US 20040085576A1

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2004/0085576 A1

Paz-Pujalt et al. (43) Pub. Date: May 6, 2004

(54) PRINTING AND DELIVERY OF DIGITAL IMAGES AND TEXT VIA A CENTRAL RECEIVING AGENCY

(76) Inventors: **Gustavo R. Paz-Pujalt**, Rochester, NY (US); **David L. Patton**, Webster, NY (US)

Correspondence Address:
Thomas H. Close
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201 (US)

(21) Appl. No.: **10/695,054**

(22) Filed: **Oct. 28, 2003**

Related U.S. Application Data

(63) Continuation of application No. 09/416,697, filed on Oct. 12, 1999.

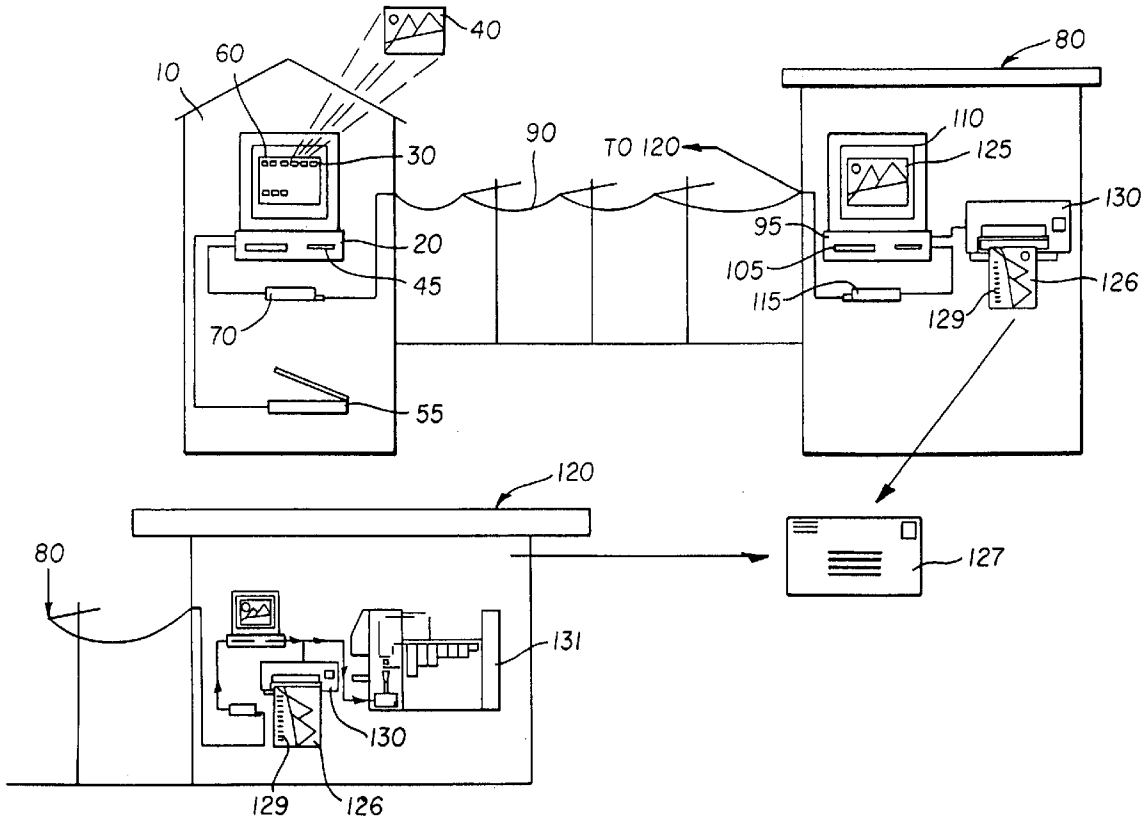
Publication Classification

(51) **Int. Cl.**[7] **G06K 1/00**; G06F 15/00

(52) **U.S. Cl.** **358/1.15**; 358/1.16

(57) **ABSTRACT**

A method of printing hardcopy images, includes electronically transmitting a plurality of digital images and information identifying the locations of a plurality of recipients from a remote location over a communications channel to a central receiving agency; storing the plurality of digital images and the information identifying the locations of a plurality of recipients in a memory at the central receiving agency; a user selecting a recipient and selecting a particular stored digital image from the plurality of digital images, and authorizing the printing of the particular stored digital image; using the information identifying the location of the recipient to select a local printing station for the recipient from a plurality of local printing stations; transmitting the particular digital image to the selected local printing station; and printing the particular stored digital image at the selected local printing station to produce a hardcopy image.



