

Petitioner's Demonstratives

Google LLC

v.

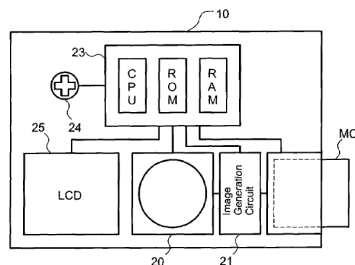
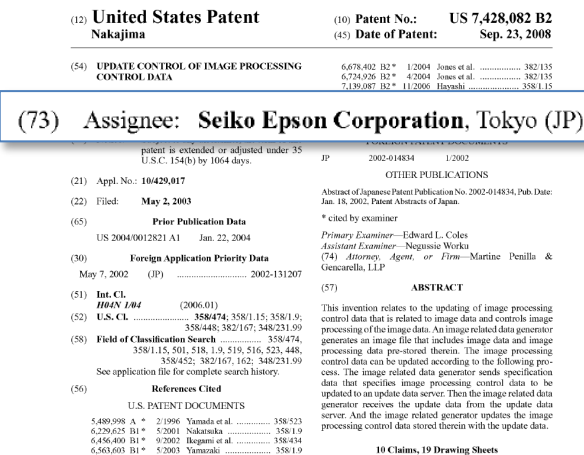
138 East LCD Advancements Limited

IPR2024-00959

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

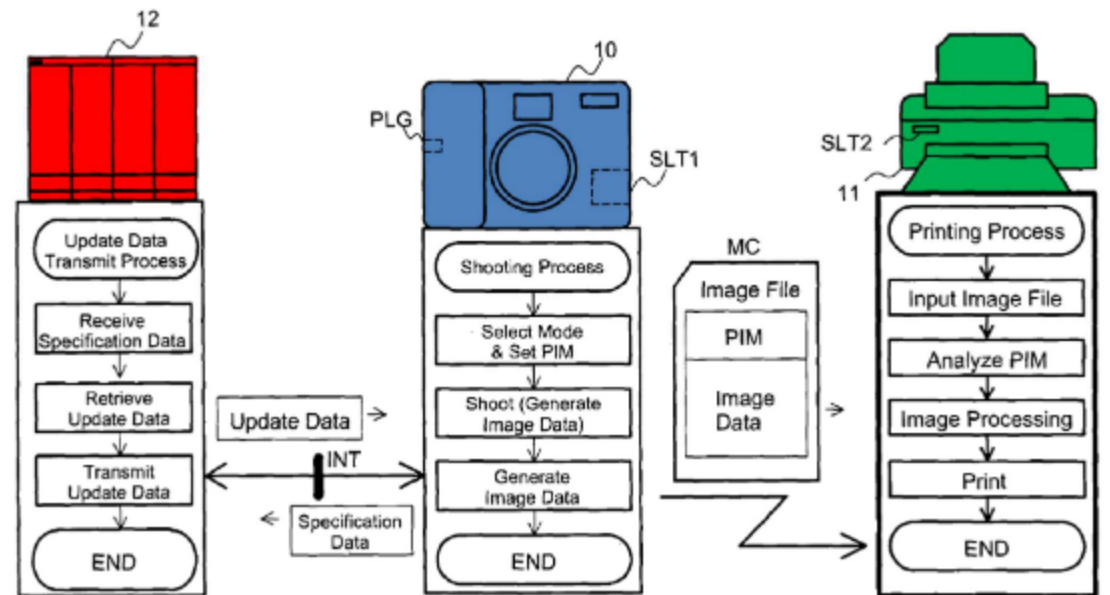
September 30, 2025

U.S. Patent No. 7,428,082
**"Update Control of Image
 Processing Control Data"**



GOOGLE EXHIBIT 1001

Fig. 1

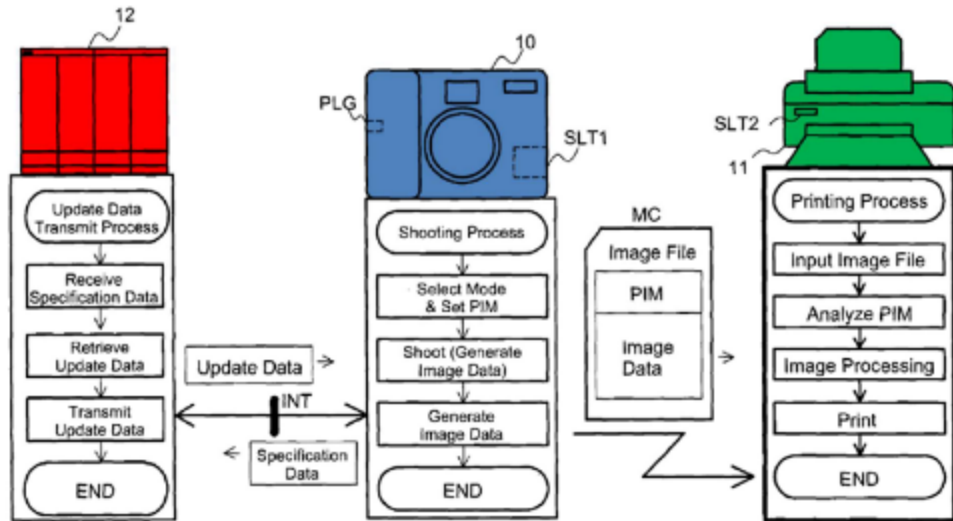


Pet. 2 (annotating Ex. 1001, Fig. 1)

