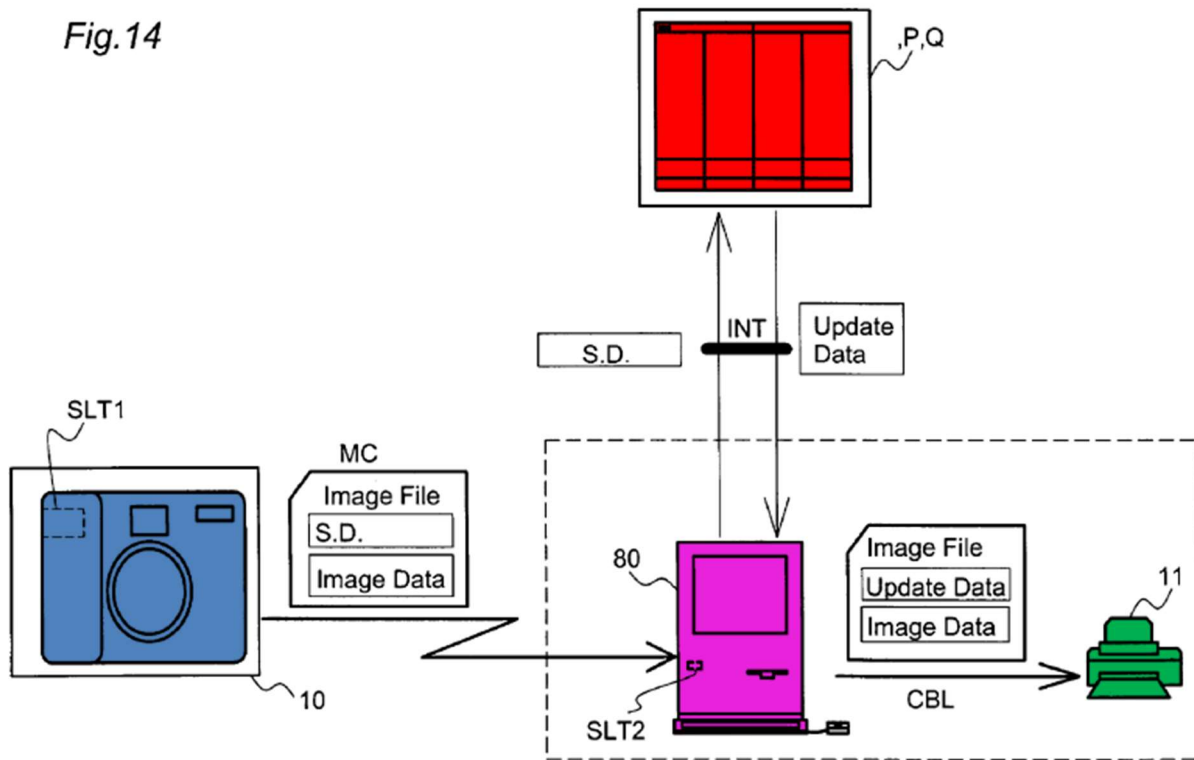
The **storage manager** receives updated image processing control data from a **server** and stores it in the **control data storage module** by either overwriting old data or saving it separately. *Id.*, 7:45-50.

A **printer** receives the image file, processes the image data according to the image processing control data, and prints the image. *Id.*, 5:62-64, 6:14-18.

In another embodiment, depicted below, a **personal computer** is an “image related data editor” and communicates with the **server**, **digital camera**, and **printer**.

Id., 12:60-67.

Fig.14



Id., FIG. 14.

III. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art (“POSITA”) would have had at least a bachelor’s degree in electrical engineering, computer science, or related engineering disciplines, and two years of experience in digital image processing. Relevant work experience can substitute for formal education and additional education could substitute for work experience. Stevenson ¶60.

IV. CLAIM CONSTRUCTION

The Board construes claims using the standards set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Claims should be construed only to the extent necessary to resolve a controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). No terms need construction to resolve the unpatentability issues in this Petition.²

V. THE CHALLENGED CLAIMS ARE UNPATENTABLE AND SHOULD BE CANCELLED

A. Ground 1: Kuwata and Fisher Render Obvious Claims 1-3, 5-6, and 10

1. Kuwata

Kuwata, published March 14, 2002, qualifies as prior art under pre-AIA § 102(a)-(b). Kuwata, cover (code (43)).

Kuwata, like the '082 patent, relates to processing image data “based on the control parameter values obtained from the analyzed output control information” related to the image data. Kuwata, [0067], [0071], [0101]. Kuwata discloses a digital still camera (“DSC”) 22 “that generates image files GF,” and a “printer 24

² Petitioner reserves the right to argue that certain limitations in the challenged claims are indefinite and/or require construction to resolve controversies in other forums.

as an output device that outputs images based on” the generated image files GF.
Kuwata, [0080]. DSC 22 sends the generated image file GF to printer 24 via cable CV, a computer PC, or a wireless communications channel. Kuwata, [0085]. The image output system including DSC 22, computer PC, and printer 24 is depicted below.

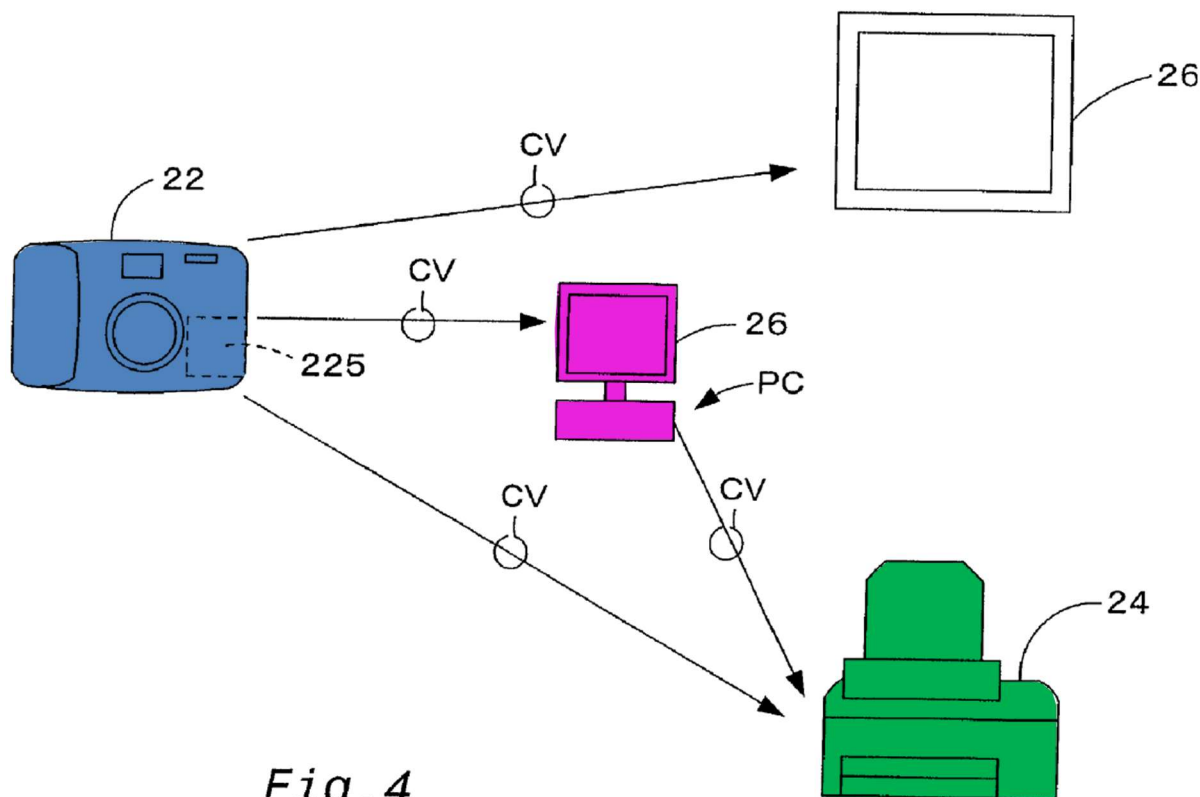


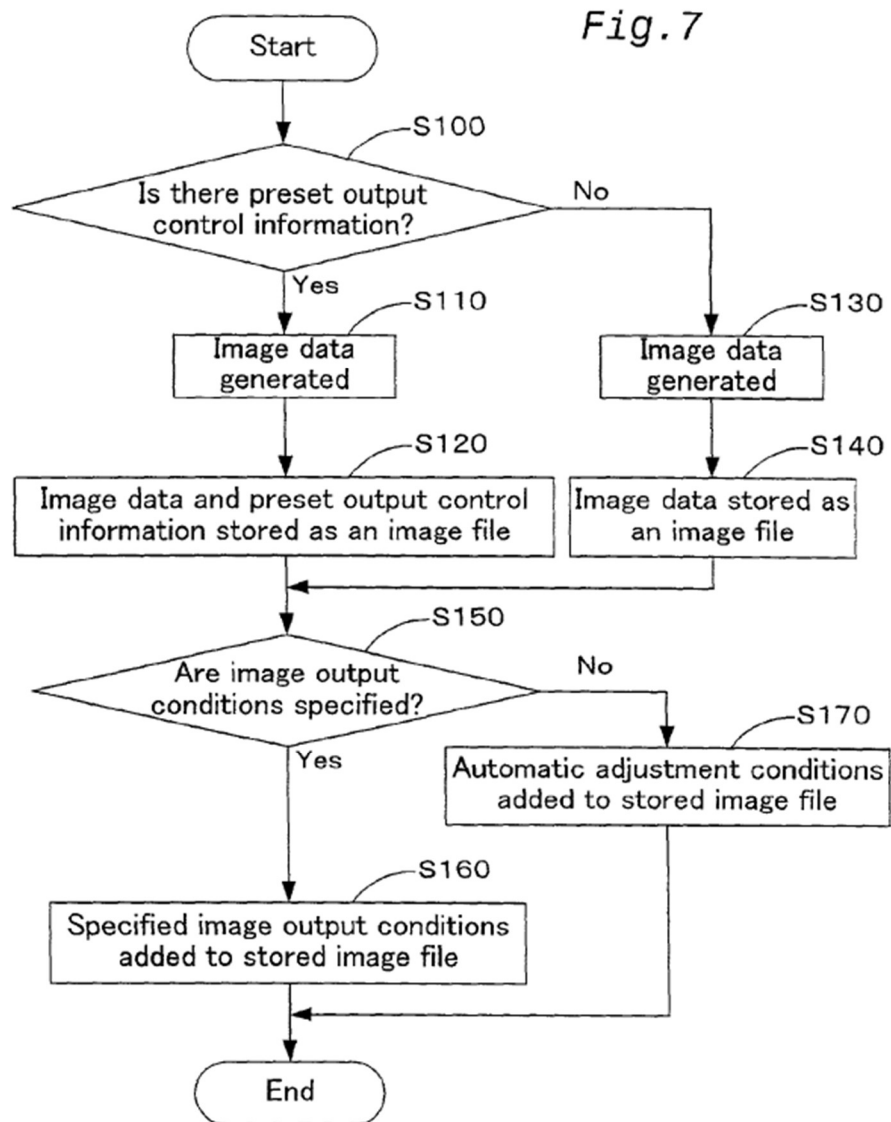
Fig. 4

Kuwata, FIG. 4.

DSC 22 “generates image data GD” and stores the “image data GD and output control information CI within one” image file GF. Kuwata, [0075], [0080], [0090]. The output control information CI includes user-selected output conditions selected from a menu of “preset” output conditions that “match the output device

that outputs the image data GD in an image file GF,” are “optimized for each manufacturer of printer 24 or for each equipment type of printer 24,” and are stored “in memory within control circuit 224 of [DSC] 22.” Kuwata, [0075], [0077], [0083], [0089].

DSC 22’s control circuit 224 carries out “the image processing flow” shown below. Kuwata, [0088]-[0093], FIG. 7. If “preset control information is set by the user before taking a picture,” then “control circuit 224 generates image data GD ... according to a shooting request” and “stores the generated image data GD and the set preset control information as an image file GF in storage device 225.” Kuwata, [0089]-[0090], [0091]-[0092] (adding “specified image output conditions to the image file GF”).



Kuwata, FIG. 7.

Kuwata's image processing steps can also be performed using "an application program executed on a **personal computer**" or a printer device. Kuwata, [0096], [0115].

Figure 10, below left, depicts a "flow of image processing of printer 24" when it receives the image file from either **DSC 22** or the **PC**. Kuwata, [0098]-

[0117]. Kuwata's Figure 10 resembles the '082 patent's Figure 8, below right, as shown below. *Compare* Kuwata, FIG. 10, [0103]-[0112], *with* Ex. 1001, FIG. 8, 9:12-10:56.

Fig. 10

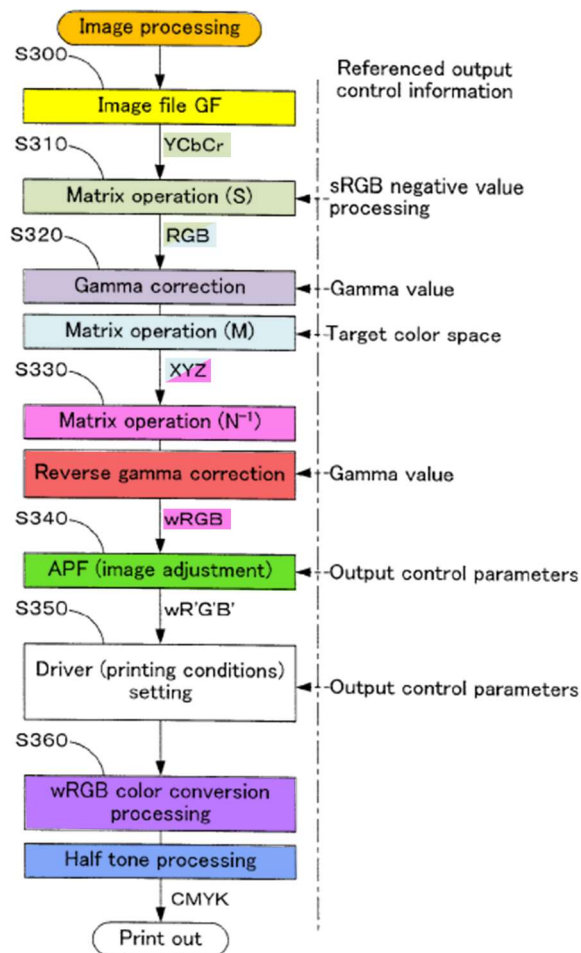
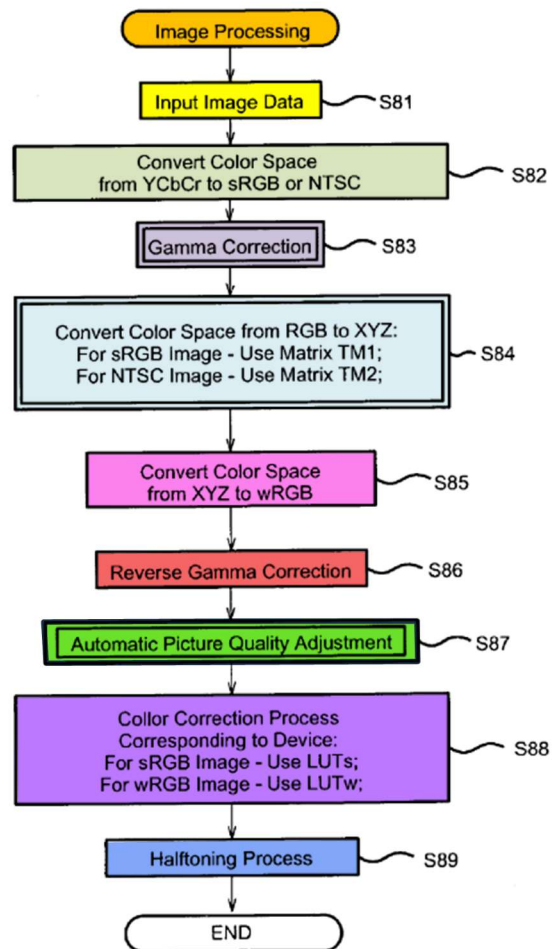


Fig. 8



Kuwata, FIG. 10 (left); Ex. 1001, FIG. 8 (right).