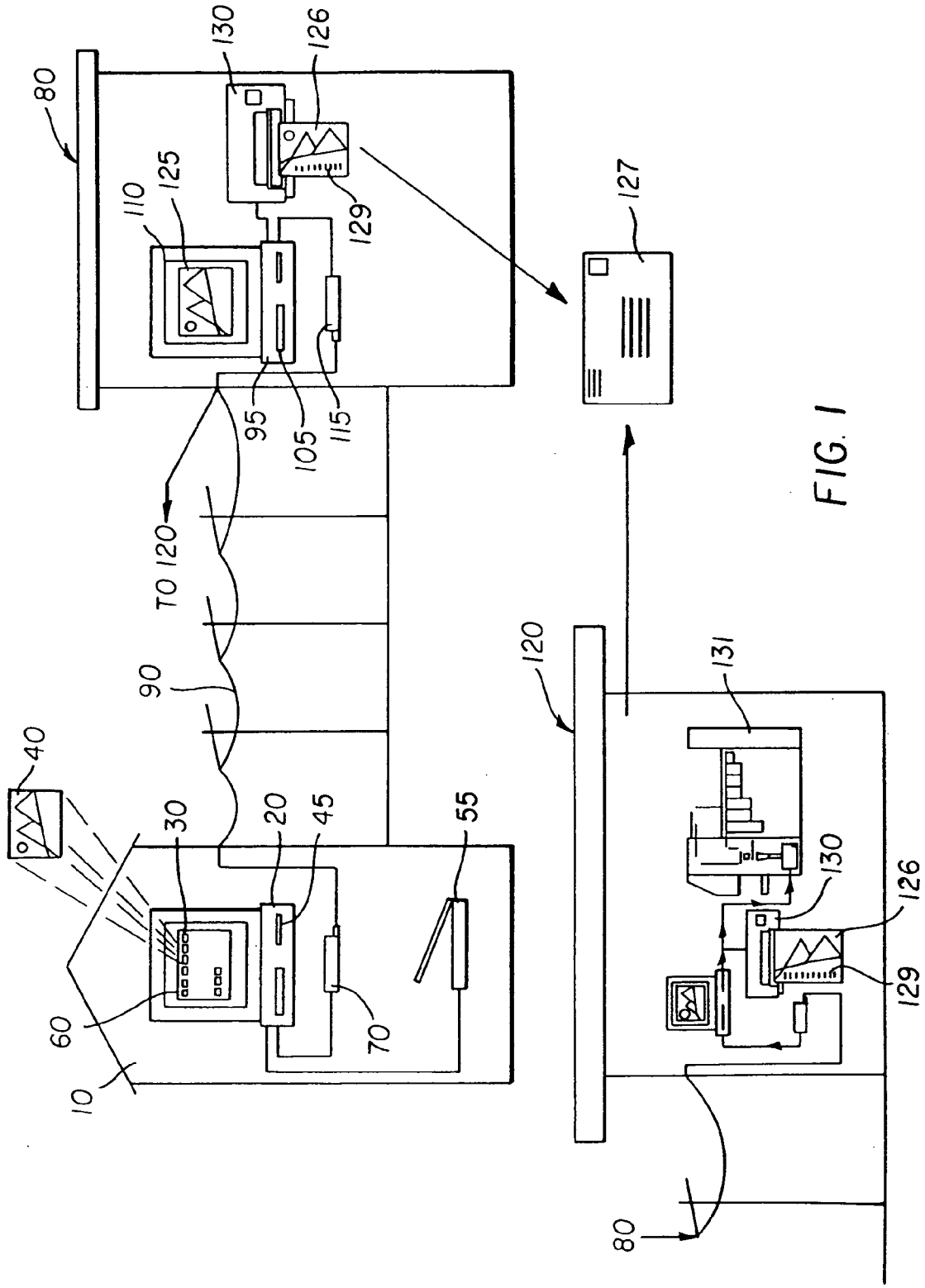

80
130
126
125
110
129
127
95
105
115
TO 120
90
40
30
20
45
55
60
70
10
120
131
130
126
129
80

FIG. 1

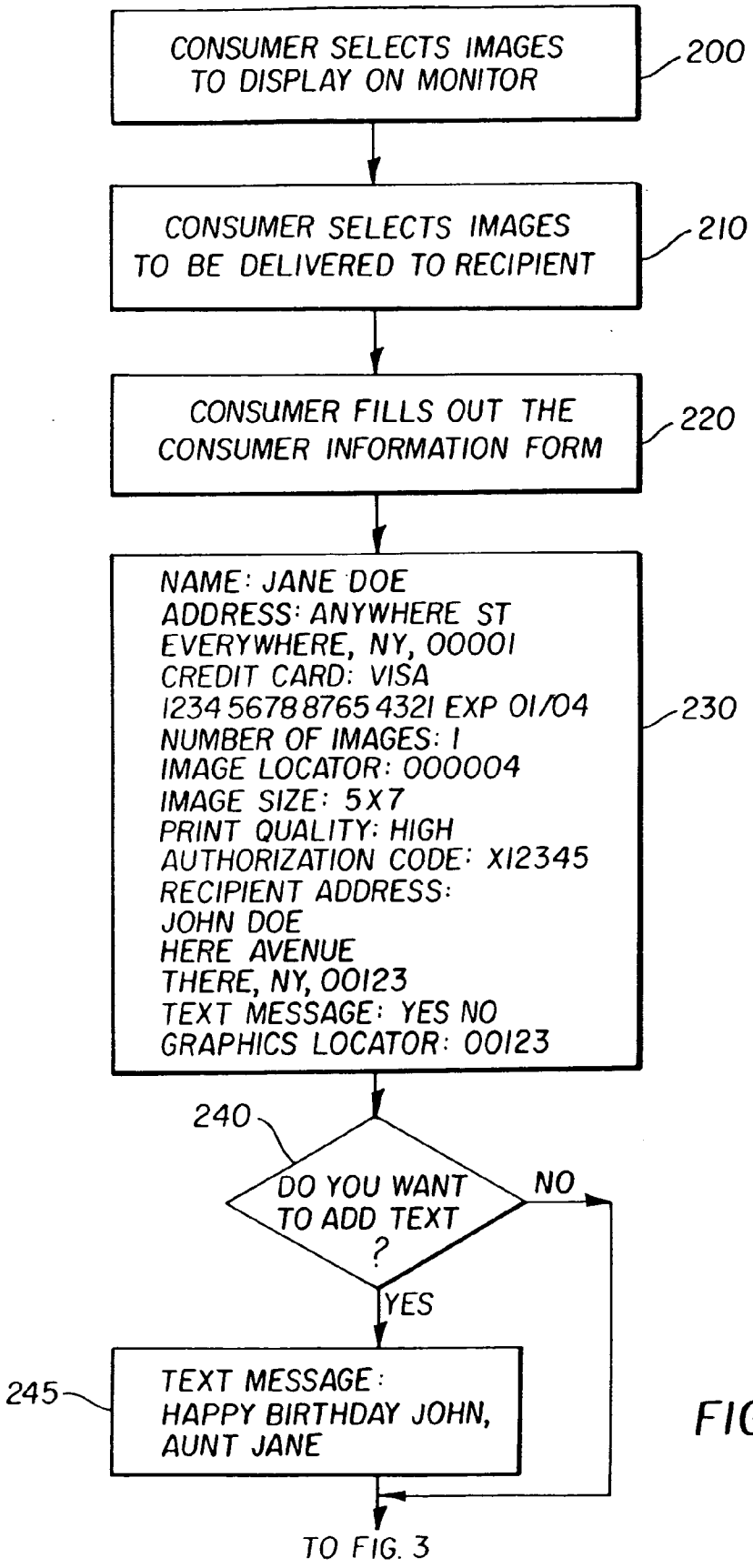

CONSUMER SELECTS IMAGES TO DISPLAY ON MONITOR
200
CONSUMER SELECTS IMAGES TO BE DELIVERED TO RECIPIENT
210
CONSUMER FILLS OUT THE CONSUMER INFORMATION FORM
220
NAME: JANE DOE
ADDRESS: ANYWHERE ST
EVERYWHERE, NY, 00001
CREDIT CARD: VISA
1234 5678 8765 4321 EXP 01/04
NUMBER OF IMAGES: 1
IMAGE LOCATOR: 000004
IMAGE SIZE: 5X7
PRINT QUALITY: HIGH
AUTHORIZATION CODE: X12345
RECIPIENT ADDRESS:
JOHN DOE
HERE AVENUE
THERE, NY, 00123
TEXT MESSAGE: YES NO
GRAPHICS LOCATOR: 00123
230
240
DO YOU WANT TO ADD TEXT ?
NO
YES
245
TEXT MESSAGE: HAPPY BIRTHDAY JOHN, AUNT JANE
TO FIG. 3