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

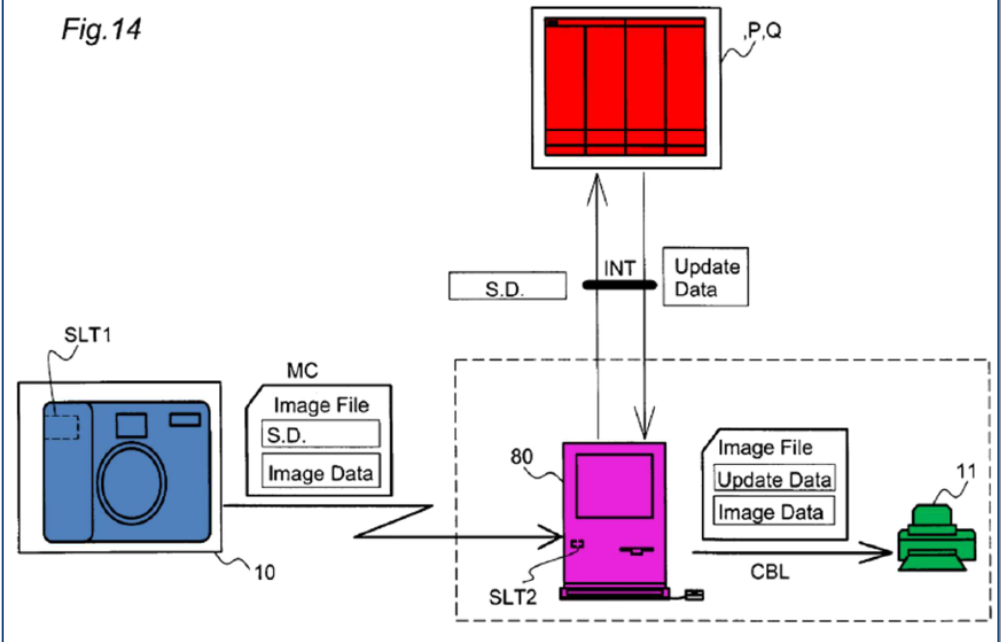
The '082 Patent

Fig. 1



Pet. 2 (annotating Ex. 1001, Fig. 1)

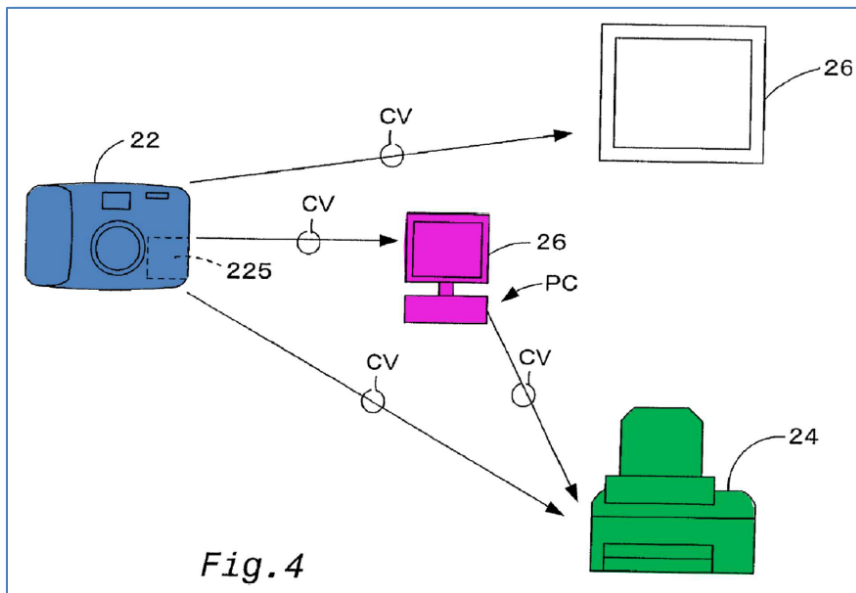
Fig. 14



Pet. 5 (annotating Ex. 1001, Fig. 14)

Prior art: Kuwata (Ex. 1005)

(73) Assignee: Seiko Epson Corporation, Shinjuku-ku (JP)



Pet. 7 (annotating Kuwata (Ex. 1005), Fig. 4)

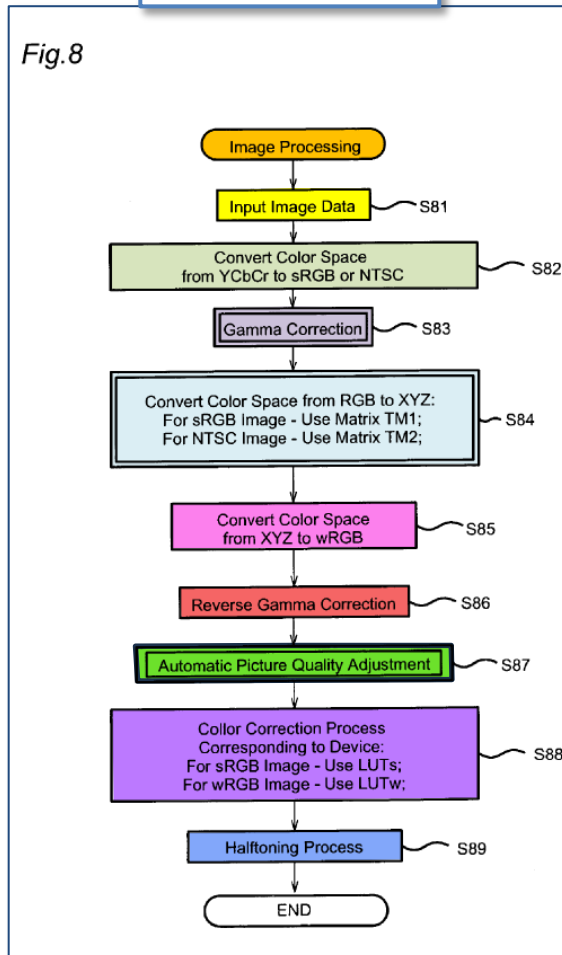
[0089] Control circuit 224 of digital still camera 22 decides whether preset control information is set by the user before taking a picture (step S100). As has already been explained, information that can be set as preset control information includes output conditions to match the output device that outputs the image data GD in an image file GF, output conditions optimized for each manufacturer of printer 24 or for each equipment type of printer 24, or it can be general use output conditions that are used fairly often, such as bright, sharp, etc. This information (conditions) is set by a user selecting from choices prepared in advance, and there is no requirement for the user to make fine settings.

[0090] When it is decided that preset control information is set (step S100: Yes), control circuit 224 generates image data GD (step S110) according to a shooting request, for example when the shutter button is pressed. Control circuit 224 stores the generated image data GD and the set preset control information as an image file GF in storage device 225 (step S120). The data generated at DSC 22 is expressed by the YCbCr color space.