2. Fisher

Fisher, filed February 8, 2001, and published September 27, 2001, qualifies as prior art under pre-AIA § 102(a)-(b), and (e). Fisher, cover (codes (22), (43)).

Fisher relates to “accessing and utilizing ancillary data with an electronic camera device.” Fisher, [0003]. Fisher discloses a manufacturer “creat[ing] various ancillary data files” and making them “available on a distributed computer network like the Internet for subsequent downloading and utilization by the camera device.” Fisher, [0008]. The camera includes “I/O interface(s) 348 to bi-directionally communicate with various types of wireless communications,” including “to remotely communicate with an external entity such as an Internet server, to thereby download various types of ancillary data files 418 and other information.” Fisher, [0044].

Fisher’s camera includes “camera menus 424” that list “information and functionalities pertaining to camera device 110” and “may be displayed upon viewfinder 308 to allow a system user to download, view, manage, and utilize various ancillary data files 418.” Fisher, [0031]-[0035]. An “ancillary data module 416” includes “a download manager 512” to “access various ancillary data files 418 from a location,” such as an Internet server, and store the files “into memory [346] of camera device 110.” Fisher, [0036]-[0037], [0044].

3. Kuwata and Fisher Are Analogous Art

Kuwata and Fisher are analogous art to the ’082 patent because they are in the same field of endeavor: image processing based on control information related

to the image data. Ex. 1001, 1:7-10; Kuwata, [0087]-[0119]; Fisher, [0008]-[0013], [0050]; Stevenson ¶¶70, 75.

Kuwata and Fisher are also analogous art because they are reasonably pertinent to at least one problem with which the '082 patent is involved. Ex. 1001, 4:18-27, 10:13-16; Stevenson ¶¶70, 75. The '082 patent discloses setting image processing control data “according to the type of the image output device,” including “based on the color reproduction characteristics of the image output device,” Ex. 1001, 4:18-27, 10:13-16, and Kuwata likewise discloses controlling “the image output status at the output device” and setting “image output conditions considering color reproduction characteristics of the output device,” Kuwata, [0096]. Similarly, the '082 patent seeks to solve the problem of acquiring new image processing control data on a camera or computer, Ex. 1001, 12:30-35, and Fisher likewise discloses a process for acquiring new image processing control data on a camera or computer, Fisher, [0033], [0036]-[0037], [0039], [0044].

4. Independent Claim 1

- a. [1pre]: “An image related data generator, connectable to a server, comprising:”**

If limiting,³ Kuwata and Fisher render obvious [1pre]. Stevenson ¶¶82-91.

Kuwata’s “digital still camera 22” (image related data generator), depicted in the image data output system below, “generates image data” by “forming images from light information in a digital device,” like a charge-coupled device (“CCD”), and “sav[ing] the obtained images as digital data.” Kuwata, [0019], [0080]-[0081]; Stevenson ¶83.

³ Petitioner does not necessarily agree that any of the preambles in the challenged claims are limiting.

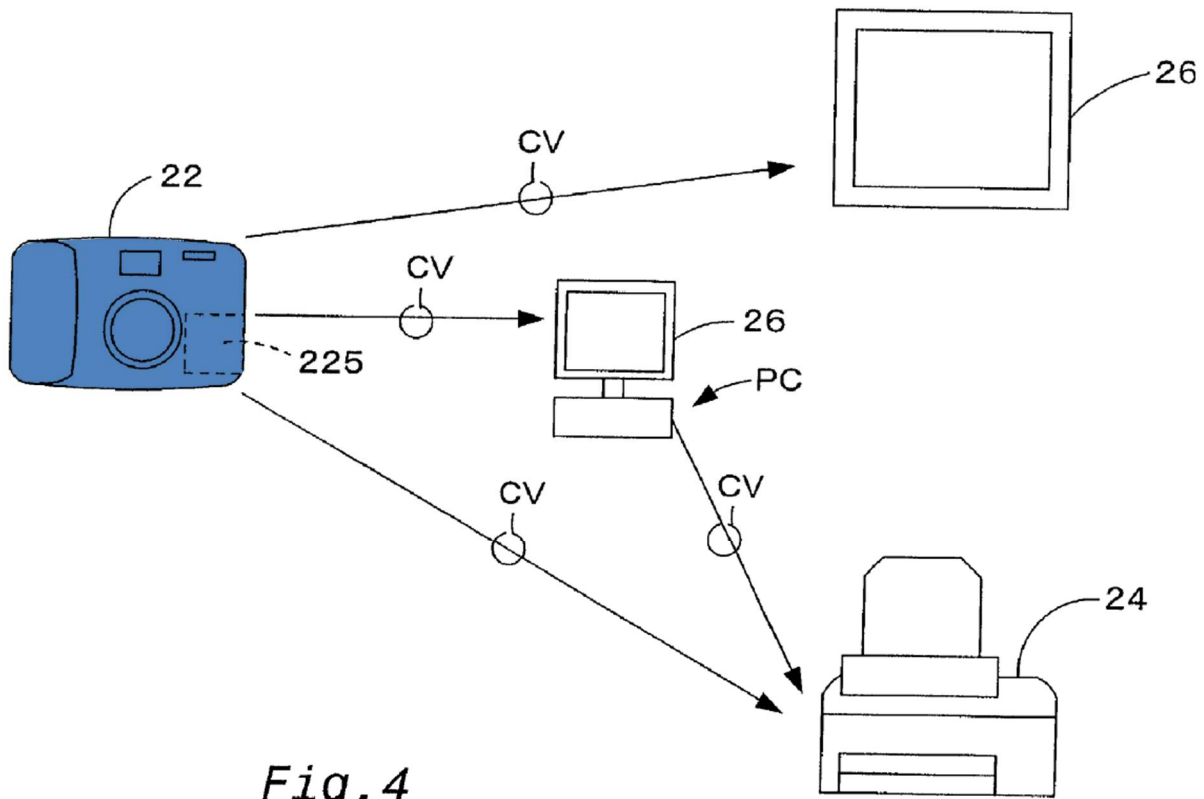


Fig. 4

Kuwata, FIG. 4.

Kuwata's camera includes "I/O" and "wireless" ports for communicating via wired or wireless channels, but does not expressly disclose being connectable to a server. Kuwata, [0081], [0085]. Making Kuwata's camera connectable to a server would have been obvious to a POSITA in view of Fisher. Stevenson ¶84. Fisher, like Kuwata, discloses an "electronic camera device" that generates image data using a capture subsystem to "capture image data corresponding to target object 112 via reflected light impacting image sensor 224," including a CCD, "along optical path 236." Fisher, [0023], [0026]-[0028], FIG. 2; Stevenson ¶84.

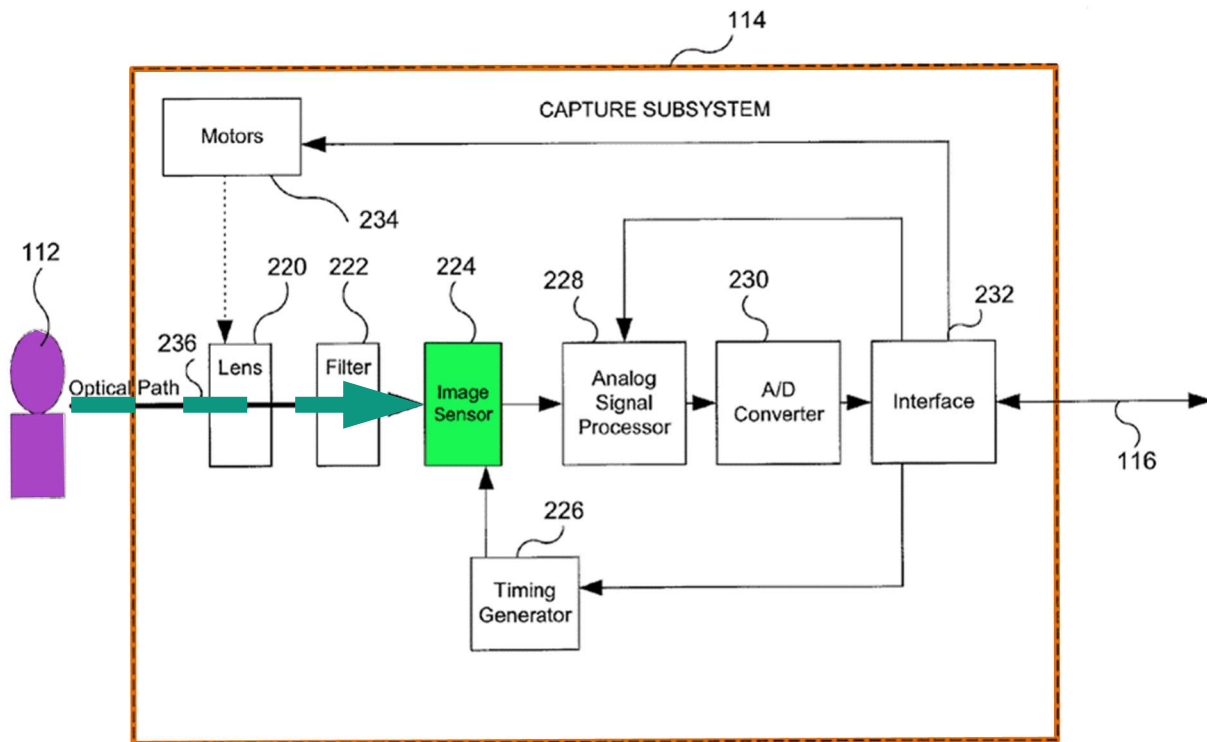


FIG. 2

Fisher, FIG. 2.

Fisher's camera uses an I/O interface to communicate with "an external entity[,] such as an Internet server," to "download various types of ancillary data files 418 and other information from a wireless data source." Fisher, [0042], [0044]; Stevenson ¶85. Accordingly, Fisher teaches an electronic camera device (image related data generator) connectable to a server. Stevenson ¶85.

A POSITA would have found it obvious to implement Fisher's connectivity with a server in Kuwata's camera to allow the camera to download various "ancillary data files available on a distributed computer network like the Internet"

that update camera data “to facilitate successful operation” of the camera and improve outputs on different output devices. Fisher, [0008], [0034], [0042], [0044]; Stevenson ¶86. A POSITA would have found it obvious to incorporate this network connectivity into Kuwata’s image data output system to allow the camera to download additional data files to facilitate successful operation of the camera. Stevenson ¶86. Doing so would have been desirable to ensure that the camera includes “preset conditions” for a particular printer used by the user to accurately reproduce a captured image. Kuwata, Abstract, [0013]-[0014], [0075], [0077], [0082]-[0083], [0096]; Stevenson ¶86.

i. Motivation to Combine

A POSITA would have been motivated to make Kuwata’s camera connectable to a server so that the camera can access and download ancillary data files to improve outputs across various output devices. Stevenson ¶¶87-89. Kuwata discloses storing “preset conditions” having “the optimum combination of operational characteristics of a DSC-printer pair” in the camera’s memory “for later retrieval when the photographer identifies the target printer to be used for printing.” Kuwata, [0077], [0082]-[0083]; Stevenson ¶87. These preset conditions specify the “optimum parameter settings” for both the DSC’s and printer’s characteristics to “guarantee[] that the results will be optimal for the DSC-printer pair.” Kuwata, [0013]-[0014], [0077], [0116]; Stevenson ¶87.

A POSITA would have been motivated to incorporate Fisher's server connectivity into Kuwata's camera to allow it to download, add, and update various preset conditions for DSC-printer pairs that are released after the camera was manufactured or not already stored in the camera's memory, relieving users of the "laborious" process of identifying conditions that manufacturers are "best suited" to identify. Kuwata, [0075], [0077]; Stevenson ¶88. Doing so would have used Fisher's known technique of making Kuwata's camera connectable to a server to improve the camera in the same way, such as to "make the ancillary data files available on a distributed computer network like the Internet" to be used by the camera and improve the images rendered by output devices. Fisher, [0008]; Stevenson ¶88. A POSITA would have been motivated to apply Fisher's known technique of downloading manufacturer-created files from a server to improve Kuwata's camera by predictably making optimal preset conditions for a DSC-printer pair available. Stevenson ¶88. A POSITA would have also been motivated to avoid outdated DSC-printer pair settings creating decreased output quality at the printer. Kuwata, [0006], [0011], [0102]; Stevenson ¶88.

Fisher provides additional motivation, teaching that a camera connectable to a server to "download various types of ancillary data files" is "advantageous[]" to address "the growing demands on system functionality." Fisher, [0007], [0030], [0042], [0044]; Stevenson ¶89. Such known advantages would have led a POSITA

to implement Fisher's server connectivity on Kuwata's camera to arrive at a camera connectable to a server. Stevenson ¶89.

ii. Expectation of Success

A POSITA would have reasonably expected success making Kuwata's camera connectable to a server because doing so uses a known technique implemented in the same way as for other similar devices. Stevenson ¶¶90-91. Kuwata's digital camera includes "I/O" and "wireless" ports to communicate via "a wireless communications channel such as IR or RF" that would facilitate using "bi-directional communications between camera device 110 and any external entity," such as "an Internet server." Kuwata, [0081], [0085]; Fisher, [0030], [0044]. Using or modifying Kuwata's ports to communicate with a server (e.g., over the Internet or via a computer connected to the Internet) would have been a combination of known elements according to known methods to yield predictable results. Stevenson ¶90.

