

TRANSLATOR CERTIFICATION

December 8, 2015

To whom it may concern:

This is to certify that:

1. The attached English translation of Japanese Unexamined Patent Application Publication JP H9-322114 A is an accurate representation of the translation prepared by TransPerfect Legal Solutions; and
2. The attached Japanese Unexamined Patent Application Publication JP H9-322114 A is an accurate representation of the document received by TransPerfect Legal Solutions for translation from Japanese to English.

Carrie Russ, Director at TransPerfect Legal Solutions, certifies that Marc Adler, who translated Japanese Unexamined Patent Application Publication JP H9-322114 A from Japanese to English, is fluent in Japanese and English and qualified to translate.

Carrie Russ attests to the following:

“To the best of my knowledge, the aforementioned English translation is a true, full, and accurate translation of the specified Japanese document.”



Signature of Carrie Russ

TRANSLATOR AFFIDAVIT

I, Marc Adler declare as follows:

1. I am over eighteen years of age and fully competent to make this affidavit. I have personal knowledge of the information contained in this affidavit, and it is true and accurate to the best of my knowledge.
2. I am a translator fluent in the Japanese and English languages. I provide this affidavit on behalf of TransPerfect Legal Solutions at the request of Unified Patents Inc.
3. I reviewed the attached Japanese original of Unexamined Patent Application Publication JP H9-322114 A and produced the attached English translation thereof. The attached documents are true and accurate representations of the document I reviewed (JP H9-322114 A) and the document I produced (English translation of JP H9-322114 A), respectively. The English translation is a true and accurate translation of Japanese Unexamined Patent Application Publication JP H9-322114 A.

I declare under penalty of perjury of the laws of the United States of America that the foregoing information is true and accurate to the best of my knowledge. I understand that willful false statements and the like are punishable by fine or imprisonment or both (18 U.S.C. § 1001).

Executed December 9, 2015 in AUSTIN, TX, USA
(city) (state) (country)



Signature of Marc Adler

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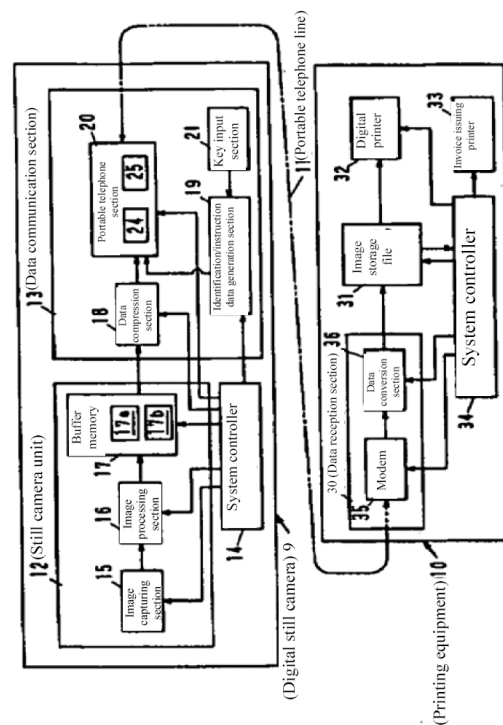
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(54) (TITLE OF THE INVENTION) PRINTING SYSTEM AND CAMERA

(57) [Abstract]

[Problem] To eliminate obtain a high-quality hard copy without having to provide multiple storage media, and furthermore to eliminate hassle and time involved in obtaining the hard copy.

[Means for Solving the Problem] An image is captured with a digital camera 9. The camera 9 has a memory for storing photographed frames and a memory for transfer image data, and automatically sends image data that has been captured to a photo processing lab. At the photo processing lab the image data is stored in an image storage file 31 based on identification data. Digital prints are made on the basis of the image data and print instruction data. The image data is transferred every time photography is performed, and therefore many frames can be photographed without worrying about storage capacity. Only two frames' worth of storage capacity is needed, making it possible to increase the image data for one frame by that amount and therefore attain high quality. Data transfer is performed, so hard copies can be obtained quickly.