Image processing in the '082 patent and Kuwata

The '082 Patent

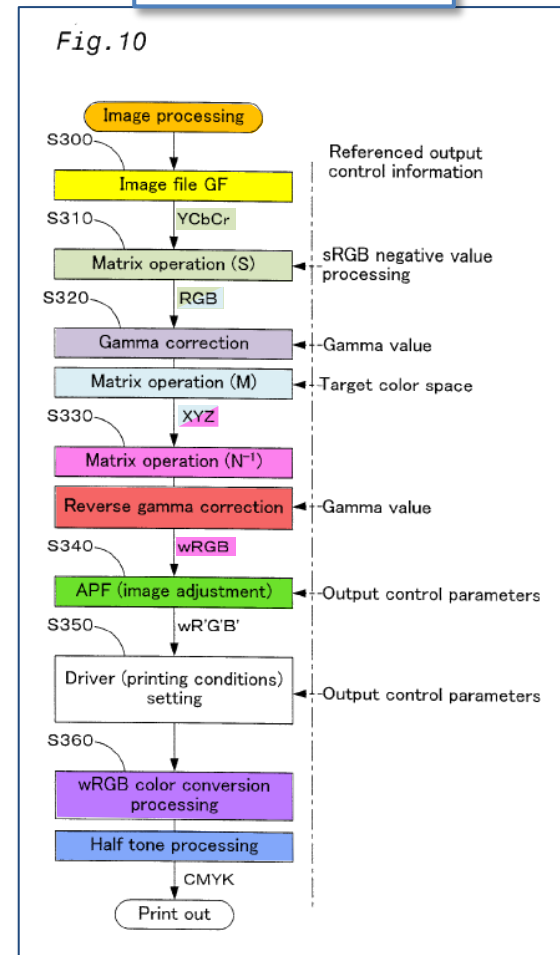
Fig. 8



Pet. 10 (annotating Ex. 1001, Fig. 8)

Kuwata (Ex. 1005)

Fig. 10



Pet. 10 (annotating Kuwata (Ex. 1005), Fig. 10)

Ex. 1001, Fig. 8; Kuwata (Ex. 1005), Fig. 10; Pet. 9-10

Independent claim 1

1. An image related data generator, connectable to a server, comprising:
an image data generator configured to generate image data;
a control data storage module pre-storing image processing control data to control image processing of the image data;
a relating module configured to relate the image data to the image processing control data; and
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,
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.

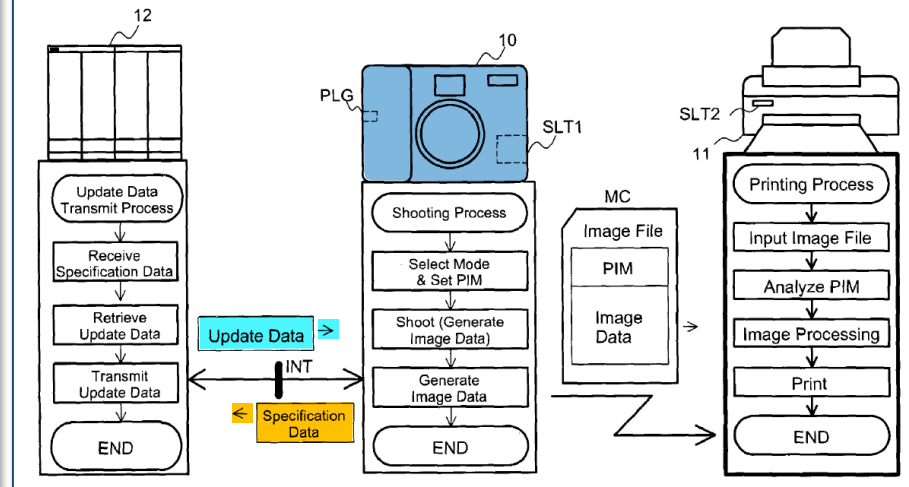
Camera-server
update
limitation

Ex. 1001, 15:8-23

- Only disputed limitation is the camera-server update limitation
- Grounds: (1) Kuwata + Fisher; (2) Kuwata + Fisher + Ohga

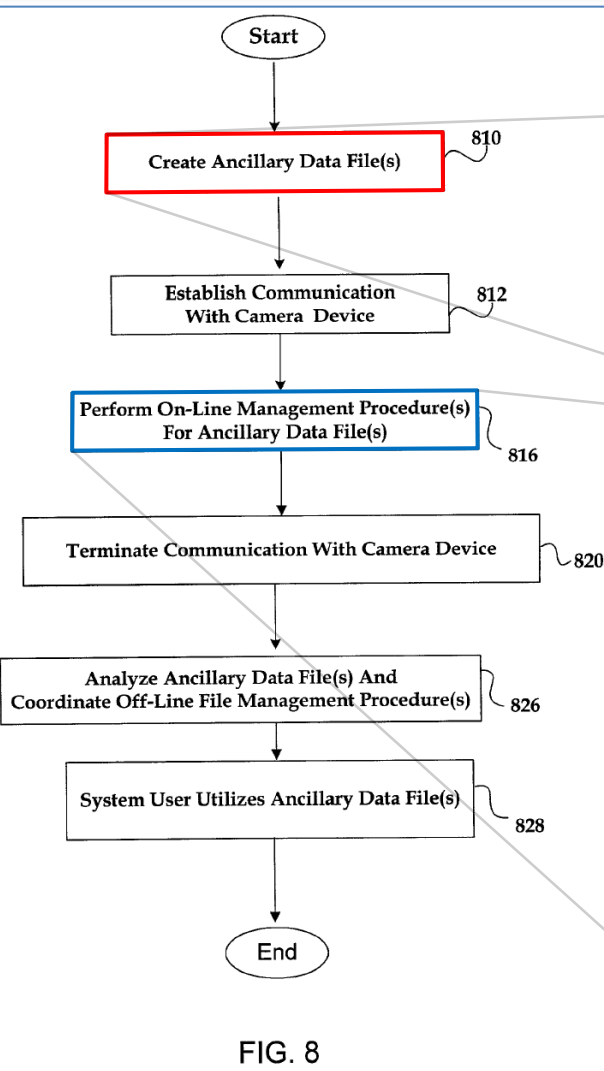
The '082 Patent

Fig. 1



Ex. 1001, Fig. 1 (annotated)

Prior art: Fisher (Ex. 1006)



era device 110. Alternately, a manufacturer may create various ancillary data files 418, and make the ancillary data files 418 available on a distributed computer network like the Internet for subsequent downloading and utilization by camera device 110.