FIG. 2

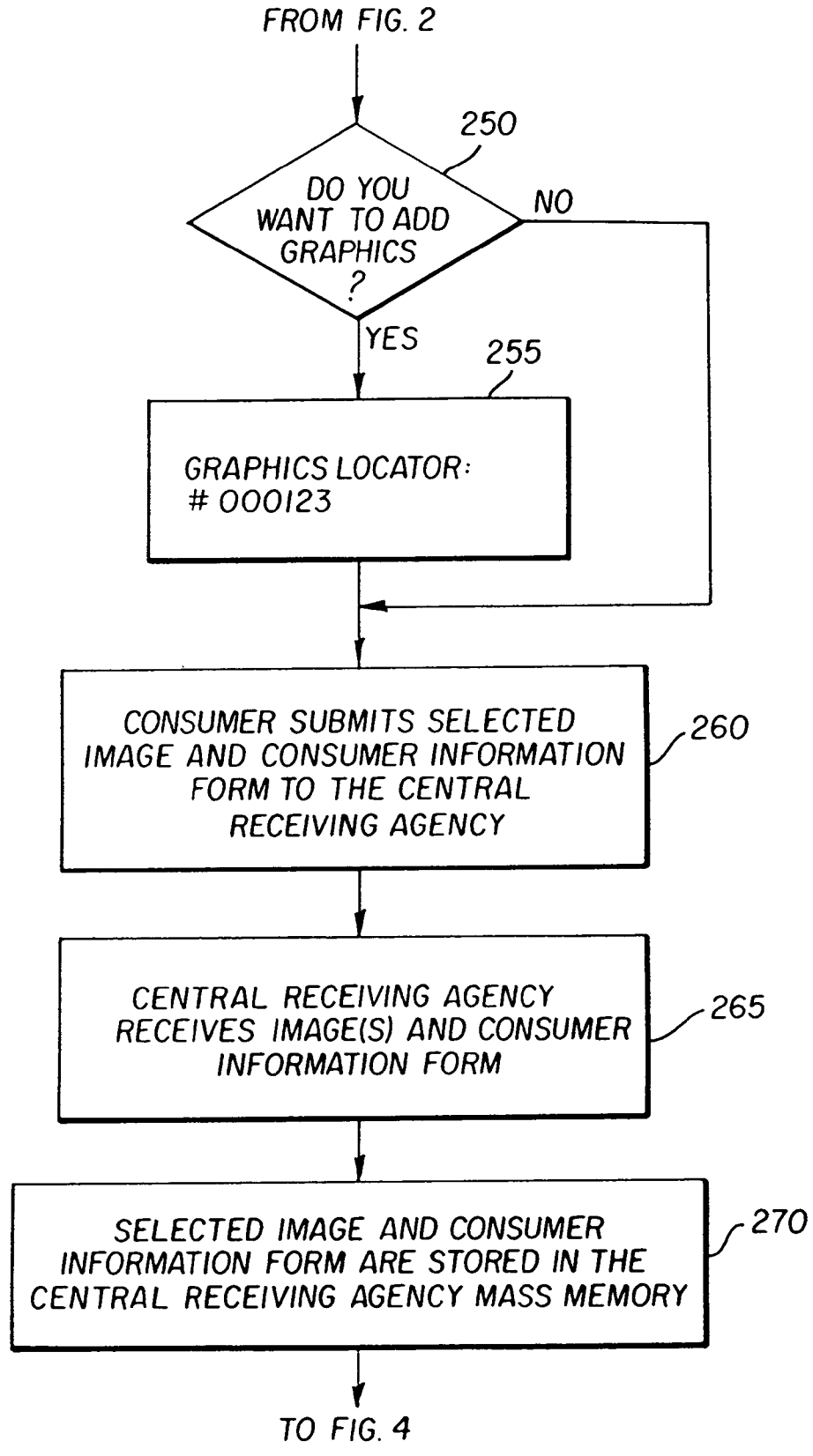

FROM FIG. 2
250
DO YOU WANT TO ADD GRAPHICS ?
NO
YES
255
GRAPHICS LOCATOR: # 000123
CONSUMER SUBMITS SELECTED IMAGE AND CONSUMER INFORMATION FORM TO THE CENTRAL RECEIVING AGENCY
260
CENTRAL RECEIVING AGENCY RECEIVES IMAGE(S) AND CONSUMER INFORMATION FORM
265
SELECTED IMAGE AND CONSUMER INFORMATION FORM ARE STORED IN THE CENTRAL RECEIVING AGENCY MASS MEMORY
270
TO FIG. 4