A POSITA would have recognized that using Kuwata's digital camera to communicate with a server to download, add, and update preset conditions for DSC-printer pairs would have required a POSITA to apply only conventional techniques for transferring information over a network, as network communications were conventional, often standardized, and ubiquitous. Stevenson ¶91; Fisher, [0023], [0044]. Implementing Fisher's network-communication

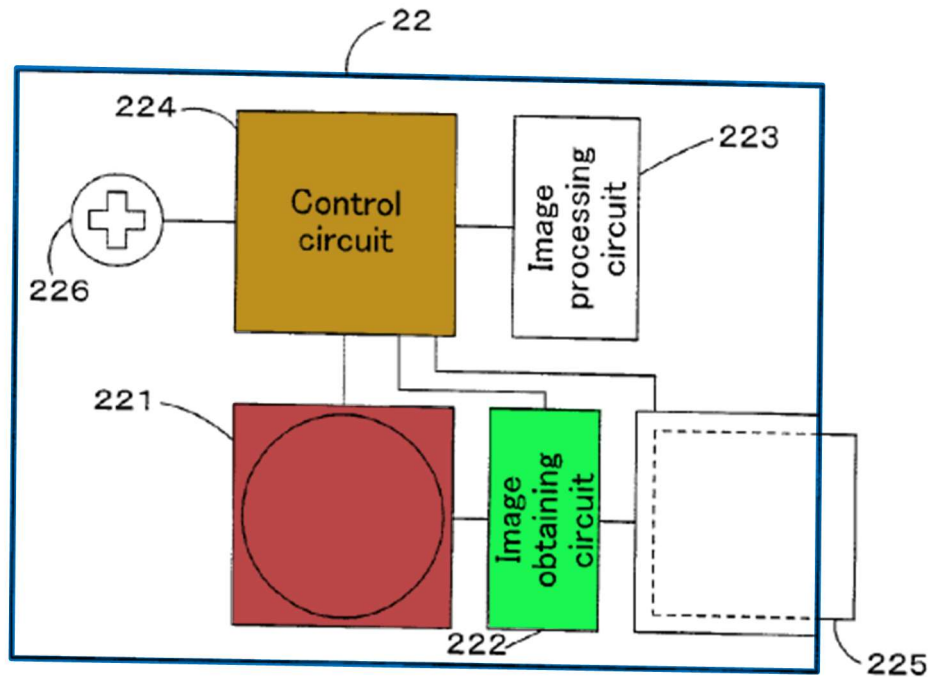
functionality in Kuwata's camera would have been a straightforward application of known, conventional software operations (communicating information over a network between an electronic device and server) used according to their known functions to yield predictable results (retrieving, sending, downloading, or otherwise receiving information at the digital camera). Stevenson ¶91; *see KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

b. [1a]: “an image data generator configured to generate image data;”

Kuwata discloses or suggests [1a]. Stevenson ¶¶92-93.

Kuwata's [DSC 22](#) “obtains images by forming images from light information in a digital device (CCD or photo multiplier)” (image data generator). Kuwata, [0081]. Kuwata's [camera](#) “obtain[s] an image” (generates image data) using an “[optical circuit 221](#) for gathering light information” and “[image obtaining circuit 222](#) for controlling a digital device,” such as a CCD, “to obtain an image.” Kuwata, [0081]; *see also* Kuwata, [0015] (“image data generating mechanism that generates image data”). A [control circuit 224](#) “generates image data GD,” for example, “when the shutter button is pressed.” Kuwata, [0081], [0090]; Stevenson ¶93.

Fig. 5



Kuwata, FIG. 5.

- c. [1b]: “a control data storage module pre-storing image processing control data to control image processing of the image data;”

Kuwata discloses or suggests [1b]. Stevenson ¶¶94-97.

Kuwata discloses “memory within control circuit 224” (control data storage module) that pre-stores “preset conditions” (also called control parameter values) (image processing control data to control image processing of the image data).

Kuwata, [0082]-[0083], [0089], [0116]; Stevenson ¶95. “Preset conditions” include “output conditions” that “match the output device that outputs the image data GD in an image file GF,” are “optimized for each manufacturer of printer 24 or for

each equipment type of printer 24,” or are “general use output conditions that are used fairly often such as bright[ness], sharp[ness], etc.” Kuwata, [0082]-[0083], [0089]; Stevenson ¶95. The preset conditions for a particular DSC-printer pair “reduce or eliminate the differences between the image data reproduced at DSC 22 that generates image files GF and the image data reproduced at printer 24.” Kuwata, [0075], [0077], [0083], [0116].

The camera adds the specified preset conditions as “output control information CI” to an image file GF with image data GD. Kuwata, [0082], [0088]-[0090], [0093]. Image data GD is processed “based on the control parameter values obtained from the analyzed output control information CI” (image processing control data to control image processing of the image data). Kuwata, [0093], [0101], [0105], [0109], [0116], FIGS. 8, 10; Kuwata, [0030] (image processing device that processes “the image data based on image process control information contained in the retrieved process control data”); Stevenson ¶96. Kuwata thus “use[s] DSC 22 to preset [(e.g., pre-store)] image output conditions [(image processing control data)] considering color reproduction characteristics of the output device, and to control the image output status [(e.g., control image processing)] at the output device.” Kuwata, [0096]; Stevenson ¶96.

d. [1c]: “a relating module configured to relate the image data to the image processing control data; and”

Kuwata discloses or suggests [1c]. Stevenson ¶¶98-100.

Kuwata’s DSC 22 includes a control circuit 224 (relating module) that relates image data GD to output control information CI that includes the selected preset conditions (image processing control data). Kuwata, [0080]-[0081], [0089]-[0093]; Stevenson ¶99. Kuwata’s camera “generates image files GF” that contain image data GD and “information relating to the” image data GD, including output control information CI. Kuwata, [0071]-[0073], [0080], [0082], [0089]-[0093]. Control circuit 224 relates the image data GD generated from taking the picture to the selected output control information CI (preset conditions) in the image file GF because generating the image file “correlates” the image data GD and output control information CI that are then “provided together” in “image file GF.” Kuwata, [0015], [0082], [0089]-[0093]; Stevenson ¶99.

e. [1d]: “a storage manager configured to update at least a part of the image processing control data stored in the control data storage, based on specification data, which specifies the image processing control data to be updated,”

Kuwata and Fisher render obvious [1d]. Stevenson ¶¶101-110.

As discussed for [1pre], it would have been obvious to implement Fisher’s server connectivity into Kuwata’s camera to allow the camera to download, add,

and update preset conditions for a DSC-printer pair (image processing control data) for a particular DSC-printer pair. *Supra* §§ V.A.4.a, V.A.4.c.

Fisher's camera includes an ancillary data module 416 (storage manager) that updates at least a part of the ancillary data files (image processing control data) stored in the camera's memory (control data storage) by managing "the accessing, selecting, downloading, analyzing, and storing of various types of ancillary data files 418" from data sources, like a server. Fisher, [0036]-[0037], [0044], [0055], [0057]; Stevenson ¶103. The data within these ancillary data files 418 includes "any appropriate information, data, or instructions to facilitate successful operation of camera device 110," and correspond to Kuwata's preset conditions (image processing control data to be updated). Fisher, [0008], [0034], [0049]-[0050]; Stevenson ¶103; *supra* § V.A.4.a.

Ancillary data module 416 downloads an ancillary data file from the Internet server based on specification data, such as a "descriptor" associated with a "respective set of data," that corresponds to the user's selection. Fisher, [0010], [0023], [0049], [0053]; Stevenson ¶104. Ancillary data module 416 updates the ancillary data files stored in the camera's memory by adding the "newly-downloaded ancillary data files 418" to the memory. Fisher, [0037], [0039]. The ancillary data module may optionally delete older "local ancillary data files 418 ...,

depending upon the particular type of downloaded ancillary data files 418.” Fisher, [0060]; Stevenson ¶104.

A POSITA would have found it obvious to implement Fisher’s ancillary data module that updates ancillary data files in the camera’s memory based on specification data that specifies new or updated ancillary data files to download in Kuwata’s camera. Stevenson ¶105. Fisher teaches that manufacturers make various ancillary data files available on the Internet “for subsequent downloading and utilization by the camera device,” and a POSITA would have found it obvious to provide this functionality to update the preset conditions for DSC-printer pairs stored in memory with new or updated preset conditions. Kuwata, [0075], [0077]; Fisher, [0008], [0055]; Stevenson ¶105. Doing so would have been desirable for the reasons described in Section V.A.4.a, including so that the camera stores the optimum “preset conditions” for a particular printer to accurately reproduce a captured image. Kuwata, Abstract, [0013]-[0014], [0075], [0077], [0082]-[0083], [0096]; Stevenson ¶105.

i. Motivation to Combine

As discussed in Section V.A.4.a.i, a POSITA would have been motivated to incorporate an ancillary data module (storage manager) functionality to download new or updated preset conditions for a DSC-printer pair (update at least a part of the image processing control data stored in the control data storage) from a server

based on specification data identifying that DSC-printer pair to the server. Stevenson ¶¶106-108. This combination would have involved using only known data transmission and reception techniques to predictably improve Kuwata's camera by allowing users to update the preset conditions stored in camera memory based on specification data corresponding to a DSC-printer pair. Kuwata, [0082]-[0083], [0089]; Fisher, [0036]-[0037]; Stevenson ¶106. A POSITA would have also been motivated to update old preset conditions for a DSC-printer pair in memory by overwriting them with those downloaded from the server to improve Kuwata's memory usage. Fisher, [0060]; Stevenson ¶106.

A POSITA would have been motivated to identify the selected preset conditions to be updated (image processing control data to be updated) with specification data based on Fisher's teaching of "descriptors" for the "respective set of data" (e.g., preset conditions for a DSC-printer pair) to be updated from the server. Fisher, [0049]-[0050], [0053], [0057], [0059]; Stevenson ¶107.

A POSITA would have been motivated to look to Fisher's teachings to update and manage the preset conditions stored on Kuwata's camera to account for printers not stored in camera memory (e.g., later-developed printers) or to update the manufacturer-identified preset conditions for printing. Kuwata, [0075], [0077]; Fisher, [0008]; Stevenson ¶108. A POSITA also would have been motivated to provide the user the ability to add, remove, or update modes on the camera.

Stevenson ¶108. It was known in the art that it was desirable “to customize a digital camera to include only the features desired by the user,” for example, “enabl[ing] a user to easily add or remove the features that the user wants or does not want, respectively.” Ex. 1009, 1:34-40, 2:3-14; Stevenson ¶108. This could include “add[ing] a feature to the digital camera after purchase that was not available at the time of purchase.” Ex. 1009, 1:34-40, 2:3-14. A POSITA would have been motivated to make various ancillary data files “available on a distributed computer network ... for subsequent downloading and utilization by the camera device” to predictably improve Kuwata’s camera to add new files corresponding to preset conditions or update existing preset conditions in Kuwata’s camera. Fisher, [0008]; Stevenson ¶108.

ii. Expectation of Success

A POSITA would have reasonably expected success implementing this functionality for the reasons discussed in Section V.A.4.a.ii. Stevenson ¶¶109-110. Kuwata and Fisher both disclose manufacturers providing data for user selection on the camera. Kuwata, [0077]; Fisher, [0008]. A POSITA would have reasonably expected success making this data “available on a distributed computer network” for the camera device to download and use by updating Kuwata’s preset conditions because it would have involved only conventional networking functionality well within a POSITA’s skill. Fisher, [0008]; Stevenson ¶109.

A POSITA would have recognized that modifying Fisher’s digital camera to incorporate functionality to download, add, or update information, such as DSC-printer pair information, stored on the camera would have required a POSITA to apply only conventional techniques for transferring information over a network. Stevenson ¶110; Fisher, [0023], [0044]. Implementing this functionality to download updated conditions, such as DSC-printer pairs, would have been a straightforward application of known, conventional software operations (communicating information over a network) used according to their known functions to yield predictable results (retrieving, sending, downloading, or otherwise receiving and storing the information at the digital camera). Stevenson ¶110.

- f. **[1e]: “wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the image related data generator.”**

Kuwata discloses or suggests this limitation. Stevenson ¶¶111-115.

Kuwata’s **DSC 22** stores the image file containing “the output control information CI,” including the preset conditions, “that specifies output conditions for **printer 24**” and “image data GD” in storage device 225. Kuwata, [0093]. Image file GF “is sent to **printer 24**” (image processing device) from **DSC 22** via “**cable CV**” (depicted in Figure 4), a “wireless communications channel,” or a detachable

storage device (transferred from the image related data generator). Kuwata, [0085];
Stevenson ¶112.

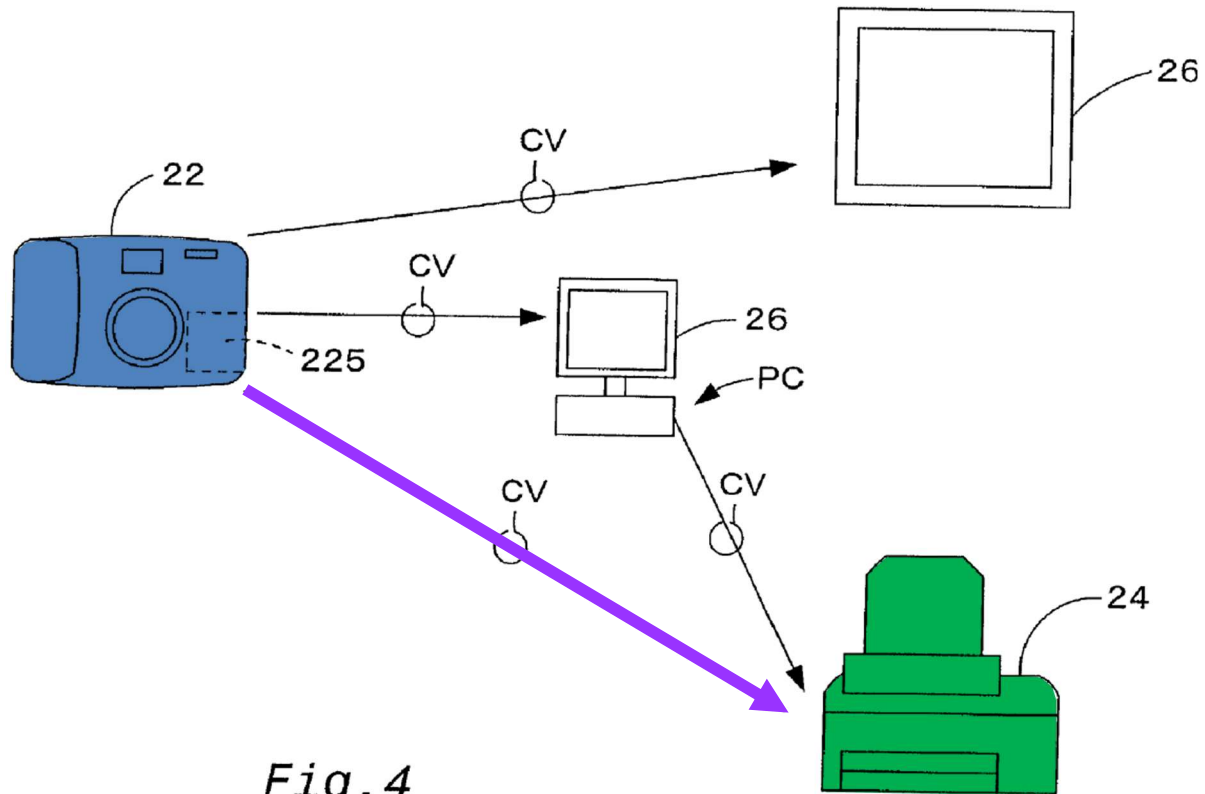


Fig. 4

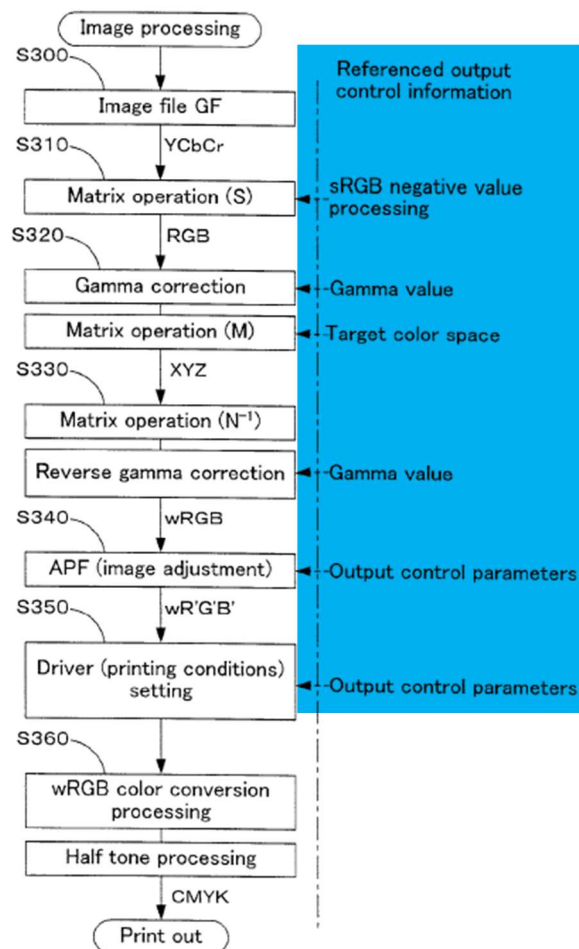
Kuwata, FIG. 4.