Fisher (Ex. 1006), [0055]

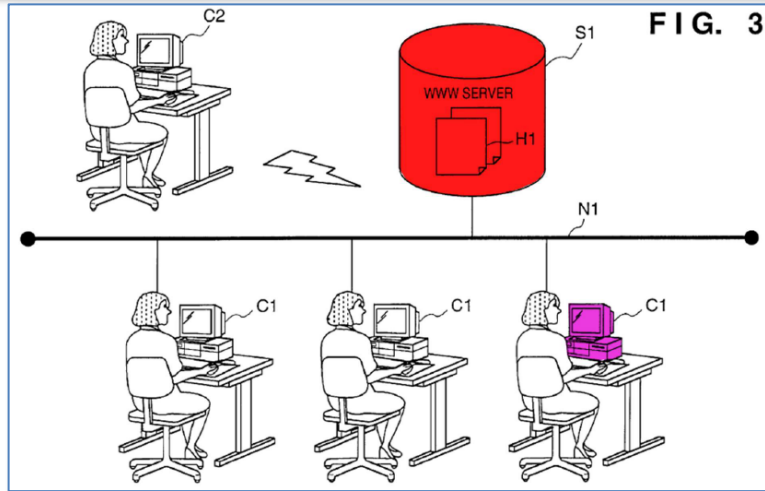
[0037] In the FIG. 5 embodiment, download manager 512 preferably may coordinate the accessing, selecting, downloading, analyzing, and storing of various types of ancillary data files 418 from any appropriate data source. For example, download manager 416 may access various ancillary data files 418 from a location or service on a distributed computer network such as the Internet. Download manager 512 may then responsively identify and store the downloaded ancillary data files 418 into memory 116 of camera device 110.

Fisher (Ex. 1006), [0037]

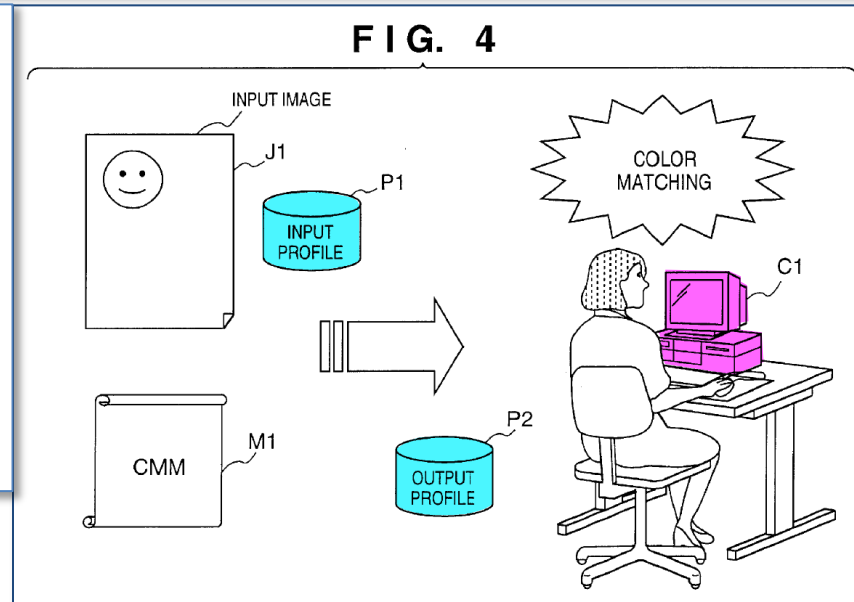
Server

Camera

Prior art: Ohga (Ex. 1007)



Ohga (Ex. 1007), Fig. 3 (annotated)



Ohga (Ex. 1007), Fig. 4 (annotated)

In step S43, a profile of, e.g., a monitor connected to the client computer is acquired by one of the following methods. The obtained profile is passed to the CMM program M1.

(1) A plurality of pieces of information (e.g., names or symbols) of monitor profiles prepared in the server are presented to the user, and the monitor profile selected by the user is downloaded from the server. The profile names presented to the user, and profiles on the server are associated with each other in advance, and when the user selects a given profile name, the corresponding profile on the server is automatically loaded into the CMM program of the client.

Ohga (Ex. 1007), 3:48-58

In step S44, the CMM program M1 executes color matching for the image data J1 on the basis of the input profile P1 and monitor profile. The image data J1 that has undergone color matching is sent to the monitor, and an image is displayed. Note that the output destination of the image data J1 that has undergone color matching is not limited to the monitor. For example, the image data J1 may be output to an image output device such as a printer, film recorder, or the like. In this case, the profile of such image output device is used in place of the monitor profile.

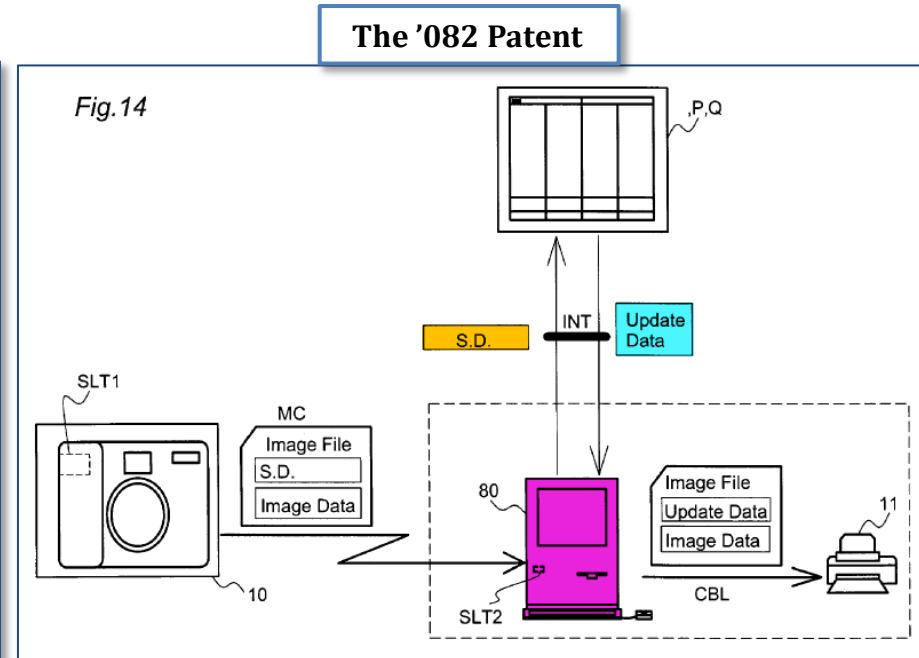
Ohga (Ex. 1007), Figs. 3-4, 3:48-58, 4:3-12, Pet. 54-58; Pet'r Reply 3-7

Independent claim 7

7. An image related data editor, connectable to a server, comprising:
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;
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
a relating module configured to relate the image data to the update data,
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.

PC-server update limitation

Ex. 1001, 15:47-63



Ex. 1001, Fig. 14 (annotated)

- Only disputed limitation is the PC-server update limitation
- Ground: Kuwata + Ohga

Independent claim 8

8. An update data transmit apparatus, connectable to a predetermined peripheral device, comprising:
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;
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
an update data transmission module configured to transmit the update data corresponding to the predetermined data to the peripheral device,
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.