FIG. 3

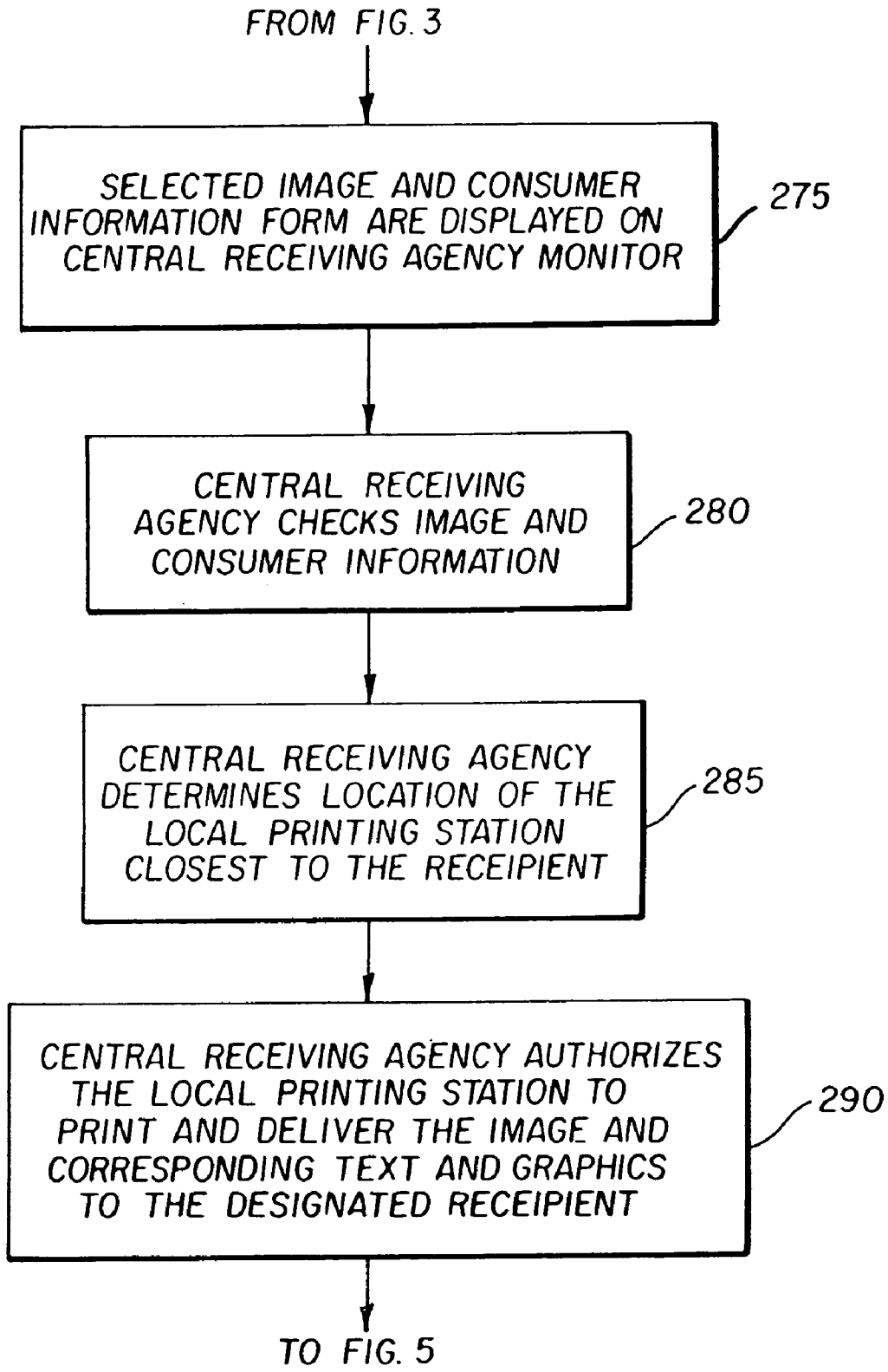

FROM FIG. 3
SELECTED IMAGE AND CONSUMER INFORMATION FORM ARE DISPLAYED ON CENTRAL RECEIVING AGENCY MONITOR
275
CENTRAL RECEIVING AGENCY CHECKS IMAGE AND CONSUMER INFORMATION
280
CENTRAL RECEIVING AGENCY DETERMINES LOCATION OF THE LOCAL PRINTING STATION CLOSEST TO THE RECEIPIENT
285
CENTRAL RECEIVING AGENCY AUTHORIZES THE LOCAL PRINTING STATION TO PRINT AND DELIVER THE IMAGE AND CORRESPONDING TEXT AND GRAPHICS TO THE DESIGNATED RECEIPIENT
290
TO FIG. 5

FIG. 4