The image file GF contains image data GD (image data) and output control information CI (image processing control data). Kuwata, [0081]-[0085]. The printer “obtains the output control information CI stored,” “fetches image data GD” from the image file GF, and processes the image data GD “based on the control parameter values obtained from the analyzed output control information CI” (image processing control data is to be used in processing of the image data by an image processing device). Kuwata, [0101], [0103]-[0109]; Stevenson ¶113. For

example, the printer “executes gamma correction and matrix operation M” using “control parameters within output control information CI.” Kuwata, [0103]; Stevenson ¶113.

Figure 10 depicts “image processing” at a printer using the [output control information](#) to “reduce or eliminate the differences between” the way the image data GD is reproduced at the camera and printer. Kuwata, [0055], [0098], [0103]-[0119]; Stevenson ¶114.

Fig. 10



Kuwata, FIG. 10.

5. **Claim 2: “The image related data generator according to claim 1, wherein the storage manager adds the update data into the control data storage.”**

Kuwata and Fisher render obvious claim 2’s additional limitations.

Stevenson ¶¶116-118.

Fisher’s ancillary data module 416 (storage manager) “store[s] [(adds)] the downloaded ancillary data files 418” to the camera memory with the other ancillary data files. Fisher, [0037]; Stevenson ¶117. Figure 7 depicts exemplary ancillary files stored in memory, including the “sets of data” 714 that may include “information, data, or program instructions to facilitate successful operation of camera device 110.” Fisher, [0049]-[0050], FIG. 7. As explained for [1d], Kuwata and Fisher render obvious sets of data 714 (preset conditions (update data)) being added into the control data storage. *Supra* § V.A.4.e; Stevenson ¶117.

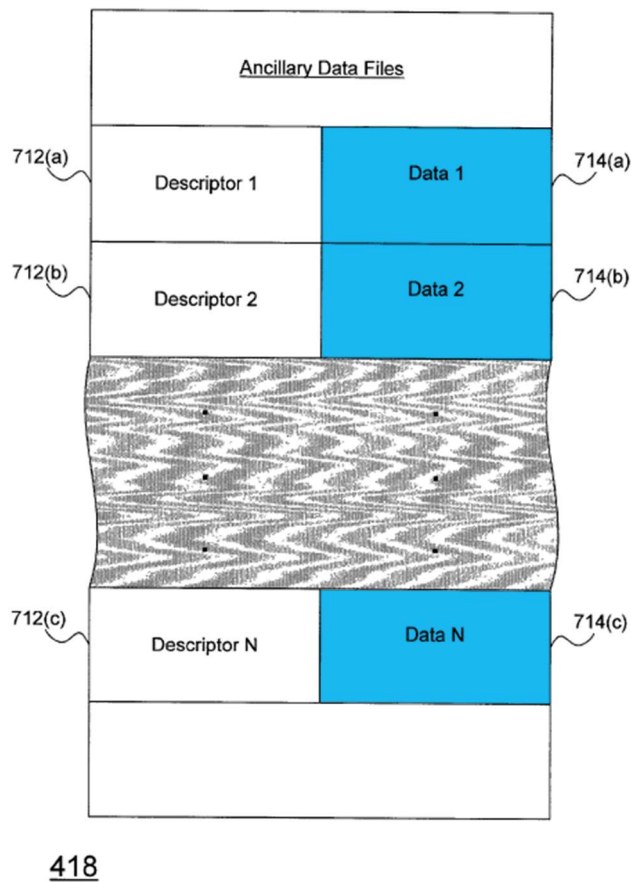


FIG. 7

Fisher, FIG. 7.

As discussed for [1d], a POSITA would have found it obvious to combine Kuwata and Fisher to implement Fisher's ancillary-data-module functionality (storage manager) to add downloaded preset conditions (update data) to the memory containing other preset conditions (control data storage) so that new or updated preset conditions are available to the user. *Supra* § V.A.4.e; Stevenson ¶118. A POSITA would have been motivated to make this modification with a

reasonable expectation of success for the reasons explained for [1d]. *Supra* § V.A.4.e; Stevenson ¶118. This modification would have predictably improved Kuwata's camera because adding the downloaded preset conditions to memory would have retained the preset conditions with the optimal preset conditions for the DSC-printer pair for future use if the user chose to use the same printer again, and even without a network connection to the server. Stevenson ¶118.

6. Claim 3: “The image related data generator according to claim 1, wherein the storage manager overwrites the image processing control data corresponding to the specification data with the update data.”

Kuwata and Fisher render obvious claim 3's additional limitations.

Stevenson ¶¶119-121.

As discussed for [1d] and claim 2, Fisher's ancillary data module 416 (storage manager) “store[s]” (adds) “downloaded ancillary data files 418” to the camera memory with other ancillary data files. Fisher, [0037]; Stevenson ¶120; *supra* §§ V.A.4.e, V.A.5. Fisher discloses the ancillary data module “delet[ing] local ancillary data files 418” when downloading a new file. Fisher, [0060].

Adding the new ancillary data file and deleting the corresponding old file discloses overwriting the ancillary data file. Stevenson ¶120. This understanding aligns with the '082 patent's disclosure of overwriting the image processing control data by

“stor[ing] the update data” for a particular control data version to memory and “invalidat[ing] the old[]version” of the control data. Ex. 1001, 11:65-12:3.

As explained for [1d], a POSITA would have found it obvious to combine Kuwata and Fisher to overwrite old versions of preset conditions (image processing control data) corresponding to the specification data with the new downloaded preset conditions for that DSC-printer pair (update data). *Supra* § V.A.4.e; Stevenson ¶121. A POSITA would have been motivated to make such modification with a reasonable expectation of success for the reasons explained for [1d]. *Supra* § V.A.4.e; Stevenson ¶121. A POSITA would have been motivated to allow the storage manager to overwrite the initial preset conditions with the updated preset conditions to implement a manufacturer’s changes or updates to the preset conditions. Stevenson ¶121. It was “well known” that “software [could] be refined to provide higher performance (i.e., better image quality) or more features,” and digital cameras having the ability to “update” functionality via update data from an external device were well known. Ex. 1008, [0030], [0033]-[0037]; Ex. 1010, 2:28-32; Stevenson ¶121. A POSITA would have been motivated to provide users the ability to store image processing control data when the update data refines the characteristics to provide better performance and would have reasonably expected success doing so, as explained in [1d]. Ex. 1010, 2:28-32; Stevenson ¶121; *supra* § V.A.4.e.

7. Claim 5

- a. [5a]: “The image related data generator according to claim 1 further comprising: an identification data storage module configured to store identification data mapped to the image processing control data, the identification data identifying each of the image processing control data,”**

Element [5a] does not appear to be specific whether “the image processing control data” refers to the image processing control data before or after it has been related to the image data by the relating module in [1c]. Stevenson ¶¶122-130.

If [5a] refers to the image processing control data *after* it has been related in [1c] (“the ‘after’ interpretation”), then Kuwata discloses or suggests [5a]’s additional limitations. Stevenson ¶¶123-124. If [5a] refers to the image processing control data stored in the control data storage module *before* it has been related to the image data in [1c] (“the ‘before’ interpretation”), then Kuwata discloses or Kuwata and Fisher render obvious [5a]’s additional limitations. Stevenson ¶¶123, 125-127.

i. The “after” interpretation

If the “after” interpretation applies, then Kuwata discloses that the generated image files GF containing output control information CI are stored in storage device 225. Kuwata, [0082]. The image files GF include a “PrintMatching data storage area (image output control parameter storage area) 114” (identification data storage module) and a PrintMatching tag “allocated” to “output control

information CI (each parameter value)” in storage area 114. Kuwata, [0072]-[0074]; Stevenson ¶124. Output control information CI in storage area 114 includes a “parameter number allocated in advance for each parameter” (identification data mapped to the image processing control data, the identification data identifying each of the image processing control data). Kuwata, [0072]-[0074]. Various parameter numbers (identification data) are mapped to corresponding parameters, such as gamma value, shadow point, and contrast point (image processing control data). Kuwata, [0074]; Stevenson ¶124. These parameter numbers are stored in an **identification data storage module** and are mapped to the corresponding **image processing control data** value, as shown in Figure 3b.

Fig. 3b

Offset	Meaning of Information
0	PrintMatching identifier
8	PIM Version information
12	Reserve
14	Parameter specification count
16	First parameter number
18	First parameter setting value
22	Second parameter number
24	Second parameter setting value
28	Third parameter number
30	Third parameter setting value
-	-
n-2	nth parameter setting value
n	nth parameter number

114
PrintMatching data storage area

Kuwata, FIG. 3b.

ii. The “before” interpretation

If the “before” interpretation applies, then Kuwata discloses that the camera pre-stores preset conditions corresponding to a DSC-printer pair “for later retrieval” and printing. Kuwata, [0077], [0082]-[0083]. DSC 22 includes a module storing identification data that identifies each of the preset conditions for a DSC-printer pair so that, when the photographer “set[s] in advance the [printer] planned for output” prior to the relating in [1c], the preset conditions corresponding to that DSC-printer pair are automatically related to the image data in an image file upon

taking the picture. Kuwata, [0077], [0082]-[0083]; Stevenson ¶125. Accordingly, a POSITA would have understood that Kuwata's camera includes a storage area (identification data storage module) for storing identification data corresponding to a particular DSC-printer pair so that the preset conditions for that pair can be attached "automatically" to an image file when the image is taken. Kuwata, [0077], [0082]-[0083], [0089]-[0090]; Stevenson ¶125.

Alternatively, a POSITA would have found it obvious to incorporate Fisher's descriptors (identification data) mapped to corresponding data for an ancillary data file (image processing control data) so that Kuwata's camera stores identification data (e.g., names of DSC-printer pairs) mapped to the corresponding preset conditions (image processing control data) in memory (identification data storage module), where each printer descriptor identifies the associated preset conditions. Stevenson ¶126; *see* Fisher, [0031], [0049], [0053], [0059]; *supra* § V.A.4.e. Fisher's **descriptors** are mapped to **sets of data**, as shown below.

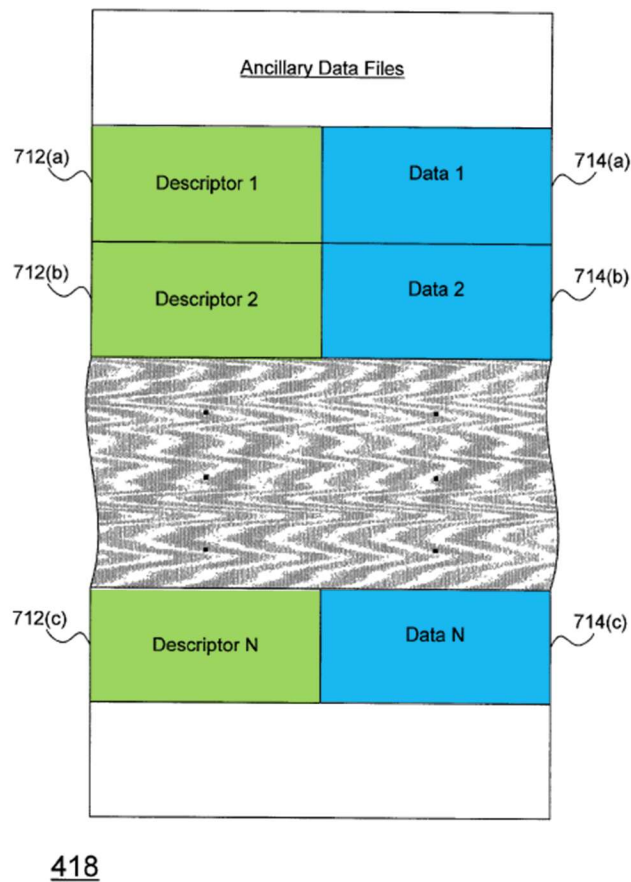


FIG. 7

Fisher, FIG. 7.

When implemented in Kuwata's camera, the descriptors (identification data) identify each of the preset conditions because each descriptor is "associated with a different respective set of data 714" and is used "to identify" the corresponding ancillary data file (e.g., Kuwata's preset conditions). Fisher, [0049], [0059], claim 11; Stevenson ¶127.

(a) Motivation to Combine

A POSITA would have found it obvious to incorporate Fisher’s descriptor functionality (identification data) that identifies the DSC-printer pair and store the identification data in memory for the reasons discussed for [1d]. *Supra* § V.A.4.e; Stevenson ¶128. A POSITA also would have been motivated to provide identification data storage to allow the quick identification of preset conditions associated with a selected DSC-camera pair, which Fisher teaches was “advantageous[]” for various purposes, including “analyz[ing] downloaded ancillary data files” (image processing control data). Stevenson ¶128; Fisher, [0053]. Implementing Fisher’s descriptors with Kuwata’s preset conditions would have combined known methods to predictably yield Kuwata’s desired result of automatically identifying preset conditions for a selected DSC-printer pair. Kuwata, [0082]-[0083]; Fisher, [0059]; Stevenson ¶128.

(b) Expectation of success

A POSITA would have reasonably expected success implementing Fisher’s descriptors in Kuwata’s camera for the reasons described in [1d]. *Supra* § V.A.4.e.ii. A POSITA also would have reasonably expected success incorporating the identification data and identification data storage module because Kuwata already teaches an image file containing identification data and, as described in [1d], the Kuwata-Fisher combination already uses specification data

identifying the DSC-printer pair when retrieving updated preset conditions from a server, giving a POSITA a reasonable expectation of successfully storing this same specification data as identification data. *Supra* § V.A.4.e; Stevenson ¶129.

Moreover, the incorporation into Kuwata's camera would have merely combined familiar elements (memory storing identifiers in software) used according to known methods to yield predictable results (pointing to related information in memory). Stevenson ¶129.

A POSITA would have recognized that incorporating Fisher's identification data storage module would have required the POSITA to apply only conventional techniques for storing data identifying and mapping to other data, which was well known in the art, as storage containing identification data mapped to parameters was conventional and ubiquitous. Stevenson ¶130; Fisher, [0049]-[0050].

b. [5b]: “wherein the specification data is the identification data.”

Kuwata and Fisher render obvious [5b]'s additional limitations. Stevenson ¶¶131-132.