Processing
parameters
limitation

Ex. 1001, 15:47-63

- Only disputed limitation is the processing parameters limitation
- Ground: Ohga + Kuwata

Ex. 1001, 16:1-19; Pet. 5, 73-79; POR 53-57; Pet'r Reply 25; PO Sur-reply 15-16

Summary of issues raised

Issue	Applicable Grounds
1. Whether the prior art renders obvious the camera-server update limitation in claims 1, 6, and 10?	1: Kuwata and Fisher 2: Kuwata, Fisher, and Ohga
2. Whether Ohga discloses the processing parameters limitation in claims 8 and 9*?	4: Ohga and Kuwata 5: Ohga
3. Whether the prior art renders obvious the PC-server update limitation in claim 7?	3: Kuwata and Ohga

- No separate patentability arguments for dependent claims 2-5
- *Patent Owner also argues that Ohga does not disclose the processing parameters limitation in claims 1, 6, and 10, but the petition relies on Kuwata's image processing parameters for those limitations

Issue 1: The camera-server update limitation

The camera-server update limitation in claim 1

1. An image related data generator, connectable to a server, comprising:

an image data generator configured to generate image data;
a control data storage module pre-storing image processing control data to control image processing of the image data;

a relating module configured to relate the image data to the image processing control data; and

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,

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.

} Camera-server update limitation

Ex. 1001, 15:8-23

- Also, similar camera-server update limitation in claims 6 and 10

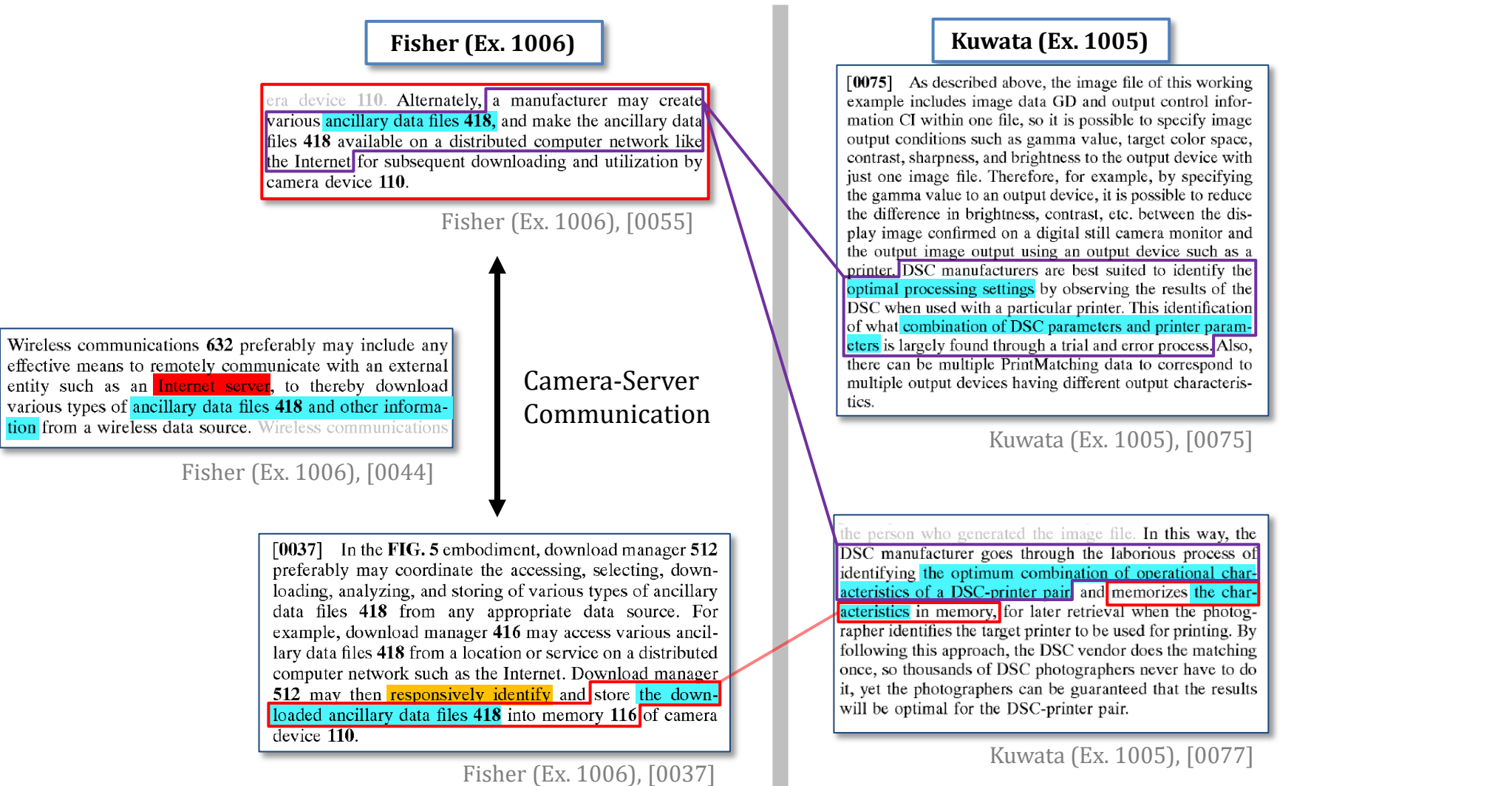
Patent Owner attacks the references individually



“The question in an obviousness inquiry is whether it would have been obvious to a person of ordinary skill in the art to combine the relevant disclosures of the two references, not whether each individual reference discloses all of the necessary elements. Where, as here, the grounds for obviousness are based on a specific combination of references, arguments that attack the disclosures of the two references individually lack merit.”