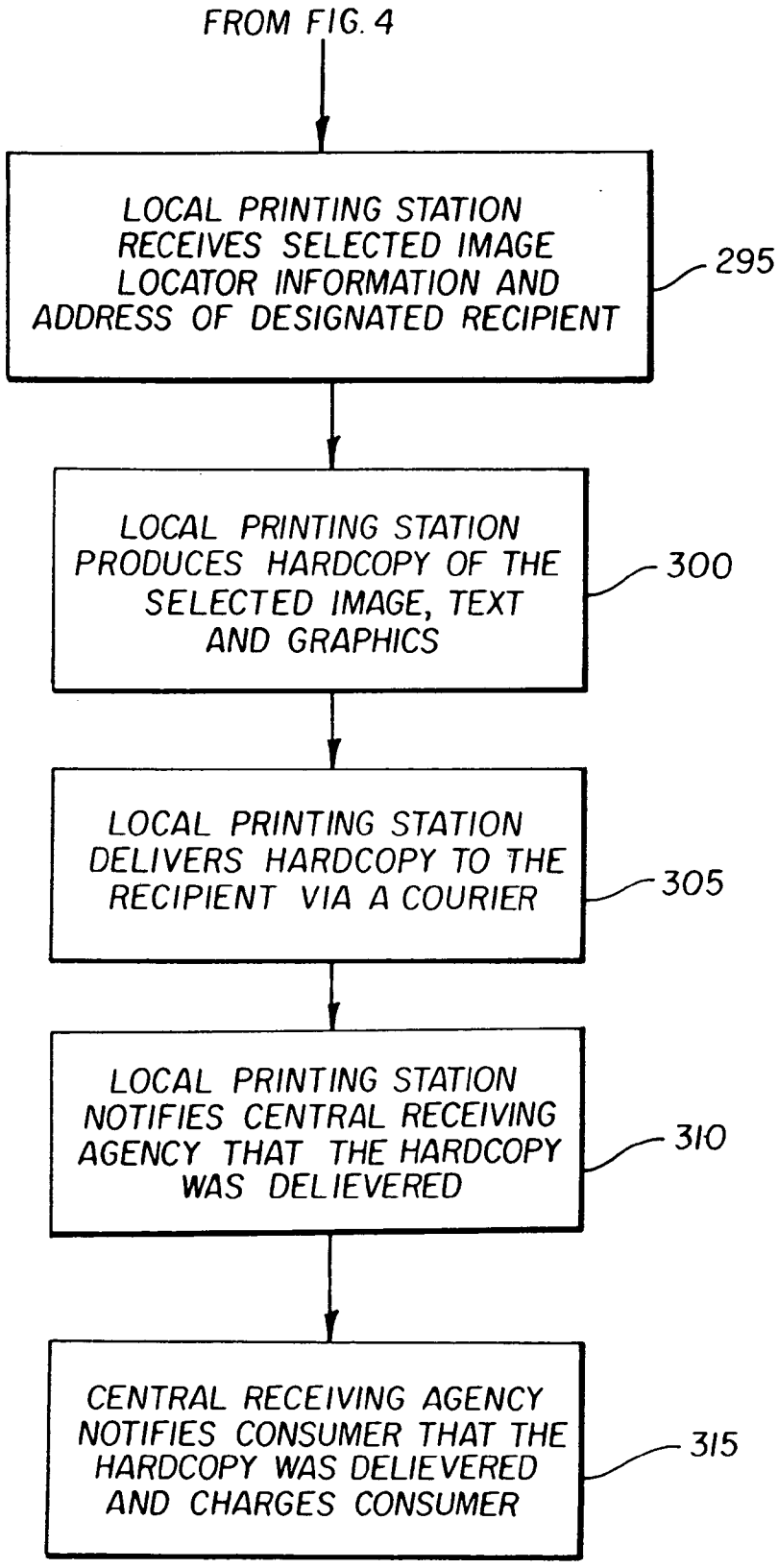

FROM FIG. 4
LOCAL PRINTING STATION RECEIVES SELECTED IMAGE LOCATOR INFORMATION AND ADDRESS OF DESIGNATED RECIPIENT
295
LOCAL PRINTING STATION PRODUCES HARDCOPY OF THE SELECTED IMAGE, TEXT AND GRAPHICS
300
LOCAL PRINTING STATION DELIVERS HARDCOPY TO THE RECIPIENT VIA A COURIER
305
LOCAL PRINTING STATION NOTIFIES CENTRAL RECEIVING AGENCY THAT THE HARDCOPY WAS DELIEVERED
310
CENTRAL RECEIVING AGENCY NOTIFIES CONSUMER THAT THE HARDCOPY WAS DELIEVERED AND CHARGES CONSUMER
315