[Claims]

[Claim 1] A printing system, comprising a data reception section that receives image data and identification data transferred from a camera provided with a data communication section that transfers the image data of a subject and identification data corresponding thereto,

an image data base that performs data management of the image data on the basis of the identification data,

a printing means for creating a print from the image data imported from the image database, and a printing control section that controls the printing means using print instruction data that defines operating conditions of the printing means.

[Claim 2] The printing system as claimed in claim 1, wherein the print instruction data is created by the camera and transferred to the data reception section together with the image data.

[Claim 3] The printing system as claimed in claim 1, wherein the print instruction data is registered ahead of time in the printing control means [*sic*: printing control section].

[Claim 4] The printing system as claimed in any one of claims 1 to 3, wherein the print instruction data includes any of an index print instruction data, single-frame print instruction data, print size data, print sheet count data, and print pick-up instruction data.

[Claim 5] The printing system as claimed in any one of claims 1 to 4, wherein the data reception section is provided with a wireless transmission/reception means for wirelessly communicating the image data or the identification data from the data communication section.

[Claim 6] The printing system as claimed in any one of claims 1 to 5, wherein photography condition data is transferred together with the image data.

[Claim 7] A camera, comprising a data communication section that transfers image data of a subject and identification data corresponding to the image data, and a storing means for transferred image data.

[Claim 8] The camera as claimed in claim 7, wherein image capturing is performed using a pixel shift method, and differential data between pixel-shifted images photographed in sequence is encoded.

[Claim 9] A camera, comprising a data communication section that transfers image data of a subject, identification data corresponding to the image data, and print instruction data.

[Claim 10] The camera as claimed in claim 9, wherein the identification data comprises user identification data and photograph frame identification data.

[Claim 11] The camera as claimed in claim 9 or 10, comprising a storing means for storing multiple frames' worth of the image data, wherein the data communication section automatically transfers multiple frames' worth of the image data stored in the storing means after a fixed number of frames or a fixed amount of data has been photographed.

[Claim 12] The camera as claimed in claim 11, wherein when a successful reception signal is received from a reception side after data transfer, data transferred image data stored in the storing means is deleted.

[Claim 13] The camera as claimed in any one of claims 9 to 12, wherein a plurality of data transfer destinations are stored, and the data communication section selects the data transfer destination closest to a current location of

the camera on the basis of current location data of the camera.

[Claim 14] The camera as claimed in claim 13, wherein a plurality of print pick-up destinations are stored, the data communication section selects the print pick-up destination closest to the current location of the camera on the basis of the current location data of the camera, and this print pick-up destination data is included in the print instruction data during data transfer.

[Claim 15] The camera as claimed in claim 13 or 14, wherein the current location information [*sic*: data] of the camera is input either manually or on the basis of reception base station information or GPS signals.

[Claim 16] The camera as claimed in any one of claims 9 to 12, wherein a plurality of data transfer destinations are stored, and the data communication section transfers data to one selected thereamong.

[Claim 17] The camera as claimed in any one of claims 9 to 12, wherein a plurality of print pick-up destinations are stored, and the data communication section includes one selected thereamong as print pick-up destination data in the print instruction data during data transfer.

[Detailed Description of the Invention]

[0001]

[Technical Field of the Invention] The present invention relates to a printing system and a camera that performs printing using image data photographed by a digital still camera or the like.

[0002]

[Prior Art] Under current cameras and photograph printing systems, negative film which has been exposed is taken to a developing location or a digital print accepting store where processes such as simultaneous printing are performed, after which these are picked up. With conventional digital still cameras, storage media such as floppy disks or LSI cards are mounted in the cameras and image data is stored in these storage media.

[0003]

[Problems to be Solved by the Invention] Thus, with conventional photographic printing systems, it has been necessary to use storage media such as negative film and floppy disks. Moreover, these storage media have had to be taken to developing locations or digital printing stores, where hassle and time are involved in ordering digital print processing and the like.

[0004] The present invention solves these problems, and has as an object to provide a printing system and a camera whereby high-quality photographs can be obtained without providing multiple storage media, and moreover hassle and time involved in obtaining photographs are eliminated.