Palo Alto Networks, Inc. v. Centripetal Networks, LLC, 122 F.4th 1378, 1386 (Fed. Cir. 2024)

The camera-server update limitation: Kuwata + Fisher



Kuwata (Ex. 1005), [0075], [0077], Fisher (Ex. 1006), [0037], [0044], [0055]; Pet. 15-19, 22-27; Pet'r Reply 3-12

The camera-server update limitation: Kuwata + Fisher

- Expert testimony supports relying on Fisher's "descriptors" as data that specifies the processing parameters to download

Fisher (Ex. 1006)

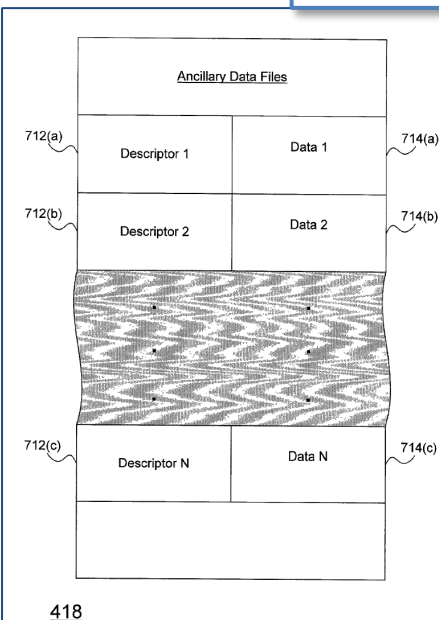


FIG. 7

[0053] In the FIG. 7 embodiment, descriptors 712 may include any appropriate information related to a corresponding set of data 714. For example, a descriptor 712 may include information regarding the nature of the associated data 714, such as a data format or a data type. Descriptor 712 may also include information regarding how the associated data 714 is organized, such as a data structure or a data size. In accordance with the present invention, ancillary data module 416 may advantageously analyze downloaded ancillary data files 418 using descriptors 712 and other means to thereby update camera menus 424, and otherwise provide current information to a system user for effectively utilizing the ancillary data files 418.

Fisher (Ex. 1006), [0053]

Declaration of Dr. Stevenson (Ex. 1003)

107. In my opinion, a POSITA would have found it obvious and been motivated to identify the selected preset conditions to be updated (image processing control data to be updated) based on Fisher's disclosure of "descriptors" that are associated with a "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]. Fisher discloses that "descriptors 712 may include any appropriate information related to a corresponding set of data 714," and a POSITA would have only needed to apply conventional network-communication techniques to provide a data source, such as an Internet server, with the descriptor of the preset conditions for the desired DSC-printer pair to receive the desired preset conditions in response. Fisher, [0053].

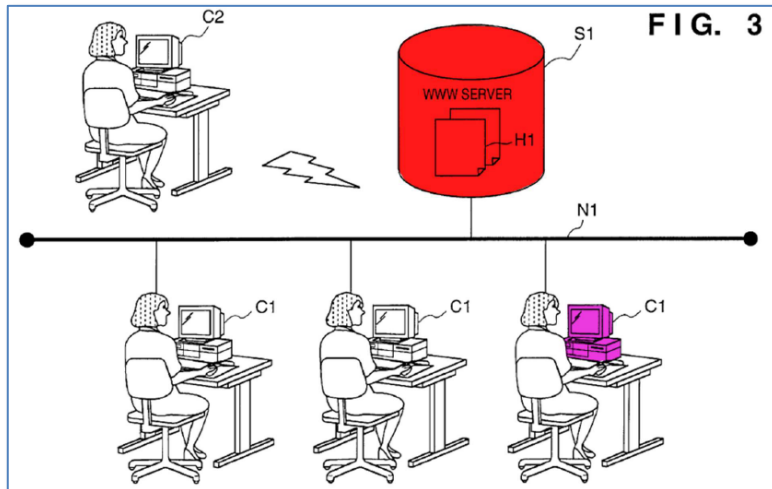
The camera-server update limitation: Kuwata + Fisher + Ohga

Ohga (Ex. 1007)

In step S43, a profile of, e.g., a monitor connected to the client computer is acquired by one of the following methods. The obtained profile is passed to the CMM program M1.

(1) A plurality of pieces of information (e.g., names or symbols) of monitor profiles prepared in the server are presented to the user, and the monitor profile selected by the user is downloaded from the server. The profile names presented to the user, and profiles on the server are associated with each other in advance, and when the user selects a given profile name, the corresponding profile on the server is automatically loaded into the CMM program of the client.

Ohga (Ex. 1007), 3:48-58



Ohga (Ex. 1007), Fig. 3

Declaration of Dr. Stevenson (Ex. 1003)

170. In my opinion, a POSITA would have been motivated to provide a manufacturer server with identification information (specification data), as taught by Ohga, that identifies new or updated preset conditions for a DSC-printer pair, so the server would easily and efficiently identify and transmit the desired preset conditions for that pair to the camera to add to memory for future use. Ohga teaches that its system improves “use efficiency of the entire network,” suggesting to a POSITA to similarly use specification data to identify the desired preset conditions for download from the server. Ohga, 4:41-44.

The camera-server update limitation: motivation to combine

- Expert testimony from both experts supports the motivation to combine Kuwata and Fisher / Kuwata, Fisher, and Ohga

Declaration of Dr. Stevenson (Ex. 1003)

108. A POSITA would have been motivated to look to Fisher's teachings to provide Kuwata's camera with the functionality of an ancillary data module to update and manage the preset conditions stored on the camera to account for printers not stored in the camera's memory, like new printers developed after a camera is sold, or updates to the optimum preset conditions for printing identified by the manufacturer. Additionally, a POSITA would have been motivated to

...

purchase." Ex. 1009, 2:7-14. A POSITA would have been motivated to apply Fisher's technique for allowing manufacturers to make various ancillary data files "available on a distributed computer network like the Internet for subsequent downloading and utilization by the camera device," to predictably improve Kuwata's camera to facilitate adding new files corresponding to preset conditions or new or updated modes in Kuwata's camera. Fisher, [0008].

Deposition Tr. of Dr. Papanikolopoulos (Ex. 1015)

17 Q. (By Mr. High) So if they bought a new
18 printer a year after they bought their camera, and
19 that printer didn't exist at the time they bought
20 their camera, the users of that camera would have to
21 perform the laborious process of identifying the
22 connect output control information of that printer on
1 their own?

2 MR. LAROQUE: Object to form.

3 A. In fact, given the closed structure of
4 this ecosystem at that time, it is very likely they
5 wouldn't have been able to do this alone, especially
6 if you consider that you need to fiddle with software
7 which was not -- not open-source.

Ex. 1003, ¶ 108; Ex. 1015, 71:17-72:7; Pet. 15-18, 24-26, 56-58; Pet'r Reply 8-12, 21-23

Kuwata does not teach away



“The prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed.”

In re Fulton, 391 F.3d 1195, 1201 (Fed. Cir. 2004)



“A motivation to combine may be implicit in the prior art—silence does not imply teaching away.”