FIG. 5

PRINTING AND DELIVERY OF DIGITAL IMAGES AND TEXT VIA A CENTRAL RECEIVING AGENCY

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Ser. No. 09/416,697. Reference is made to commonly assigned U.S. patent application Ser. No. 09/359,152 filed Jul. 22, 1999, entitled "Authorizing the Printing of Digital Images", by David L. Patton et al and U.S. patent application Ser. No. 09/378,159 filed Aug. 19, 1999, entitled "System for Customizing and Ordering Personalized Postage Stamps" by David L. Patton et al, the disclosures of which are incorporated herein.

FIELD OF THE INVENTION

[0002] This invention relates to electronically transmitting a digital image over a channel to a central receiving agency, which causes a hardcopy of the image to be delivered to the locations of different recipients.

BACKGROUND OF THE INVENTION

[0003] Commonly-assigned U.S. Pat. No. 5,666,215 discloses a method for viewing photographic images on a personal computer and enabling a user or consumer to select images for initial printing, reprinting and ordering related image products.

[0004] Photographic negatives often are provided to a scanner to obtain image data. The image data is manipulated to provide a positive image in the case of the photographic negatives and sent to the user's personal computer. The desired images are then selected and order information is provided, based on the positive image as displayed on the display of the personal computer. The order information is recorded to permit the desired prints and services to be created and the resulting order is sent to the location. The following can also be used as sources of images to be selected for prints and other services; image files stored in digital format on floppy disks, Picture CDs, Photo CDs, CD-ROMs, down loaded from the Internet, and negatives and prints scanned using a scanner and displayed on a personal computer's display.

[0005] The above cited patent and patent applications describe methods and systems by which a user or consumer can create or receive digital files of their images. Also described are how user or consumers can send these image files to a central receiving agency with authorization for these image files to be printed and various types of hardcopy products to be created.

[0006] These same user or consumers frequently use their personal computers to send images attached to e-mail messages to friends and relatives that also own personal computers that are connected to electronic communications systems such as the Internet. The problem is a majority of the people in the world does not own or have access to personal computers or have ready access to the Internet. Therefore they do not have the capability to receiver images electronically from friends and relatives who do. In some cases where user or consumers have Internet access at their place of employment they do not have the ability to print a color high quality image from the image file they receive.

SUMMARY OF THE INVENTION

[0007] It is an object of the present invention to provide an expeditious way of delivering printed images to recipients at one or more different locations.

[0008] It is a further object that the printed images can have text or graphic information.

[0009] These objects are achieved by a method of printing hardcopy images, comprising:

[0010] (a) electronically transmitting a plurality of digital images and information identifying the locations of a plurality of recipients from a remote location over a communications channel to a central receiving agency;

[0011] (b) storing the plurality of digital images and the information identifying the locations of a plurality of recipients in a memory at the central receiving agency;

[0012] (c) a user selecting a recipient and selecting a particular stored digital image from the plurality of digital images, and authorizing the printing of the particular stored digital image;

[0013] (d) using the information identifying the location of the recipient to select a local printing station for the recipient from a plurality of local printing stations;

[0014] (e) transmitting the particular digital image to the selected local printing station; and

[0015] (f) printing the particular stored digital image at the selected local printing station to produce a hardcopy image.

[0016] It is a feature of the present invention that images and text can be conveniently printed at remote printing locations where they can be delivered to desired recipients such as by mail or courier service. The user(s) or a third party such as an sponsor can conveniently be charged for the printing and delivery of the printed image to each of the recipients.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] **FIG. 1** is a block diagram of a system for remotely selecting images and transmitting the selected images to a central receiving agency where they can be delivered to a remote printing location for delivery of the images to the designated recipients at different locations;

[0018] **FIG. 2** is a flow chart showing how a user or consumer selects an image, an image locator and completes a user or consumer information form;

[0019] **FIG. 3** is a flow chart continuing the flow chart of **FIG. 2** showing how selected images and user or consumer information form are sent to the central receiving agency;

[0020] **FIG. 4** is a flow chart continuing the flow chart of **FIG. 3** showing how selected images are authorized by the central receiving agency and sent to a local printing station; and

[0021] **FIG. 5** is a flow chart continuing the flow chart of **FIG. 4** showing how the selected image is received by the local printing station, a hardcopy is produced, delivered to the designated recipients, while the user or consumer is charged and notified of the delivery.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] Referring now to **FIG. 1**, there is illustrated a system for delivering printed images to one or more recipients. The images can be included in a digital file. The digital file also includes image locator information. The image locator information can be a name associated with the digital image. This name can be used by a central receiving agency **80** to sort the image file in a particular location for retrieval. More particularly a set of personal images **30** is viewed at a remote location **10** on a personal computer **20** or interactive TV (not shown) or any Internet-capable appliance or device (not shown). The source of the personal images **30** can be image files stored in digital format on floppy and hard disks, Picture CDs, Photo CDs, and CD-ROMs. The image files can also be down loaded from the Internet using a system such as Kodak's PhotoNet, or negatives and prints can be scanned using the user's own film scanner **45** or print scanner **55** and displayed on their personal computer's display **60**. A selected image **40**, text, image locator information and the location of the recipient are electronically transmitted as signals from the remote location **10** over a communication channel **90** to the central receiving agency **80** where the information is received and stored in memory **105**. The transmitted user or consumer information is comprised of, but not limited to, the user's location, credit card number, user or consumer authorization, image locator information and number of prints, text and graphics to be printed and delivered to the location of one or more recipients. The user or consumer has the option of designating the size and quality level at which the prints are to be made and the type of media to be used to produce the printed image. The media can typically be paper, but can be as diverse as ceramic or plastic mugs or cloth or polymeric materials.