[0005]

[Means for Solving the Problem] In order to attain this object, a printing system as in claim 1 comprises a data reception section that receives image data and identification data transferred from a camera provided with a data communication section that transfers the image data of a subject and identification data corresponding thereto, an image data base that performs data management of the image data on the basis of the identification data, a printing means for creating a print from the image data imported from the image database, and a print control section that controls the printing means using print instruction data that defines operating conditions of the printing means. Preferably, the print instruction data is created by the camera and transferred to the data reception section together with the image data. Preferably, the print instruction data is registered ahead of time in the printing control means. Preferably, the print instruction data includes any of an index print instruction data, single-frame print instruction data, print size data, print sheet count data, and print pick-up instruction data. Preferably, the data reception section is provided with a wireless transmission/reception means for wirelessly communicating the image data or the identification data from the data communication section. Preferably, photography condition data is transferred together with the image data.

[0006] A camera as in claim 7 comprises a data communication section that transfers image data of a subject and identification data corresponding to the image data, and a storing means for transferred image data. Preferably, image capturing is performed using a pixel shift method, and differential data between pixel-shifted images photographed in sequence is encoded.

[0007] A camera as in claim 9 comprises a data communication section that transfers image data of a subject, identification data corresponding to the image data, and print instruction data. Preferably, the identification data comprises user identification data and photograph frame identification data. Preferably, the camera comprises a storing means for storing multiple frames' worth of the image data, and the data communication section automatically transfers multiple frames' worth of the image data stored in the storing means after a fixed number of frames or a fixed amount of data has been photographed. Preferably, when a successful reception signal is received from a reception side after data transfer, data transferred image data stored in the storing means is deleted. Preferably, a plurality of data transfer destinations are stored, and the data communication section selects the data transfer destination closest to a current location of the camera on the basis of current location data of the camera. Preferably, a plurality of print pick-up destinations are stored, the data communication section selects the print pick-up destination closest to the current location of the camera on the basis of the current location data of the camera, and this print pick-up destination data is included in the print instruction data during data transfer. Preferably, the current location information of the camera is input either manually or on the basis of reception base station information or GPS signals. Instead of specifying a data transfer destination or print pick-up destination on the basis of the current location of the camera, it is also possible to store a plurality of data transfer destinations and/or print pick-up destinations and select thereamong.

[0008]

[Embodiments of the Invention] FIG. 1 is a schematic view showing a printing system according to the present invention. The printing system according to the present invention is constituted by a digital still camera 9 and printing equipment 10 that is installed in a photo processing lab. The digital still camera 9 and the printing equipment 10 are connected by a portable telephone line 11. The digital still camera 9 is constituted by a still camera unit 12, a data communication section 13, and a system controller 14 that controls these.

[0009] The still camera unit 12 is constituted by an image capturing section 15, an image processing section 16, and a buffer memory 17. The image capturing section 15 is constituted by three-plate image area sensors and captures images of subjects. The image processing section 16 performs gamma conversion and/or known image processes and then analog-to-digital conversion, and stores this in the buffer memory 17. The buffer memory 17 is constituted by two frame memories 17a and 17b. When data compression processes or the like are being performed in the frame memory 17a, image data from the image processing section 16 is being written to the frame memory 17b.

[0010] The data communication section 13 is constituted by a data compression section 18, an identification/instruction data generation section 19, and a portable telephone section 20. The data compression section 18 imports one frame's worth of digital image data from either the frame memory 17a or the frame memory 17b and subjects the image data to JPEG (Joint Photographic Experts Group) compression using a compression ratio of around 1/10 to 1/20. The compressed image data is sent to the portable telephone section 20. Note that the data compression system is not limited to JPEG; other known compression systems may be used.

[0011] The identification/instruction data generation section 19 generates identification number data (ID data) that specifies a camera user and/or print instruction data that corresponds to various printing commands input via a key input section 21. The identification/instruction data is sent to the portable telephone section 20. The print instruction data includes index print instruction data, single-frame print instruction data, print size data, print sheet number data, print pick-up instruction data, image data save instruction data, and image data medium storage instruction data, and aside from these special print instruction data can also be input, such as panorama prints and trimmed prints. If the print instruction data is set ahead of time, it is stored in memory and is output until changed later. The print pick-up instruction data indicates a desired print pick-up time and/or a pick-up method such as postal delivery, home delivery, handover at a store, and so on.

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