Allergan, Inc. v. Apotex Inc., 754 F.3d 952, 964 (Fed. Cir. 2014)

The camera-server update limitation: expectation of success

- Patent Owner contends there were “well-known challenges as of the ’082 patent priority date relating to printer drivers needed to match DSCs with particular printers” and asserts that “Kuwata expressly teaches one printer driver, already on Kuwata’s self-contained camera.”
- But Kuwata discloses that the printer driver is on the *printer*, not on the *camera*
- Kuwata discloses that its use of an image file to specify printing processing conditions to the printer ***eliminates*** printer driver issues

Kuwata (Ex. 1005)

[0111] CPU 30 references output control information CI, obtains the parameters relating to the type of printing medium (paper), resolution, and printing direction (one directional printing or bi-directional printing), for example, and sets the printing conditions for the printer driver (step S350). When the printing subject is a photograph, photographic paper is set as the paper, photo mode is set as the resolution, and bi-directional printing is set to off (in other words, one directional printing). In this way, the printer driver setting conditions are set based on output control information CI, so it is not necessary for the user who is executing the printing to set these conditions in the printer driver setting screen.

The camera-server update limitation: claim 6

The '082 Patent

6. The image related data generator according to claim 1, wherein
the image data generator is connectable to a server via a network, and
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.

Ex. 1001, 15:40-46

Declaration of Dr. Stevenson (Ex. 1003)

107. In my opinion, a POSITA would have found it obvious and been motivated to identify the selected preset conditions to be updated (image processing control data to be updated) based on Fisher's disclosure of "descriptors" that are associated with a "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]. Fisher discloses that "descriptors 712 may include any appropriate information related to a corresponding set of data 714," and a POSITA would have only needed to apply conventional network-communication techniques to provide a **data source, such as an Internet server**, with **the descriptor of the preset conditions** for the desired DSC-printer pair to receive **the desired preset conditions** in response. Fisher, [0053].

170. In my opinion, a POSITA would have been motivated to provide a **manufacturer server** with **identification information (specification data)**, as taught by Ohga, that identifies new or updated preset conditions for a DSC-printer pair, so the server would easily and efficiently identify and transmit **the desired preset conditions for that pair** to the camera to add to memory for future use. Ohga teaches that its system improves "use efficiency of the entire network," suggesting to a POSITA to similarly use specification data to identify the desired preset conditions for download from the server. Ohga, 4:41-44.

Ex. 1001, 15:40-46; Ex. 1003, ¶¶ 107, 170; Pet. 22-27, 41-42, 56-58, 63; Pet'r Reply 26

Issue 2: The processing parameters limitation

The processing parameters limitation in claim 8

8. An update data transmit apparatus, connectable to a predetermined peripheral device, comprising:
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;
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
an update data transmission module configured to transmit the update data corresponding to the predetermined data to the peripheral device,
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.

Processing
parameters
limitation

Ex. 1001, 16:1-19

- Also, similar processing parameters limitation in claim 9

The '082 patent's color space parameter

The '082 Patent

The PIM includes various information such as the following: gamma values of the DSC 10, setting parameters for contrast and color balance, and color space parameters that identifies the color space where the image data is defined.

Ex. 1001, 6:63-66

Convert Color Space from RGB to XYZ:
For sRGB Image - Use Matrix TM1;
For NTSC Image - Use Matrix TM2;

S84

Ex. 1001, Fig. 8 (cropped)

The printer 11 first carries out the conversion from the RGB color space to an XYZ color space (Step S84). The conversion process depends upon the color space in which the image data is defined. Accordingly, the procedure of this embodiment provides two conversion matrices in advance, that is, a conversion matrix TM1 for the sRGB color space or the extended sRGB color space and another conversion matrix TM2 for the NTSC color space, and selectively uses one of the two conversion matrices TM1 and TM2 to implement the conversion according to the color space used for shooting. The conversion changes the individual color spaces, in which the image data is generated, into the standard XYZ color space.

Ex. 1001, 9:60-10:4

Ex. 1001, Fig. 8, 6:63-66, 9:60-10:4; Pet'r Reply 15-19, 23, 25

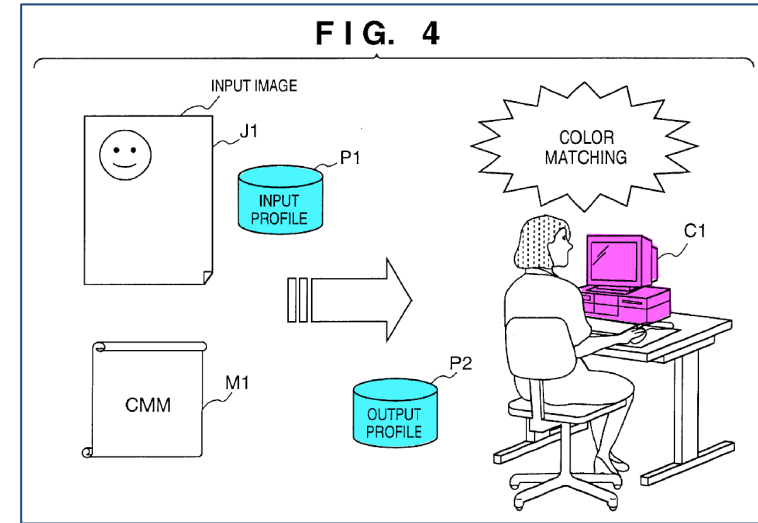
The processing parameters limitation: Ohga's profiles

In step S43, a profile of, e.g., a monitor connected to the client computer is acquired by one of the following methods. The obtained profile is passed to the CMM program M1.

(1) A plurality of pieces of information (e.g., names or symbols) of monitor profiles prepared in the server are presented to the user, and the monitor profile selected by the user is downloaded from the server. The profile names presented to the user, and profiles on the server are associated with each other in advance, and when the user selects a given profile name, the corresponding profile on the server is automatically loaded into the CMM program of the client. On the other hand, the CMM program may have a plurality of monitor profiles, and one of them may be selected by the user.

(2) The user is prompted to input or designate color space characteristics, i.e., the XYZ values of RGB primary colors, gamma coefficient, and XYZ value of white point, and a monitor profile is created based on these data.

Ohga (Ex. 1007), 3:48-65



Ohga (Ex. 1007), Fig. 4 (annotated)

In step S44, the CMM program M1 executes color matching for the image data J1 on the basis of the input profile P1 and monitor profile. The image data J1 that has undergone color matching is sent to the monitor, and an image is displayed. Note that the output destination of the image data J1 that has undergone color matching is not limited to the monitor. For example, the image data J1 may be output to an image output device such as a printer, film recorder, or the like. In this case, the profile of such image output device is used in place of the monitor profile.