[0023] The digital file includes the locator of the selected image **40** and the user or consumer information are sent via a modem **70** to the central receiving agency **80** such as the U.S. Postal Service over the communication channel **90**, such as the Internet. The central receiving agency **80** receives the image file and/or image locator information and user or consumer information via a modem **115**, and using a central server **95** records, and stores the image file and/or image locator information and user or consumer information in memory **105**. The central receiving agency **80** views the selected image **40** and user or consumer information on a monitor **110** and authorizes when identified by a user or consumer the printing of a modified image **125** with text and graphics at the central receiving agency **80** or at a particular local printing station **120**. A user or consumer causes the electronic transmission of the digital images and locator information from a location remote from and over the communication channel **90** such as telephone lines into a memory location in the central receiving agency **80**. A user or consumer can simultaneously at this time cause a stored image in memory using the corresponding image locator information and the location of one or more recipients to transmit these data to the printing location for each of the recipients. The images are printed at these locations and then delivered by mail or courier to each of the recipients. The identifying step can be simultaneously with or at a later time than the electronic transmitting step.

[0024] After receiving the image file including image locator information at the central receiving agency **80**, the selected image **40** can be modified in such a way that the image is different from the original and the results are stored in memory **105** for future use. For example, but not by way of limitation, text or graphics may be added, or the color of the image, or a portion thereof, may be adjusted by cropping, enlarging or repositioning. The resulting modified image **125** is then stored in memory **105** and its location identified for future use. It will be understood by those skilled in the art that the image file before delivery to the central receiving agency can include text or graphics or other image modifications. The text or graphics can be printed on or with the image.

[0025] The central receiving agency **80** transmits the particular information to printing location **120** which corresponds to one or more recipients. The recipients can be listed on a distribution list provided by a personal computer **20** at the remote location **10**. After the central receiving agency **80** has determine that a user is authorized to transmit images to one or more recipients, such images are transmitted to each printing location **120** for printing and delivery to the one or more recipients.

[0026] A hardcopy **126** of the image as modified including text or graphics **129** is now printed at each of the local printing stations **120**. A hardcopy **126** of the modified image **125** and text or graphics **129** are packaged as designated by number **127** and delivered to each designated recipient. At the designated printing location **120**, the hardcopy **126** of the image and text or graphics **129** are packaged as designated by number **127** and delivered to the location of the recipient via the mail or a courier service such as Federal Express or DHL. Because the user or consumer has the option of designating the size and quality of the hardcopy print **126** and the media type, a variety of digital printer choices are necessary. The hardcopy **126** of the image and text or graphics **129** can be printed using a thermal printer **130** such as a KODAK PS 8650 Color Printer or a KODAK Photo Printer 4700 or a minilab **131**. Other types of digital printers such as a KODAK CRT Digital Color Printer, a Hewlett Packard Deskjet 870Cix Inkjet Printer, or a digital electrophotographic printer such as an Indigo—E—1000 can be used to produce the hard copy **126**.

[0027] Now referring to **FIG. 2** there is provided a flow chart showing how a user or consumer selects an image, an image locator and transmits them over a communication channel to the central receiving agency. The user or consumer selects the images from their image files to be displayed **200**. The user or consumer selects **210** the selected image **40** to be delivered to the recipient from the images displayed on the computer display **60**. The user or consumer then fills out **220** the user or consumer information form **230**. The user or consumer information form **230** contains but is not limited to the user's address, credit card number, image locator information **232**, user or consumer authorization code **235**, the quality, size and number of prints, the media type and the address of the recipient or recipients. The user or consumer can also specify whether text and graphics **129** is to be added to the selected image **40** before the selected image **40** is delivered to the recipient. The central receiving agency **80** uses the image locator information **232** and authorization code **235** to access the selected image **40** for printing. The image locator information **232** can be a

name associated with the digital image. This name can be used by the central receiving agency **80** to sort the image file in a particular location for retrieval. The authorization code **235** can be linked to the user's credit card number similarly to the way a pin number is linked to a credit card and is well known in the art. The linking of the authorization code **235** to the user's credit card number can be done for added security but is not necessary. The central receiving agency **80** can use the authorization code **235** as a customer order number. The central receiving agency **80** can also use the authorization code **235** to inform the user or consumer the selected image **40** was approved and sent to the designated recipient. The user or consumer can add text **240** to the selected image **40**. If the user or consumer decides to add a text message **245**, the user or consumer types the text message which becomes part of the user or consumer information form **230**. After the user or consumer decides to add or not to add a text message **245**, the user or consumer can decide to add graphics. Now referring to **FIG. 3**, which flows from **FIG. 2**, the user or consumer can add graphics to a selected image **250**. If the user or consumer decides to add graphics, the user or consumer provides a graphics locator information **255**. The graphics locator information **255** can be a name associated with the graphic. The central receiving agency **80** can use the graphics locator information **255** to sort a graphics file in a particular location for retrieval. The user or consumer can decide not to add graphics locator information **255**. After deciding to add or not to add graphics, the user or consumer prepares to transmit the order. After the user or consumer has selected an image, text and graphics, and completed the information form **230**, the user or consumer transmits **260** the selected image locator information **232**, text and graphics locator information **255**, and user or consumer information form **230** to the central receiving agency **80**. The central receiving agency **80** receives **265** the selected image locator information **232**, text and graphics locator information **255**, and user or consumer information form **230** and stores **270** the received items in memory **105**.