For the reasons discussed for [1d], a POSITA would have found it obvious to implement Fisher's functionality to update the preset conditions in the control data storage based on specification data identifying the DSC-printer pair. *Supra* § V.A.4.e; Stevenson ¶132. As discussed for [5a], Kuwata discloses, or

alternatively Kuwata and Fisher render obvious, storing the available DSC-printer pair descriptors (identification data) corresponding to the DSC-printer pair's preset conditions. Stevenson ¶132; *supra* § V.A.7.a. Because the combined Kuwata-Fisher camera already uses the DSC-printer pair identifier (specification data) to download the corresponding preset conditions, a POSITA would have found it obvious, and reasonably expected success implementing, storing the DSC-printer pair identifier (identification data) in memory to make later retrieval of the corresponding preset conditions more efficient, as explained for [5a]. *Supra* § V.A.7.a; Stevenson ¶132.

8. Claim 6

- a. **[6a]: “The image related data generator according to claim 1, wherein the image data generator is connectable to a server via a network, and”**

The image data generator is a part of the image related data generator, which is connectable to a network, such as the Internet, as explained in [1pre]-[1a]. *Supra* §§ V.A.4.a-V.A.4.b; Stevenson ¶133. Kuwata and Fisher render obvious [6a]'s additional limitations, as discussed for [1pre]. *Supra* § V.A.4.a; Stevenson ¶133.

- b. **[6b]: “the storage manager sends specification data which specifies the image processing control data to be updated, to the server and receives update data from the server.”**

As discussed for [1d], Fisher's ancillary data module (storage manager) renders obvious sending specification data corresponding to a DSC-printer pair

that specifies the preset conditions (image processing control data) to be updated to the server and receives back the corresponding preset conditions (update data).

Supra § V.A.4.e; Stevenson ¶134. Kuwata and Fisher therefore render obvious [6b]’s additional limitations, as discussed for [1d]. *Supra* § V.A.4.e; Stevenson ¶134.

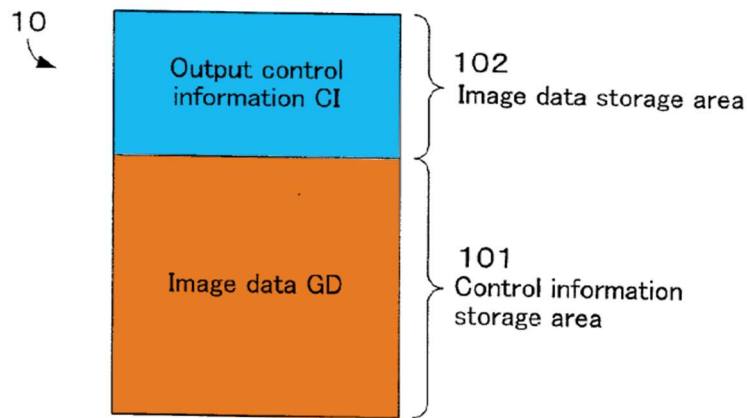
9. Independent Claim 10

- a. **[10pre]: “A digital camera for generating an image file including image data and image processing control data, the image processing control data being used for controlling image processing of the image data, the digital camera comprising:”**

If limiting, Kuwata discloses or suggests [10pre]. Stevenson ¶¶135-137.

Kuwata discloses a “digital still camera 22” (digital camera) that generates an image file GF (for generating an image file) including “**image data GD**” (image data) and “**output control information CI**” (image processing control data), as explained in [1pre]-[1c]. Kuwata, [0075], [0079]-[0080]; Stevenson ¶136; *supra* §§ V.A.4.a-V.A.4.d. The **output control information CI** controls image processing of the image data as described for [1e]. *Supra* § V.A.4.f; Stevenson ¶136.

Fig. 1



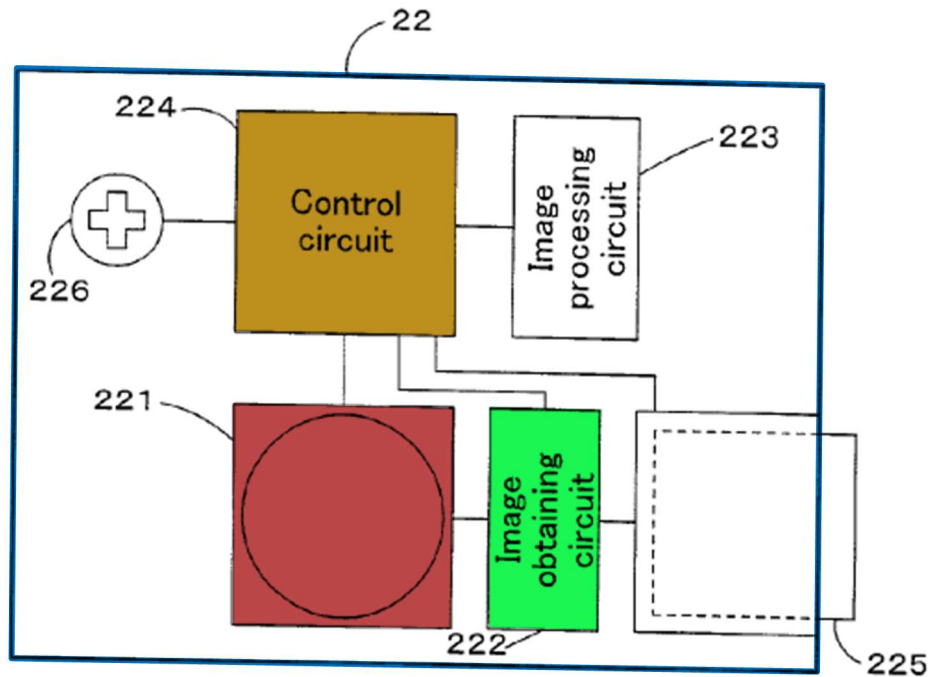
Kuwata, FIG. 1.

- b. [10a]: “an image data generating module configured to generate image data of an image captured by the digital camera;”

Kuwata discloses or suggests [10a]. Stevenson ¶¶138-140.

Kuwata’s image data generator discussed for [1a] is an image data generating module configured to generate image data. *Supra* § V.A.4.b; Kuwata, [0015], [0081]-[0082], [0090]; Stevenson ¶139. The generated image data is of an image captured by the digital camera because Kuwata’s DSC includes **control circuit 224** that “generates image data GD” upon pressing the shutter button (not shown). Kuwata, [0081]-[0082], [0090]; Stevenson ¶¶139-140.

Fig. 5



Kuwata, FIG. 5.

c. [10b]: “a display device;”

Kuwata discloses or suggests [10b]. Stevenson ¶¶141-142.

Kuwata explains that a “*display image*” can be “confirmed on a *digital still camera monitor*” before outputting the image and control information CI to an external device, such as a printer. Kuwata, [0075] (emphases added). Kuwata also teaches displaying “an option menu” containing preset conditions “to an operator of the DSC” for selecting output control information CI via “select and determine button 226” using DSC in the same way as a scanner display. Kuwata, [0081], [0083]-[0084], [0089], [0139], [0146], FIG. 5; Stevenson ¶142.

- d. **[10c]: “a control data storage for storing in advance image processing control data to control image processing of the image data; and”**

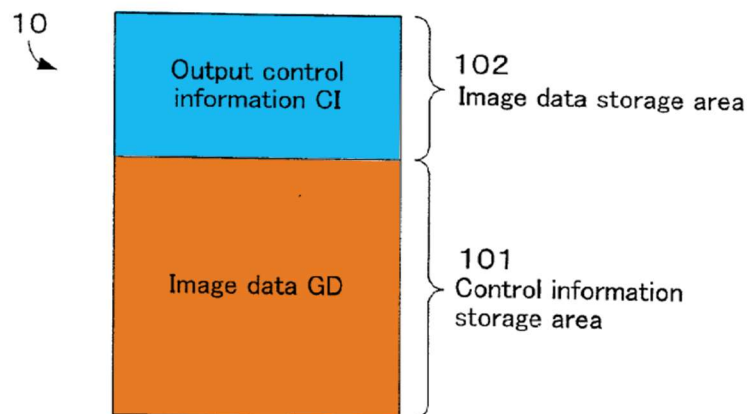
Kuwata discloses or suggests [10c]. Stevenson ¶¶143-144.

Although [10c] recites storing image processing control data “in advance,” whereas [1b] recites “pre-storing,” a POSITA would have understood that these recitations are substantively the same, and therefore [10c] is disclosed for the reasons discussed for [1b]. *Supra* § V.A.4.c; Stevenson ¶144.

- e. **[10d]: “an image file generating module configured to generate an image file that includes the image data and the image processing control data; and”**

Kuwata discloses or suggests [10d] for the reasons discussed for [1c] regarding the relating module that “combines and matches” the generated **image data GD** (image data) and **output control information CI** (image processing control data) to create image file GF, as shown in Figure 1. *Supra* § V.A.4.d; Kuwata, [0015], [0066], [0079]-[0083], [0088]-[0090]; Stevenson ¶¶145-146.

Fig. 1



Kuwata, FIG. 1.

- f. **[10e]: “a memory management module configured to acquire additional image processing control data from an external memory device separate from the digital camera, and to store the additional image processing control data into the control data storage,”**

Kuwata and Fisher render obvious [10e]. Stevenson ¶¶147-150.

Although [10e] uses different terminology from [1d] and claim 2, it recites substantively similar limitations, except [10e] explicitly recites “an external memory device separate from the digital camera” and [1d] also requires that the updating be “based on specification data” that is not stated in [10e]. Stevenson ¶148.

As explained for [1d] and claim 2, a POSITA would have found it obvious based on Kuwata and Fisher to include functionality to acquire additional preset conditions corresponding to DSC-printer pairs or new modes (additional image processing control data) from an external memory device separate from the digital camera, such as a server, and to store the additional output conditions in Kuwata’s camera memory (control data storage). *Supra* §§ V.A.4.e, V.A.5; Stevenson ¶149; Fisher, [0008], [0034], [0036]-[0037], [0044], [0055], [0057]. A POSITA would have found it obvious to incorporate Fisher’s acquisition and storage of additional image processing control data into Kuwata’s camera for the reasons explained for [1d] and claim 2. *Supra* §§ V.A.4.e, V.A.5; Stevenson ¶150.

- g. [10f]: “wherein the image file generating module [i] displays a user interface screen including a plurality of processing modes on the display device to enable a user to select one of the plurality of processing modes, and [ii] generates the image file using specific image processing control data associated with the selected processing mode, and”**

Kuwata suggests or renders obvious [10f]. Stevenson ¶¶151-159.

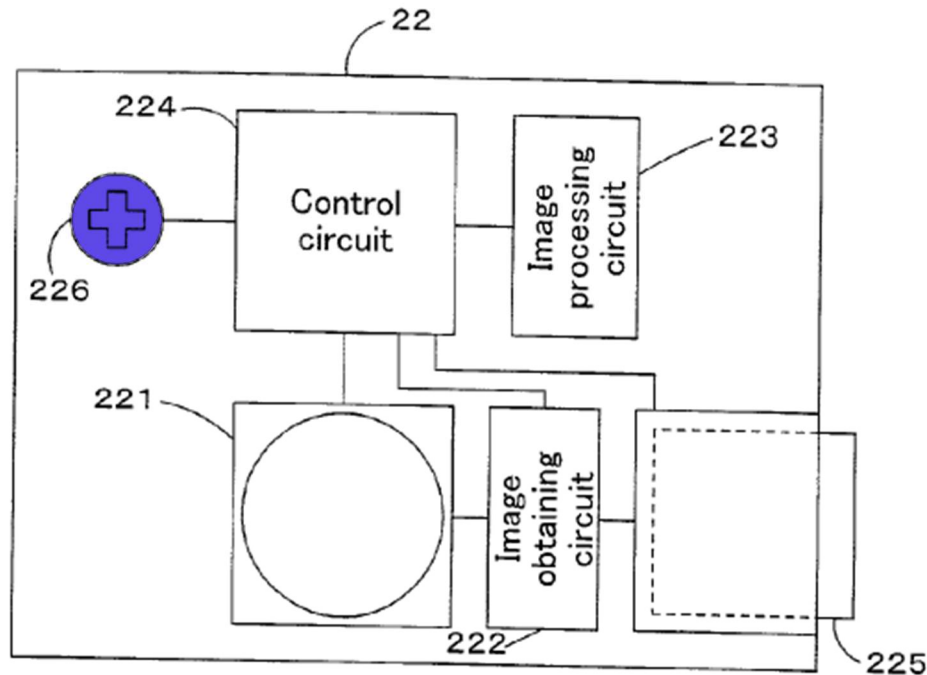
i. Kuwata discloses or renders obvious the “displays” limitation

As discussed for [10b], Kuwata discloses a display device that displays preset conditions stored in memory “in an option menu” (user interface screen including a plurality of processing modes) to “an operator of the DSC.” *Supra* § V.A.9.c; Kuwata, [0077], [0082]-[0083], [0139], [0146]; Stevenson ¶152. The user selects from the preset conditions using the camera’s “select and determine button 226” (enable a user to select one of the plurality of processing modes). Kuwata, [0081]-[0083]; Stevenson ¶152. As depicted in Figure 5, select and determine button 226 has up, down, left, and right options (what a POSITA would understand as a “D-pad”) and a “select” function, allowing the navigation and selection of options shown on a user interface screen. Kuwata, [0081], [0139], [0146], FIG. 5; Stevenson ¶152. Confirming this is Kuwata’s description of “setting buttons” “to make any desired settings” displayed on a “display screen”

(user interface screen) that “may be combined with” the DSC embodiment.

Kuwata, [0081], [0139], [0146], FIG. 5; Stevenson ¶152.

Fig. 5



Kuwata, FIG. 5.

The preset conditions presented in the option menu, or “choices prepared in advance,” disclose a plurality of processing modes corresponding to sets of output conditions, like “the **gamma value**, **target color space**, **contrast**, and **sharpness**” (highlighted below), for output control information CI that “control” the image processing “at the output device.” Kuwata, [0082]-[0084], [0088]-[0089], [0093], [0096]; Stevenson ¶153. Figure 8 depicts an example set of such conditions, some of which are highlighted, for an image file GF. Kuwata, [0088], [0093], FIG. 8.

Fig. 8

Control Parameters	Specified Value
Gamma value	2. 2
Target color space	NTSC
sRGB negative value processing	1 (valid)
Shadow	5
Highlight	2
Contrast	0
Brightness	4
RGB color balance	R0/G-1/B2
Saturation	0
Sharpness	Threshold value 2 Applied volume 3
Stored color correction	Green 0, 0, 0 (unspecified), Light blue 0, 0, 0 (unspecified) Flesh 0, 0, 0 (unspecified), Red 0, 0, 0 (unspecified)
Automatic adjustment	5
Paper	3 (photographic paper)
Resolution	4 (photograph)
Bi-directional printing	1 (on)

Kuwata, FIG. 8.

If Patent Owner argues or the Board finds that Kuwata does not expressly disclose the image file generating module displaying the user interface screen described above, a POSITA would have found it obvious to have Kuwata's image file generating module display a user interface screen to allow the user to select one of the preset conditions, facilitating Kuwata's goal of allowing users to improve image output at external devices "without doing photo retouching work."

Kuwata, [0116]-[0117]; Stevenson ¶154. As described for [10d], Kuwata's image file generating module generates image file GF that includes image data GD and output control information CI, including the set preset conditions (image processing control data) for the processing mode. *Supra* § V.A.9.e.