Ohga (Ex. 1007), 4:3-12

The processing parameters limitation: Ohga's profiles

- Ohga's profiles tell the CMM *how* to process the image data

Declaration of Dr. Papanikolopoulos (Ex. 2001)

75. In my opinion, a POSITA in 2002 would have understood that the International Color Consortium (ICC) and Color Management Modules (CMMs) form the backbone of color management systems. The ICC, established in 1993 by industry leaders, developed the standardized ICC profile format that defines how color information should be interpreted across different devices. These profiles contain detailed color characterization data that describe how a specific device reproduces or captures color relative to a device-independent color space. Color Management Modules (CMMs) are the software components that perform the color transformations based on ICC profiles. When color data (e.g., images) moves between devices (like from a camera to a monitor to a printer), the CMM uses the source and destination ICC profiles to calculate the necessary color transformations. Different CMMs may use slightly different algorithms for these

The processing parameters limitation: Patent Owner's argument excludes embodiments

- Patent Owner argues that processing parameters includes “software instructions for execution by a printer or other output device that actually control processing of the accompanying image data.”
- The '082 patent's processing parameters are just parameters that the printer extracts to decide *how* to process the image data.

Fig.5B

Name of Tags	Parameter Values
Gamma Value	2.2
Color Space	NTSC
Contrast	Slightly Lower
Color Balance	Standard

Ex. 1001, FIG. 5B

FIG. 5B schematically shows the data structure of the recording area of the image processing 55. Parameters to control the image processing are recorded as combinations of the name of the tag and the parameter value.

Ex. 1001, 8:57-60

Ex. 1001, 8:57-60, FIG. 5B; POR 41; Pet'r Reply 15-19, 23, 25

The processing parameters limitation: Patent Owner's argument excludes embodiments

- Patent Owner argues that Ohga's profiles do not meet the processing parameters limitation because they are specific to individual input and output devices.
- The '082 patent also discloses that a gamma value is a type of processing parameter specific to an individual input device.

The PIM includes various information such as the following: **gamma values of the DSC 10**, setting parameters for contrast and color balance, and color space parameters that identifies the color space where the image data is defined.

Ex. 1001, 6:63-66

The printer 11 then performs gamma correction of the image data (Step S83). **The gamma value used for the gamma correction is included in the control data as information representing the characteristics of the digital still camera 10.**

Ex. 1001, 9:27-30

Ex. 1001, 6:63-66, 9:27-30; POR 41-42; Pet'r Reply 15-19, 23, 25

Issue 3: The PC-server update limitation

The PC-server update limitation in claim 7

7. An image related data editor, connectable to a server, comprising:

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;

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

} PC-server
update
limitation

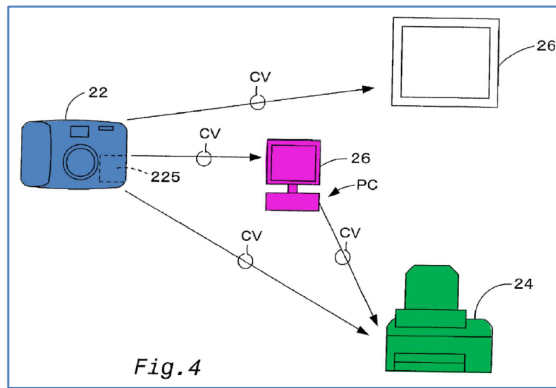
a relating module configured to relate the image data to the update data,

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.

Ex. 1001, 15:47-63

The PC-server update limitation: Kuwata + Ohga

Kuwata (Ex. 1005)

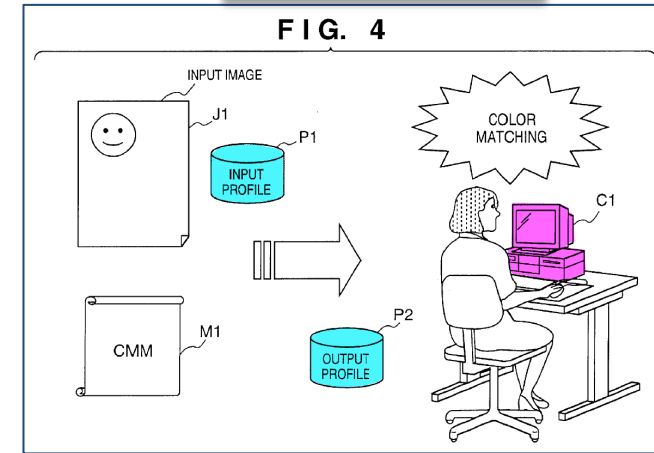


Pet. 7 (annotating Kuwata (Ex. 1005), Fig. 4)

Especially when the color space that can be expressed by DSC 22 is broader than the sRGB color space typically used for image processing from the past, the image generated by DSC 22 was not output correctly at the output device, but by specifying the color space that DSC 22 has as the target color space, it is possible to make the color reproduction accurate. It is also possible to obtain output results that effectively use the color reproduction capability of DSC 22. Also, this working example used as an example a digital camera, but it also possible to apply this to an application program executed on a personal computer, palm-top computer, or other processor-based device that hosts application software. In this case, instead of generating image data GD, image data GD is obtained from a digital camera, and is stored together with the output control information CI generated by the application program in one image file GF.

Kuwata (Ex. 1005), [0096]

Ohga (Ex. 1007)



Ohga (Ex. 1007), Fig. 4

In step S43, a profile of, e.g., a monitor connected to the client computer is acquired by one of the following methods. The obtained profile is passed to the CMM program M1.

(1) A plurality of pieces of information (e.g., names or symbols) of monitor profiles prepared in the server are presented to the user, and the monitor profile selected by the user is downloaded from the server. The profile names presented to the user, and profiles on the server are associated with each other in advance, and when the user selects a given profile name, the corresponding profile on the server is automatically loaded into the CMM program of the client.

Ohga (Ex. 1007), 3:48-58

The PC-server update limitation: Patent Owner repeats faulty Ohga argument

- Patent Owner's arguments rest on its faulty argument that Ohga's profiles do not disclose processing parameters
 - Patent Owner argues that Ohga's profiles are not processing parameters
 - Patent Owner argues that device names are not “attribute data” because Ohga's device names “are used by Ohga to identify device profiles”

Appendix

Grounds of unpatentability

Ground	Claims	Basis	References
1	1-3, 5-6, 10	Obviousness	Kuwata and Fisher
2	1-6, 10	Obviousness	Kuwata, Fisher, and Ohga
3	7	Obviousness	Kuwata and Ohga
4	8	Obviousness	Ohga and Kuwata
5	9	Anticipation	Ohga
6	9	Obviousness	Ohga