[**0028**] Now referring **FIG. 4**, which continues the flow chart of **FIG. 3** and shows how selected image **40**, text and graphics **129** and user or consumer information form **230** are displayed **275** on a monitor **110** at the central receiving agency **80**, and checked **280**. The central receiving agency **80** determines **285** the location of the local printing station **120** closest to the designated recipient and authorizes the local printing station **120** to print **290** the selected image **40** and text and graphics **129** and deliver a hardcopy **126** to the designated recipient.

[**0029**] Now referring to **FIG. 5**, which flows from **FIG. 4** and shows how the local printing station **120** closest to the designated recipient receives **295** the selected image **40** and associated text and graphics **129**. The local printing station **120** prints **300** a hardcopy **126** of the selected image **40** and associated text and graphics **129**, packages as designated by number **127** and delivers **305** the hardcopy **126** to the designated recipient. The local printing station **120** notifies **310** the central receiving agency **80** that the hardcopy **126** was delivered. The central receiving agency **80** notifies **315** the user or consumer that the hardcopy **126** was delivered and charges the user or consumer's credit card account.

[**0030**] It will be understood the present invention is not limited to the printing and delivery of images but is equally applicable to the printing and delivery of post cards, greeting cards, or the like.

[**0031**] The invention has been described in detail with particular reference to certain preferred embodiments thereof, but it will be understood that variations and modifications can be effected within the spirit and scope of the invention.

PARTS LIST

[**0032**] **10** remote location

[**0033**] **20** personal computer

[**0034**] **30** personal images

[**0035**] **40** selected images

[**0036**] **45** film scanner

[**0037**] **55** print scanner

[**0038**] **60** display

[**0039**] **70** modem

[**0040**] **80** central receiving agency

[**0041**] **90** communication channel

[**0042**] **95** server

[**0043**] **105** memory

[**0044**] **110** monitor

[**0045**] **115** modem

[**0046**] **120** local printing station

[**0047**] **125** image

[**0048**] **126** hardcopy

[**0049**] **127** packaged image

[**0050**] **129** text and graphics

[**0051**] **130** thermal printer

[**0052**] **131** minilab

[**0053**] **200** view selected images

[**0054**] **210** consumer selects

[**0055**] **220** fill out user or consumer order form

[**0056**] **230** user or consumer order form

[**0057**] **232** image locator

[**0058**] **235** authorization code

[**0059**] **240** decision block

[**0060**] **245** text message

[**0061**] **250** decision block

[**0062**] **255** graphics locator information

[**0063**] **260** transmission to central receiving agency

[**0064**] **265** central receiving agency receives information

[**0065**] **270** central receiving agency stores information

[0066] **275** information displayed

[0067] **280** image check

[0068] **285** determine local printing station

[0069] **290** authorize printing

[0070] **295** local printing station receives print

[0071] **300** hardcopy produced

[0072] **305** hardcopy delivered

[0073] **310** central receiving agency notified

[0074] **315** user or consumer notified and charged

What is claimed is:

1. A method of printing hardcopy images, comprising:

(a) electronically transmitting a plurality of digital images and information identifying the locations of a plurality of recipients from a remote location over a communications channel to a central receiving agency;

(b) storing the plurality of digital images and the information identifying the locations of a plurality of recipients in a memory at the central receiving agency;

(c) a user selecting a recipient and selecting a particular stored digital image from the plurality of digital images, and authorizing the printing of the particular stored digital image;

(d) using the information identifying the location of the recipient to select a local printing station for the recipient from a plurality of local printing stations;

(e) transmitting the particular digital image to the selected local printing station; and

(f) printing the particular stored digital image at the selected local printing station to produce a hardcopy image.

2. The method of claim 1 further including delivering the hardcopy image from the local printing station to location of the recipient.

3. The method of claim 2 wherein the delivery is provided by a postal service

4. The method of claim 2 wherein the remote printing station notifies the central receiving agency that the hardcopy image has been delivered.

5. The method of claim 2 wherein the hardcopy is packaged prior to delivery.

6. The method of claim 1 wherein the particular stored digital image is modified before it is transmitted to the selected local printing station.

7. The method of claim 6 wherein the modified particular stored digital image is stored in the memory at the central receiving agency.

8. The method of claim 1 wherein the user authorizes the printing by providing an authorization code.

9. The method of claim 8 wherein the authorization code is linked to a credit card number.

10. The method of claim 1 wherein the user authorizes the sending and printing of text, graphics or both with the image.

11. The method of claim 1 wherein the user authorizes the sending of the image to two or more different recipients.

12. The method of claim 11 wherein the image is printed at different locations for different recipients.

13. The method of claim 12 wherein the user authorizes the and printing of text, graphics or both with the image.

14. The method of claim 1 wherein the central receiving agency stores graphics that are accessible to the user for ordering the printing of images and graphics.

15. The method of claim 1 wherein the central receiving agency verifies that an image is suitable for printing and sending to a recipient.

* * * * *