(a) Motivation to Combine

A POSITA would have been motivated to have Kuwata's image file generating module display the user interface screen providing an option menu of preset conditions (processing modes) because storing this functionality in a single software module containing the options would have allowed the camera to efficiently organize and present the options in the user interface for selection and determine when a user sets or selects preset conditions using the user interface for inclusion in the image file. Kuwata, [0089]-[0090]; Stevenson ¶155; *supra* § V.A.9.e ([10d]).

A POSITA would have also been motivated to have the image file generating module display choices for selectable processing modes (preset conditions) using a user interface screen to allow the easy, user-friendly selection of one of the choices (e.g., with “select and determine button 226”). Kuwata, [0081]; Stevenson ¶156. Using the directional and selection control 226 was a well-known control operation known as a “D-pad” to navigate through menus and select options, and would have merely combined familiar elements used according

to their known methods to yield predictable results. Stevenson ¶156. A POSITA would have chosen this well-known design that allows the camera to display different numbers of processing modes as they are added or removed from the camera, which provides greater flexibility and ease of use than a fixed number of selection buttons. *Id.*

(b) Expectation of Success

A POSITA would have reasonably expected success displaying the user interface of preset conditions stored in the image file generating module.

Stevenson ¶157. A POSITA would have recognized that using Kuwata's image file generating functionality to store and display the available option menus of preset conditions would have required the POSITA to apply only conventional techniques for organizing software and displaying information. *Id.*; Kuwata, [0096]; Fisher, [0035]. Configuring Kuwata's image file generating module to display the option menus that allow user selection from preset conditions would have been a straightforward application of known, conventional software operations (grouping related software functionality into a single module) used according to their known functions to yield predictable results (storing and displaying the menu options). Stevenson ¶157.

ii. Kuwata discloses the “generates” limitation

Kuwata discloses that, when the user selects a presented option, control circuit 224 (image file generating module) generates the image file GF that includes the output conditions for output control information CI corresponding to the selected presented option (generates the image file using specific image processing control data associated with the selected processing mode). Kuwata, [0089]-[0090], [0093], [0096]; Stevenson ¶158.

- h. [10g]: “when the additional image processing control data has been stored in the control data storage, the image file generating module displays on the display device a plurality of processing modes which includes an additional processing mode related to the additional image processing control data.”**

Kuwata and Fisher render obvious [10g]. Stevenson ¶¶160-165.

As discussed for [10f], Kuwata teaches or renders obvious the image file generating module displaying a user interface screen including the preset conditions (plurality of processing modes). *Supra* § V.A.9.g. For the reasons discussed for [10e], a POSITA would have found it obvious to store additional preset conditions (image processing control data) in the control data storage. *Supra* § V.A.9.f; Stevenson ¶161.

Fisher discloses that “[a] display manager may responsively *update camera device menus* [(user interface)] *for display*” after downloading new ancillary data

files or preset conditions (additional image processing control data). Fisher, [0012], [0035], [0060] (emphases added); Stevenson ¶162.

A POSITA would have found it obvious to incorporate Fisher’s updating of available user-interface menu options to show newly downloaded preset conditions when additional preset conditions are added to the control data storage to provide a user with all available options for selection, including for the reasons discussed for [10e] and [10f]. *Supra* §§ V.A.9.f-V.A.9.g; Stevenson ¶163.

i. Motivation to Combine

A POSITA would have been motivated to have the image file generating module display an updated list of preset conditions (processing modes) to include newly downloaded conditions (additional image processing control data) in the user interface discussed for [10f] so the user can “utilize [the] various ancillary data files.” Fisher, [0035]; *supra* § V.A.9.g; Stevenson ¶164. Doing so would have allowed a user to select the newly added processing mode for a DSC-printer pair. Stevenson ¶164. A POSITA would have been motivated to apply Fisher’s known menu-updating technique to improve Kuwata’s camera by allowing users to “obtain the optimum image output results” using new or updated DSC-printer pairs not originally stored on the camera. Kuwata, [0007]-[0008], [0067]; Stevenson ¶164.

ii. Expectation of Success

A POSITA would have reasonably expected success displaying new or updated preset conditions in the user interface menu using the image file generating module. Stevenson ¶165. Updating the user interface menu to show stored preset conditions, including additional preset conditions added to memory, would have required the POSITA to apply only conventional techniques for displaying stored data in a menu. *Id.*; Fisher, [0035]. Configuring Kuwata’s image file generating module to display the additional preset conditions in the user interface menu would have been a straightforward application of known software operations (displaying a menu) used according to their known functions to yield predictable results (displaying the updated menu showing available options). Stevenson ¶165.

B. Ground 2: Kuwata, Fisher, and Ohga Render Obvious Claims 1-6 and 10

1. Ohga

Ohga, filed July 21, 1999, and issued September 7, 2004, qualifies as prior art under pre-AIA § 102(e). Ohga, cover (codes (22), (45)).

Ohga discloses an image processing apparatus “execut[ing] appropriate color matching in a network environment.” Ohga, 1:43-45. A server S1 includes image files input by digital cameras, each including image data J1 and an embedded “input profile P1 of the device that inputs the image data J1.” Ohga,

2:27-31, 2:65-3:1, 3:7-15, 4:30-38. Server S1 includes a color matching module (“CMM”) program M1 and output device profile P2 of an output device (e.g., printer). Ohga, 1:16-22, 3:16-19. Server S1 also includes an HTML document H1 having “a link to an image data file” on the server or other computer and “a file link for downloading the CMM program M1.” Ohga, 2:31-36, 3:25-28.

Ohga’s PC connects to the server over a network N1 and downloads the image file and the CMM program M1 using HTML document H1. Ohga, 2:42-57, 3:25-28, 3:37-45, 4:30-38. Then output device “profile names” “are presented to the user,” and the “profile selected by the user is downloaded from the server” and “automatically loaded into the CMM program of the client.” Ohga, 3:48-58, 4:7-12.

Ohga is analogous art to the ’082 patent because it is in the same field of endeavor—both disclose processing image data in an image file based on the output device (e.g., printer) used to output the image data. Ex. 1001, 4:18-35; Ohga, 3:48-4:37; Stevenson ¶78. Ohga is also analogous art because it is reasonably pertinent to the problems with which the ’082 patent is involved. Stevenson ¶78. Both the ’082 patent and Ohga disclose a server that provides data for processing image data based on the type of the image output device. Ex. 1001, 3:56-4:35; Ohga, 3:48-4:37.

2. Independent Claim 1

a. [1pre]-[1c], [1e]

Kuwata discloses or suggests [1pre]-[1c] and [1e], as explained in Sections V.A.4.a-V.A.4.d and V.A.4.f. Stevenson ¶166.

b. [1d]

As explained for Ground 1, [1d], Kuwata and Fisher render obvious [1d]. *Supra* § V.A.4.e. If Patent Owner argues or the Board finds that Kuwata and Fisher do not render obvious updating “based on specification data, which specifies the image processing control data to be updated,” then a POSITA would have found this obvious in further view of Ohga. Stevenson ¶167-172.

Ohga, like Kuwata, discloses processing image data based on an identified input device (e.g., digital camera) and output device (e.g., printer). Ohga, 2:58-3:1, 4:3-12; Stevenson ¶168. A color-matching-module program “executes color matching for the image data J1” based on input and output profiles P1, P2 (image processing control data). Ohga, 3:16-19, 4:3-12. A PC acquires input profile P1 “from the downloaded image data” or downloads it separately based on a “designation” (specification data for input profile) and downloads output profile P2 based on a user selecting a “given profile name” (specification data for output profile) from a list. Ohga, 3:16-19, 3:37-58, 4:30-37; Stevenson ¶168.

A POSITA would have found it obvious to combine Kuwata, Fisher, and Ohga so the storage manager provides specification data identifying the desired preset conditions to be updated to the server, for similar reasons as described for Ground 1, [1d]. *Supra* Section V.A.4.e; Stevenson ¶¶169-172.

i. Motivation to Combine

A POSITA would have been motivated to provide the server with identification information (specification data) that identifies new or updated preset conditions for a DSC-printer pair so that the server would efficiently identify and transmit the desired preset conditions to the camera. Stevenson ¶170. Ohga's system improves "use efficiency of the entire network," motivating a POSITA to use specification data to identify the desired preset conditions for download from the server. Ohga, 4:41-44; Stevenson ¶170.

ii. Expectation of Success

A POSITA would have reasonably expected success updating the stored control data based on specification data provided to a server. Stevenson ¶¶171-172. Using specification data to specify target information for download was well known and typical of network, including Internet, communications. Stevenson ¶171. Fisher teaches that the ancillary data module downloads a selected ancillary data file from a server, and using specification data to identify the selected file

would have used only familiar elements according to known methods to yield predictable results. Stevenson ¶171.

Downloading files from a server by providing information that identifies those files, as Ohga teaches, would have applied only conventional network communications techniques. Stevenson ¶172; Ohga, 3:6-61. Configuring the ancillary data module functionality to provide specification data to a server and receive the corresponding preset conditions would have been a straightforward application of known software operations (network communications) used according to their known functions to yield predictable results (obtaining selected information from a remote server). Stevenson ¶172.

3. Claims 2-3

As explained in Sections V.A.5-V.A.6 (Ground 1, claims 2-3), Kuwata discloses or suggests, or Kuwata and Fisher render obvious, claims 2-3's additional limitations. Stevenson ¶173.

4. Claim 4: "The image related data generator according to claim 1, wherein the specification data is at least a part of the image processing control data."

Kuwata, Fisher, and Ohga render obvious claim 4's additional limitations. Stevenson ¶¶174-181.

As explained for [1d] in Grounds 1 and 2 (Sections V.A.4.e, V.B.2.b), a POSITA would have found it obvious to access and download updated profiles for a DSC-printer pair from a server based on specification data. Stevenson ¶175.

Ohga teaches a server storing profile names associated with the corresponding profile because it discloses that selecting a presented profile name causes the server to transmit the corresponding output profile P2, which “is automatically loaded into the CMM program.” Ohga, 3:54-58, FIG. 4; Stevenson ¶176. Alternatively, Ohga discloses the user’s device obtaining an output profile P2 based on designated “color space characteristics, i.e., the XYZ values of RGB primary colors, gamma coefficient, and XYZ value of white point, and [an output] profile is created based on these data” (at least part of the image processing control data). Ohga, 3:48-50, 3:62-65; Stevenson ¶176.

A POSITA would have found it obvious to combine Kuwata, Fisher, and Ohga to allow the specification of output conditions (specification data is at least a part of the image processing control data) at the camera to obtain corresponding updated preset conditions for later user access based on user-specified conditions. Stevenson ¶177.

i. Motivation to Combine

A POSITA would have been motivated to combine Kuwata, Fisher, and Ohga to update preset conditions in the control data storage module based on user-

specified output conditions so that the camera stores preset conditions for easy later access by the photographer. Stevenson ¶178. Kuwata already discloses that preset conditions may be often-used “general use output conditions,” and Kuwata’s camera allows users to specify information like “the gamma value, target color space, contrast, and sharpness” using preset conditions. Kuwata, [0083]-[0084]. Ohga teaches using this information to create an output profile for processing the image data. Ohga, 3:48-50, 3:62-65; Stevenson ¶178. A POSITA would have combined Ohga’s profile generation based on specified output conditions according to known methods to predictably improve Kuwata’s camera by providing functionality that allows users to create additional preset conditions for later selection.

Moreover, in addition to the reasons explained in Section V.B.2.b (Ground 2, [1d]), a POSITA would have been motivated to combine Kuwata, Fisher, and Ohga to allow the server to determine whether to provide an updated profile for a particular DSC-printer pair based on the pair’s output conditions (at least a part of the image processing control data) to conserve network and camera resources. Stevenson ¶179. For example, a POSITA would have sought to avoid having the server transmit a profile corresponding to a DSC-printer pair if the camera storage already included the identical profile, as doing so would have been a waste of network and camera resources. *Id.*

One well-known way to check whether to transmit an updated profile was to provide the server with at least part of the output conditions in the profile.

Stevenson ¶180. At a minimum, implementing this would have been obvious to try because only a finite number of options existed for ways to check for an update and avoid sending a duplicate profile if no update exists (e.g., transmitting a version number or transmitting at least part of the profile's output conditions), motivating a POSITA to try each of the options. *Id.* By associating profile names with the corresponding profiles on the server, as Ohga teaches, a POSITA would have recognized that transmitting at least part of the output conditions in the profile from the camera to the server would have allowed the server to determine whether an update existed by comparing the transmitted output conditions to those within the profile stored on the server and to only transmit the updated profile if they differ. *Id.*

ii. Expectation of Success

A POSITA would have reasonably expected success with this combination. Stevenson ¶181. A POSITA would have recognized that both creating new preset conditions from user-selected information for later use and obtaining updated DSC-printer profiles based on at least a part of the conditions in the corresponding profile would have required the POSITA to apply only conventional techniques for creating data structures in memory and comparing data in existing data structures.

Id.; Fisher, [0023], [0039] [0044], [0055]-[0057]. Applying Ohga's profile creation based on selected parameters and organized output-profile storage on a server for later identification of updated profiles would have been a straightforward application of known software operations (creating data structures and searching data structures) used according to their known functions to yield predictable results (obtaining updated preset conditions for the camera's control data storage module). Stevenson ¶181.

5. Claim 5

a. [5a]

As explained in Section V.A.7.a (Ground 1, [5a]), Kuwata discloses or suggests or Kuwata and Fisher render obvious [5a]'s additional limitations. Stevenson ¶182.

b. [5b]

Kuwata and Fisher or Kuwata, Fisher, and Ohga render obvious [5b]. Stevenson ¶¶183-184.

As discussed for Ground 2, [1d], updating the preset conditions in the control data storage based on specification data that identifies (identification data) the DSC-printer pair to the server would have been obvious. *Supra* § V.B.2.b; Stevenson ¶184. In view of Ground 1, [5a], and Ground 2, [5a], a POSITA would have found it obvious to use the identification data as the specification data

because this identification identifies the desired DSC-printer pair. *Supra*

§§ V.A.7.a, V.B.5.a; Stevenson ¶184.

6. Claim 6

a. [6a]

As explained in Section V.A.8.a (Ground 1, [6a]), Kuwata and Fisher render obvious [6a]. Stevenson ¶185.

b. [6b]

Kuwata, Fisher, and Ohga render obvious [6b]’s additional limitations for sending specification data that identifies the image processing control data to be updated and receiving the update data from the server, for the reasons explained in Section V.B.2.b (Ground 2, [1d]). Stevenson ¶186.

7. Independent Claim 10

a. [10pre]-[10d] and [10f]-[10g]

As explained in Sections V.A.9.a-V.A.9.e and V.A.9.g-V.A.9.h (Ground 1, [10pre]-[10d], [10f]-[10g]), Kuwata discloses or suggests or the Kuwata-Fisher combination renders obvious [10pre]-[10d] and [10f]-[10g]. Stevenson ¶187.

b. [10e]

As explained in Section V.A.9.f (Ground 1, [10e]), Kuwata and Fisher render obvious [10e]. If Patent Owner argues or the Board finds that Kuwata and Fisher do not render obvious [10e], then Kuwata, Fisher, and Ohga render obvious [10e] for the reasons explained in Section V.B.2.b (Ground 2, [1d]). Stevenson

¶188. A POSITA would have found it obvious to combine Kuwata, Fisher, and Ohga so the memory management module acquires additional preset conditions for a DSC-printer pair (additional image processing control data) from a server (external memory device separate from the digital camera) and stores them in the control data storage. Stevenson ¶188; *supra* §§ V.A.9.d, V.B.2.b.

C. Ground 3: Kuwata and Ohga Render Obvious Claim 7

1. Independent Claim 7

a. [7pre]: “An image related data editor, connectable to a server, comprising:”

If limiting, Kuwata alone or Kuwata and Ohga render obvious [7pre].

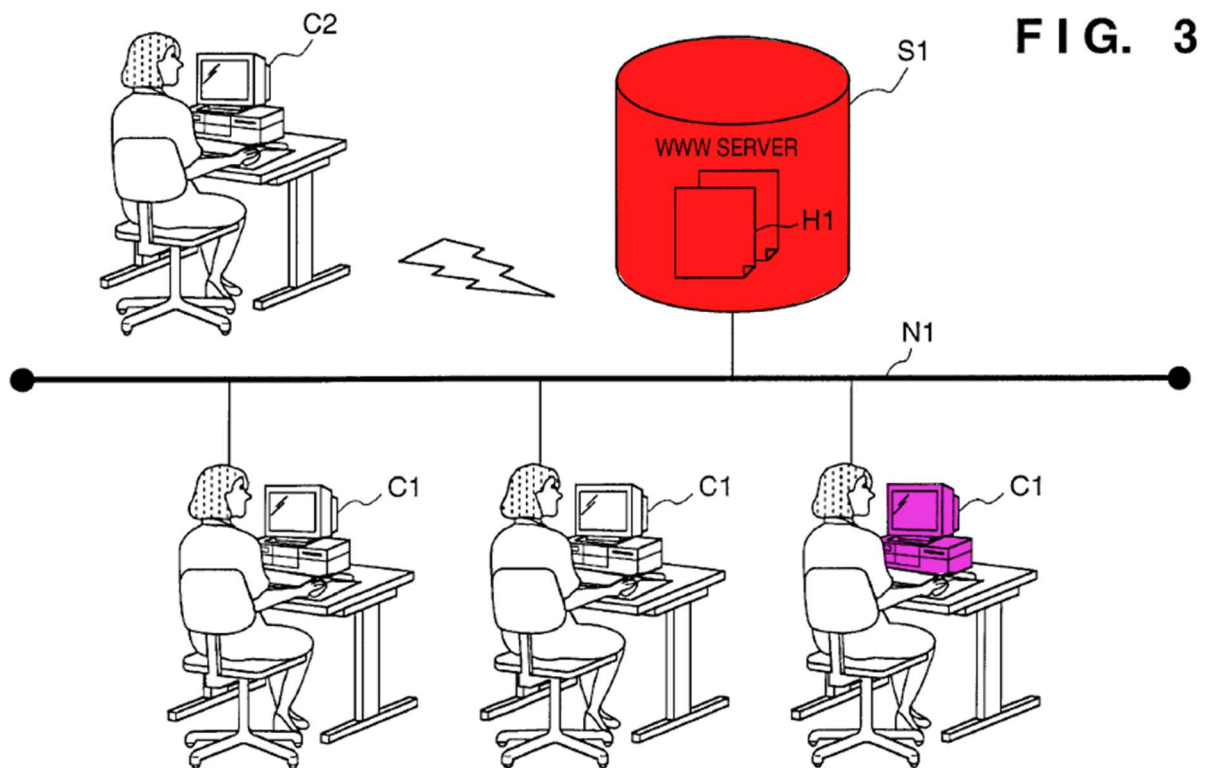
Stevenson ¶¶189-195.

Kuwata discloses a “personal computer” (“PC”) (image related data editor) with an “application program” used to obtain image data GD from a digital camera, generate output control information CI, and store the image data GD and output control information CI “in one image file GF.” Kuwata, [0096]; Stevenson ¶190. Kuwata also discloses an “image data processing application” on the PC performing “image processing functions.” Kuwata, [0115]. PCs at the time were conventionally connectable to a server, for example, via the Internet. Stevenson ¶¶190-191.

If Patent Owner argues or the Board finds that Kuwata does not disclose or suggest [7pre], then a POSITA would have found making Kuwata’s PC

connectable to a server obvious to enable downloading programs/information from a server over a network based on Ohga. Stevenson ¶192; *supra* § V.A.4.a.

Ohga's **computer PC** (image related data editor) is connected (connectable) to a "**server S1**" (server) by "a network N1," downloads data via a browser, and uses the data to "execute[] color matching for the image data J1. Ohga, 2:27-41, 2:55-57, 3:19-61, 4:3-12, FIGS. 3, 7, 8; Stevenson ¶193.



Ohga, FIG. 3.

i. Motivation to Combine

A POSITA would have been motivated to combine Ohga's PC-server connectivity with Kuwata's PC to allow downloading programs and preset

conditions for image processing and printing. Stevenson ¶194; *supra* § V.A.4.a (Ground 1, [1pre]). This would have advantageously allowed Kuwata's computer to easily download or update the program or preset conditions used for image processing and output. Stevenson ¶194. Ohga discloses that PCs communicating with a server beneficially distribute "the load on the entire network," thereby motivating a POSITA to allow connectivity with Kuwata because preset conditions would be accessible to PCs via the server as needed. Ohga, 4:38-44; Stevenson ¶194. Accordingly, implementing Ohga's PC-server connectivity on Kuwata's PC would have combined familiar elements (PC connecting to a server) according to known methods (network interface) to yield predictable results (network communications). Stevenson ¶194.

ii. Expectation of Success

A POSITA would have reasonably expected success making Kuwata's PC connectable to a server for the reasons discussed regarding Kuwata's camera for Ground 1, [1pre], which also apply to Ohga. *Supra* § V.A.4.a; Stevenson ¶195. Additionally, Kuwata and Ohga disclose similar PCs, which were commonly understood to be connected to a server via a network. Stevenson ¶195. A POSITA would have recognized that connecting Kuwata's PC to a server to download programs and preset conditions for DSC-printer pairs would have required only conventional networking techniques for transferring information. *Id.*; Ohga, 2:27-

57. Applying Ohga's PC-server connectivity would have been a straightforward application of known software operations (communicating information over a network) used according to their known functions to yield predictable results (the PC retrieving, sending, downloading, or otherwise receiving information).

Stevenson ¶195.

- b. **[7a]: “an input module configured to input image data and attribute data related to the image data, the attribute data including at least one of image processing control data to control image processing of the image data and identification data to identify the image processing control data;”**

Kuwata discloses or suggests or Kuwata and Ohga render obvious [7a].

Stevenson ¶¶196-203.

Kuwata's PC obtains a camera-generated image file GF via “cable CV” or “storage device 225” (input module) and reads the image file via a software application. Kuwata, [0085], [0115]; Stevenson ¶197. Image file GF may include “image data GD” (image data) and “output control information CI” (attribute data related to the image data). Kuwata, [0096], [0115]; Stevenson ¶197. Because “attribute data includ[es] at least one of image processing control data ... and identification data,” Kuwata's preset conditions including the output control information CI disclose attribute data related to the image data, including image processing control data to control image processing of the image data, for the

reasons discussed for Ground 1, [1b]-[1c]. *Supra* §§ V.A.4.c-V.A.4.d. Output control information CI also includes “PIM Version information” and parameter numbers (identification data) that identify corresponding parameter values (image processing control data) in the output control information CI. Kuwata, [0074], FIG. 3b; Stevenson ¶197.

If Patent Owner argues or the Board finds that Kuwata does not disclose [7a], then this limitation would have been obvious in view of Ohga. Stevenson ¶198. Ohga, like Kuwata, discloses performing image processing using characteristics of the input and output devices. Ohga, 4:3-12. Ohga’s PC’s “input interface 103” (input module) connects to an “input device 104” (e.g., a digital still camera), and a “network interface card (NIC) 111” (input module) connects to a server S1. Ohga, 2:37-61, FIGS., 3, 8. Ohga’s PC downloads an “image data file” including “image data J1” (image data) and downloads an “input profile P1” of the input device (e.g., camera). Ohga, 2:31-36, 3:6-15, 3:37-45, 4:30-38, 4:63-67, FIGS. 3-4, 6-8; Stevenson ¶198.

A POSITA would have found it obvious to incorporate Ohga’s input module configured to input image data and attribute data into Kuwata’s PC to receive image data and attribute data necessary to identify the desired preset conditions for inclusion as output control information CI based on, for example, the camera used for image generation and/or the printer used for printing. Stevenson ¶199. Doing so

would have been desirable to carry out Kuwata's disclosure that the PC receives image data GD and generates output control information CI that considers the "color reproduction characteristics of the output device" and "effectively use[s] the color reproduction capability of DSC 22." Kuwata, [0096]; Stevenson ¶199.

i. Motivation to Combine

A POSITA would have been motivated to have Kuwata's camera provide the PC with image data and attribute data that includes identification information, such as camera-identification information and/or printer-identification information, like Ohga teaches. Stevenson ¶¶200-201. A POSITA would have understood that sending an image file GF with the image data GD and attribute data, like the names of the DSC and target printer, would have allowed the PC to acquire preset conditions for the DSC-printer pair based on the camera and printer information and add these preset conditions to the DSC-provided image file. Stevenson ¶200; *see* Kuwata, [0096]. This combination would have beneficially allowed access to more preset conditions for DSC-printer pairs, either stored on the PC or remotely on a server, compared to the preset conditions stored locally on the DSC, which may have limited memory space. Stevenson ¶200. Including the camera's and/or printer's identification information (identification/attribute data) with the image data provided to the computer would have allowed the computer to add optimum

conditions to the image file for any available DSC-printer pair, allowing the DSC to use its own memory more efficiently. *Id.*; *see also* Ohga, 4:41-44.

ii. Expectation of Success

A POSITA would have reasonably expected success providing Kuwata's PC with an input module configured to input image data and attribute data that identifies the camera and/or printer because Kuwata already describes the user selecting the output device on the camera and generating an image file storing "various types of information relating to" image data in an "additional information storage area 112" of image file GF. Kuwata, [0071], [0077], [0082]; Stevenson ¶202. Accordingly, the combination would have combined familiar elements according to known methods to yield predictable results. Stevenson ¶202.

A POSITA would have recognized that including an input module for inputting image data and attribute data that identifies the camera and/or printer in Kuwata's PC would have required applying only conventional techniques for storing image files and information and including an interface for inputting information, as was well known. Stevenson ¶203; Kuwata, [0070]-[0071]; Ohga, 2:47-61. Applying Ohga's teaching of identifying the input profile to Kuwata's PC using attribute data would have been a straightforward application of known software operations (including information in an image file) used according to their

known functions to yield predictable results (PC receives the information needed to generate the output control information CI). Stevenson ¶203.

- c. [7b]: “an update data acquiring module configured to acquire update data of the image processing control data based on the attribute data from the server; and”

Kuwata and Ohga render obvious [7b]. Stevenson ¶¶204-207.

Kuwata’s PC executes an application that reads the image file and analyzes output control information stored in the image file. Kuwata, [0115]; Stevenson ¶205. As discussed for [7a], combining Kuwata and Ohga to have Kuwata’s camera provide the PC with an image file comprising the image data and attribute data that includes identification information, such as camera and/or printer identification information, would have been obvious. *Supra* § V.C.1.b; Stevenson ¶205.

Ohga discloses “a download unit” that acquires a profile for the input and output devices (update data of the image processing control data) from a server based on the devices’ names (attribute data). Ohga, 3:37-58, 6:9-15; Stevenson ¶206. The input profile is either “embedded in the image data J1” or separately downloaded based on a “designation” in an HTML document. Ohga, 3:37-45, 4:30-38; Stevenson ¶206. For the output profile, when a “user selects a given profile name” presented at the PC, the PC downloads “the corresponding [output]

profile on the server.” Ohga, 3:51-58. Accordingly, Ohga’s PC download unit can provide a device name (attribute data) to the server to download a profile associated with that device (update data of the image processing control data). Stevenson ¶206.

As explained for [7a], a POSITA would have found it obvious to combine Kuwata and Ohga to provide an update data acquiring module configured to extract the identification data from the attribute data image file, send the identification data (e.g., camera and printer names (attribute data)) to the server, and receive update data from the server to acquire the preset conditions (image processing control data) associated with a particular DSC-printer pair based on the attribute data. *Supra* § V.C.1.b; Stevenson ¶207.

d. [7c]: “a relating module configured to relate the image data to the update data,”

Kuwata discloses or suggests [7c]. Stevenson ¶¶208-209.

Kuwata discloses applying the process described in Ground 1, [1c], “to an application program executed on a personal computer,” where “image data GD is obtained from a digital camera, and is stored together with the output control information CI” acquired from the server as update data “in one image file GF.” Kuwata, [0096]; *supra* §§ V.A.4.d (Ground 1, [1c]), V.C.1.c (Ground 3, [7b]);

Stevenson ¶209. Accordingly, Kuwata discloses or suggests [7c] for the reasons discussed in Ground 1, [1c]. *Supra* § V.A.4.d; Stevenson ¶209.

- e. [7d]: “wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the image related data editor.”

Kuwata discloses or suggests [7d]. Stevenson ¶¶210-211.

Kuwata discloses the image file being “sent to printer 24 via a personal computer (PC).” Kuwata, [0085]. Accordingly, Kuwata discloses or suggests this limitation for the reasons discussed for Ground 1, [1e]. *Supra* § V.A.4.f; Stevenson ¶211.

D. Ground 4: Ohga and Kuwata Render Obvious Claim 8

1. Independent Claim 8

- a. [8pre]: “An update data transmit apparatus, connectable to a predetermined peripheral device, comprising:”

If limiting, Ohga discloses or suggests [8pre]. Stevenson ¶¶212-213.

Ohga discloses a server s1 (update data transmit apparatus) connectable to a computer (predetermined peripheral device) via a network connection. Ohga, 2:27-41, 2:55-57; Stevenson ¶213.

- b. **[8a]: “an update data storage module for storing in advance update data for image processing control data to control image processing of image data, the update data being associated with at least one of the image processing control data and identification data to identify the image processing control data;”**

Ohga discloses or suggests [8a]. Stevenson ¶¶214-215.

Ohga discloses server s1 including storage (e.g., hard disk, ROM, RAM), (update data storage module) like the computer in Figure 8. Ohga, 2:47-55, 3:4-5, FIG. 8; Stevenson ¶215. The server includes profiles P1, P2 associated with input and output devices, respectively (update data for image processing control data). Ohga, 3:16-19, 3:37-58, 4:63-67; Stevenson ¶215. These profiles are associated with the names of the devices (identification data). Ohga, 3:37-58, 4:63-67, 7:22-27; Stevenson ¶215. A computer downloads an input profile P1 “associated with the image data J1” based on a “designation” and an output profile P2 based on a user selecting the device name. Ohga, 3:16-19, 3:37-58, 4:3-12. A color-matching-module program M1, also provided by the server, “executes color matching for the image data J1” based on input profile P1 and output profile P2 (control image processing of image data). Ohga, 3:16-29, 4:3-5; Stevenson ¶215.

- c. **[8b]: “an input module configured to input predetermined data from the peripheral device, the predetermined data including the image processing control data to be updated or the identification data; and”**

Ohga discloses or suggests [8b]. Stevenson ¶¶216-218.

Ohga’s server connects to a network using an interface card and is controlled by a CPU using a program that inputs identification data (predetermined data) from the computer (peripheral device) corresponding to the input or output device’s name (input module configured to input predetermined data, the predetermined data including the identification data). Ohga, 2:47-57, 3:4-5, FIG. 8; Stevenson ¶217; *supra* § V.D.1.b (Ground 4, [8a]).

When the user selects a profile name, the computer inputs identification data identifying the output profile to be downloaded into the server via the server’s interface card. Ohga, 3:48-58, 4:3-12; Stevenson ¶218. Similarly, the identification data input from the computer to the server via the interface card is based on the input profile name stated in the HTML document H1 so that the input profile can be sent to the computer. Ohga, 3:37-45, 4:63-67, 7:22-27; Stevenson ¶218.

- d. **[8c]: “an update data transmission module configured to transmit the update data corresponding to the predetermined data to the peripheral device,”**

Ohga discloses or suggests [8c]. Stevenson ¶¶219-221.

Ohga's server includes a network interface card and CPU that controls the server using a program configured to transmit profiles (update data) corresponding to the input and output devices' names (predetermined data) to the computer (peripheral device) based on the predetermined data. Ohga, 2:47-57, 3:4-5, FIG. 8; Stevenson ¶220; *supra* § V.D.1.b (Ground 4, [8a]). For example, the server transmits profiles P1, P2 corresponding to the input device specified in the HTML file and output device selected by the user. Ohga, 3:16-19, 3:37-58, 4:3-12; Stevenson ¶220.

The input and output “profiles on the server are associated with” the identification data (profile names) corresponding to the devices' names. Ohga, 3:54-58, 4:63-67, 7:22-27; Stevenson ¶221. The computer downloads (e.g., server sends) an input profile P1 based on an HTML document's “designation of the input profile.” Ohga, 3:37-45; *supra* § V.D.1.b (Ground 4, [8a]). The output profile “is automatically loaded into” the PC's CMM program “when the user selects a given profile name.” Ohga, 3:54-58, 4:3-12.

- e. **[8d]: “wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the peripheral device.”**

Ohga and Kuwata render obvious [8d]. Stevenson ¶¶222-228.

Ohga's PC uses the input and output profiles (image processing control data) to process the image data (received image data and image processing control data transferred from the peripheral device). Ohga, 4:3-12; Stevenson ¶223. As explained below, a POSITA would have found it obvious to process Ohga's image data using a printer (image processing device).

Ohga's PC downloads image data J1 based on a link in HTML document H1 and uses CMM program M1 to execute "color matching for the image data J1" based on "input profile P1 and [output device] profile [P2]." Ohga, 4:3-12. The processed image data J1 is then sent to a printer. Ohga, 3:16-19, 4:3-12. Ohga does not explicitly disclose that the output device receives the input and output profiles or uses them to process image data. Stevenson ¶223. However, this would have been obvious in view of Kuwata. *Id.*

Kuwata discloses performing image processing on a computer or printer as alternatives. Kuwata, [0115]; Stevenson ¶224. In one embodiment, Kuwata's computer obtains "image data GD," stores the image data "with the output control information CI ... in one image file GF," and sends the image file to printer 24 for processing. Kuwata, [0079], [0085], [0096], [0115], [0141]; Stevenson ¶224.

A POSITA would have found it obvious to combine Kuwata's image processing at the printer with Ohga. Stevenson ¶225. Both Ohga and Kuwata teach processing images using profiles based on the input and output devices. Ohga, 1:8-

22, 4:3-12; Kuwata, [0022], [0094]. Kuwata teaches that performing the processing at the computer or the printer are design alternatives, and a POSITA would have found both alternatives obvious. Kuwata, [0115]; Stevenson ¶225.

i. Motivation to Combine

A POSITA would have been motivated to apply Kuwata's output-device-side image processing to Ohga to consolidate the image processing at the printer. Kuwata, [0071]; Stevenson ¶226. Changing Ohga's processing location to a printer, a familiar design alternative, based on Kuwata's teaching that the image processing can achieve similar results whether performed on the computer or the printer would have combined familiar elements according to known methods to yield predictable results. Kuwata, [0115]; Stevenson ¶226. At a minimum, a POSITA would have found this obvious to try, given the two available devices for performing image processing. Stevenson ¶226; *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1339-40 (Fed. Cir. 2020). Image file formats were standardized at the time, making it well understood how to transmit image data and image processing control data to the printer and process the format. Kuwata, [0070]-[0074]; Stevenson ¶226. These standard image file formats would have further motivated a POSITA to perform the image processing at the printer instead of the computer, for example, to use more efficient, special-purpose processors at the printer and to free up processing power on the computer. Stevenson ¶226.

ii. Expectation of Success

A POSITA would have reasonably expected success performing the image processing on the printer at least because Ohga teaches that, regardless of the device processing the image data, it “can obtain identical color matching results.” Ohga, 3:30-36, 4:45-50; Stevenson ¶227. Kuwata similarly teaches that the same processing can be performed at either device. Kuwata, [0115]; Stevenson ¶227. Accordingly, a POSITA would have expected the processing program to operate the same on the printer and the computer. Stevenson ¶227.

A POSITA would have recognized that performing the image processing on the printer would have required applying only conventional techniques for transferring information from a computer to a printer. Stevenson ¶228; Kuwata, [0070]-[0071], [0085]. Performing image processing on the printer would have been a straightforward application of known software operations (transmitting image data and related information between devices) used according to their known functions to yield predictable results (processing the image data using the same method). Stevenson ¶228

E. Grounds 5-6: Ohga Anticipates (Ground 7) or, Alternatively, Renders Obvious (Ground 8) Claim 9

1. Independent Claim 9

- a. [9pre]: “A method for transmitting update data for image processing control data, which is used to control image processing of image data, to a peripheral device, the method comprising steps of:”**

If limiting, Ohga discloses or suggests [9pre] for the reasons explained for Ground 4, [8a]-[8c]. *Supra* § V.D.1.b-V.D.1.d; Stevenson ¶229.

- b. [9a]: “providing the update data associated with at least one of the image processing control data and identification data to identify the image processing control data;”**

Ohga discloses or suggests [9a] for the reasons explained for Ground 4, [8a].
Supra § V.D.1.b; Stevenson ¶230.

- c. [9b]: “inputting predetermined data from the peripheral device, the predetermined data including the image processing control data to be updated or the identification data corresponding to the image processing control data to be updated; and”**

Ohga discloses or suggests [9b] for the reasons explained for Ground 4, [8b].
Supra § V.D.1.c; Stevenson ¶231.

- d. [9c]: “transmitting the update data corresponding to the predetermined data to the peripheral device.”**

Ohga discloses or suggests [9c] for the reasons explained for Ground 4, [8c].
Supra § V.D.1.d; Stevenson ¶232.

VI. DISCRETIONARY DENIAL IS NOT WARRANTED

A. 35 U.S.C. § 314(a) Does Not Warrant Discretionary Denial

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11, at 5-6 (Mar. 20, 2020) (precedential), and the Office’s interim guidelines dated June 21, 2022 (“Guidance Memo”), do not warrant discretionarily denying institution. There is no active parallel district court litigation. Ex. 1014. After the court in *Longitude Licensing Ltd.*⁴ v. *Google LLC*, No. 3:23-cv-03046 (N.D. Cal.) dismissed part of the proceeding under Rule 12(b)(6) upon determining that the claims of several asserted patents are directed to patent ineligible subject matter under 35 U.S.C. § 101, the plaintiff voluntarily dismissed the remaining claims, including its claim asserting infringement of the ’082 patent, and the Court entered final judgment and closed the file. Exs. 1011-1014. No claim construction proceedings were underway, fact discovery had only begun, and the parties had not exchanged any infringement or invalidity contentions (and therefore no § 102/§ 103 issues had been raised or addressed). Although Longitude has appealed the § 101 order, that appeal does not involve the ’082 patent and institution is appropriate here.

⁴ Longitude Licensing Ltd. “is the exclusive worldwide licensee” of the ’082 patent. Ex. 1012, ¶13.

Thus, the *Fintiv* factors favor institution because there is no case to stay or trial date (factors 1 and 2); minimal investment by the parties (factor 3); no overlapping issues (factor 4); and the evidence of obviousness is strong (factor 6). Factor 5 is at worst neutral.

B. 35 U.S.C. § 325(d) Does Not Warrant Discretionary Denial

Noninstitution under § 325(d) would also be improper based on the factors in *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (Dec. 15, 2017) (precedential). Kuwata, Fisher, and Ohga were not considered during examination. *See* Ex. 1001, cover (code (56) (References Cited)).

Additionally, Kuwata, Fisher, and Ohga differ from the prior art involved during examination. For example, after the first rejection, Applicant amended several claims to require that “the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the” corresponding apparatus. Ex. 1002, 173-174. Kuwata teaches this limitation, as explained above. *Supra* § V.A.4.f (Ground 1, [1e]). And after the second rejection, Applicant argued that the prior art did not disclose “a memory management module configured to acquire additional image processing control data.” Ex. 1002, 225, 227-229. Fisher and Ohga teach this feature. *Supra* §§ V.A.4.e (Ground 1,

[1d]), V.B.2.b (Ground 2, [1d]), V.C.1.c (Ground 3, [7b]), V.D.1.c-V.D.1.d (Ground 4, [8b]-[8c]).

Had the Examiner known of Kuwata, Fisher, and Ohga, it would not have allowed the claims of the '082 patent to issue. Accordingly, the Board should decline to exercise its discretion to deny institution under § 325(d).

VII. MANDATORY NOTICES

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

Google LLC is the real party-in-interest for this Petition.⁵

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

To the best knowledge of Petitioner, the '082 patent was involved in the following district court litigation, but has been voluntarily dismissed from the case:

Name	Number	Court	Filed
<i>Longitude Licensing Ltd. v. Google LLC</i>	3:32-cv-03046	N.D. Cal.	June 21, 2023

⁵ Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc. XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.

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

Lead Counsel	Back-Up Counsel
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D. Service Information Under 37 C.F.R. § 42.8(b)(4)

Please address all correspondence to lead and back-up counsel at the addresses shown above and Google-Longitude-IPRs@finnegan.com. Petitioner also consents to electronic service by e-mail.

VIII. GROUNDS FOR STANDING

Petitioner certifies that the '082 patent is available for IPR and Petitioner is not barred or estopped from requesting IPR to challenge the claims on the grounds above. Petitioner filed this Petition within one year of service of the original complaint against Petitioner in the district court litigation.

IX. CONCLUSION

Petitioner has established a reasonable likelihood of prevailing with respect to the challenged claims and requests that the Board institute IPR and cancel each challenged claim as unpatentable.

Date: June 20, 2024

Respectfully submitted,

/Erika H. Arner/

Erika H. Arner, Lead Counsel
Reg. No. 57,540

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that the foregoing **Petition for *Inter Partes* Review** contains 13,997 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

/Erika H. Arner/
Erika H. Arner, Lead Counsel
Reg. No. 57,540

CLAIMS APPENDIX

1. **[1pre]** An image related data generator, connectable to a server, comprising:
 - [1a]** an image data generator configured to generate image data;
 - [1b]** a control data storage module pre-storing image processing control data to control image processing of the image data;
 - [1c]** a relating module configured to relate the image data to the image processing control data; and
 - [1d]** a storage manager configured to update at least a part of the image processing control data stored in the control data storage, based on specification data, which specifies the image processing control data to be updated,
 - [1e]** wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the image related data generator.
2. The image related data generator according to claim 1, wherein the storage manager adds the update data into the control data storage.

3. The image related data generator according to claim 1, wherein the storage manager overwrites the image processing control data corresponding to the specification data with the update data.
4. The image related data generator according to claim 1, wherein the specification data is at least a part of the image processing control data.
5. **[5a]** The image related data generator according to claim 1 further comprising: an identification data storage module configured to store identification data mapped to the image processing control data, the identification data identifying each of the image processing control data, **[5b]** wherein the specification data is the identification data.
6. **[6a]** The image related data generator according to claim 1, wherein the image data generator is connectable to a server via a network, and **[6b]** the storage manager sends specification data which specifies the image processing control data to be updated, to the server and receives update data from the server.
7. **[7pre]** An image related data editor, connectable to a server, comprising:

[7a] an input module configured to input image data and attribute data related to the image data, the attribute data including at least one of image processing control data to control image processing of the image data and identification data to identify the image processing control data;

[7b] an update data acquiring module configured to acquire update data of the image processing control data based on the attribute data from the server; and

[7c] a relating module configured to relate the image data to the update data, **[7d]** wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the image related data editor.

8. **[8pre]** An update data transmit apparatus, connectable to a predetermined peripheral device, comprising:

[8a] an update data storage module for storing in advance update data for image processing control data to control image processing of image data, the update data being associated with at least one of the image processing control data and identification data to identify the image processing control data;

[8b] an input module configured to input predetermined data from the peripheral device, the predetermined data including the image processing control data to be updated or the identification data; and

[8c] an update data transmission module configured to transmit the update data corresponding to the predetermined data to the peripheral device,

[8d] wherein the image processing control data is to be used in processing of the image data by an image processing device that receives the image data and the image processing control data that are transferred from the peripheral device.

9. **[9pre]** A method for transmitting update data for image processing control data, which is used to control image processing of image data, to a peripheral device, the method comprising steps of:

[9a] providing the update data associated with at least one of the image processing control data and identification data to identify the image processing control data;

[9b] inputting predetermined data from the peripheral device, the predetermined data including the image processing control data to be updated or the identification data corresponding to the image processing control data to be updated; and

[9c] transmitting the update data corresponding to the predetermined data to the peripheral device.

10. **[10pre]** A digital camera for generating an image file including image data and image processing control data, the image processing control data being used for controlling image processing of the image data, the digital camera comprising:

[10a] an image data generating module configured to generate image data of an image captured by the digital camera;

[10b] a display device;

[10c] a control data storage for storing in advance image processing control data to control image processing of the image data; and

[10d] an image file generating module configured to generate an image file that includes the image data and the image processing control data; and

[10e] a memory management module configured to acquire additional image processing control data from an external memory device separate from the digital camera, and to store the additional image processing control data into the control data storage,

[10f] wherein the image file generating module **[i]** displays a user interface screen including a plurality of processing modes on the display device to

enable a user to select one of the plurality of processing modes, and
[ii] generates the image file using specific image processing control data associated with the selected processing mode, and
[10g] when the additional image processing control data has been stored in the control data storage, the image file generating module displays on the display device a plurality of processing modes which includes an additional processing mode related to the additional image processing control data.

CERTIFICATE OF SERVICE

The undersigned certifies that, in accordance with 37 C.F.R. §§ 42.6(e) and 42.105, the **Petition for *Inter Partes* Review of U.S. Patent No. 7,428,082, the associated Power of Attorney, and Exhibits 1001-1014** were served via FedEx Priority Overnight on the correspondence address of record with the USPTO as follows:

Albert Penilla
PENILLA IP, APC-PATENT LAW
5619 Scotts Valley Drive, Suite 280
Scotts Valley, CA 95066

A courtesy copy has also been mailed to litigation counsel for Patent Owner at:

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Dated: June 20, 2024

By: /Lisa C. Hines/
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