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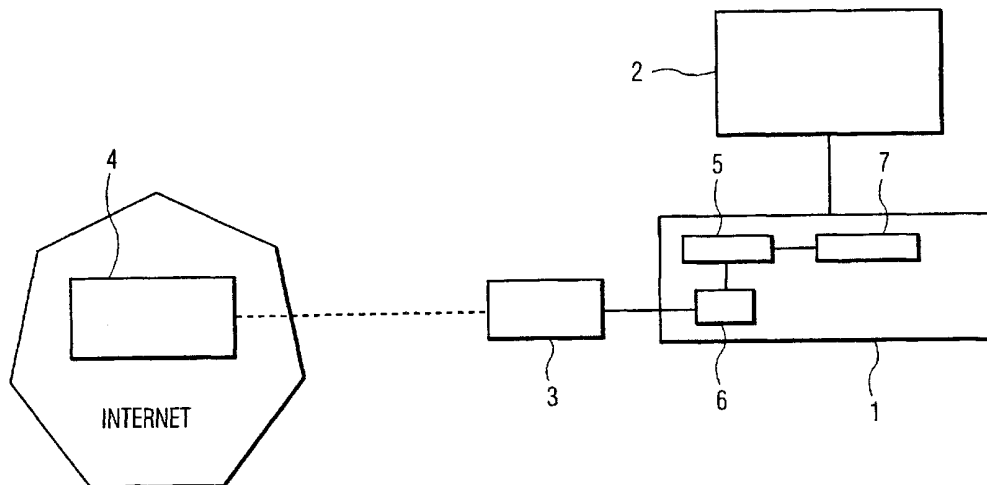
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(54) Title: RECEIVING AND SENDING ELECTRONIC MESSAGES THROUGH A PORTABLE DEVICE



(57) Abstract: A wireless, portable facsimile and printer device (1) comprising capabilities to access the Internet (4), such that electronic messages may be sent or retrieved. The portable device (1) includes a micro-processing unit (MPU) (5) that stores pertinent information, such as user name and password, for the user. A cellular telephone (3) connects the device (1) to an Internet Service Provider (4), and pending electronic messages are downloaded to an internal memory (7) to be stored, or may be printed immediately. Sending an electronic message requires that a user scans an original document into the portable device (1) and enters the recipient's electronic address on a keyboard mounted on the housing of the device (1). The scanned image of an original document is automatically sent as an attachment. In a further embodiment, the portable device (1) connects to the Internet (4), via a telephone cable, connected to a wall jack (8). In another embodiment, the portable device comprises only a portable printer.

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**RECEIVING AND SENDING ELECTRONIC  
MESSAGES THROUGH A PORTABLE DEVICE**

**BACKGROUND OF THE INVENTION**

5           Access to the Internet and electronic mail through portable devices is becoming increasingly widespread. As more and more business people and individuals travel, connections to the Internet and electronic messages are demanded. Message centers that store electronic messages for users, such as claimed in patent #5987100 by Fortman et al, allow users to send and receive messages in any format. These centers provide somewhat  
10 of a solution for individuals. Lap top computers and some cellular telephones now have capabilities to connect to the Internet and electronic mail. However, these devices generally do not allow a user to print any of the received documents, but merely offer memory space for storage. Furthermore, the user cannot send an original document, for example a magazine article, through these devices. The present invention addresses this issue by  
15 introducing a portable facsimile and printer device that may access electronic mail.

**SUMMARY OF THE INVENTION**

          The present invention relates to accessing an electronic mail server, to retrieve and send electronic messages, through a portable facsimile and printer device.

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          The portable device comprises a micro-processing unit that stores pertinent data required to access an electronic mail account, in an internal memory. A cellular telephone connects the portable device to an Internet Service Provider (ISP). The data stored in the MPU is then transmitted to the ISP such that the user gains access to the electronic mail  
25 server. The user is then able to download the pending electronic messages and store the messages in an internal memory or print the messages immediately, as required. To send an electronic message, the user may scan a document into the device and enter the electronic address of the recipient into a keypad mounted to the exterior of the housing of the device. The image of the scanned document is automatically sent as an attachment to  
30 the electronic message.

          In a further embodiment, the portable device connects to the Internet via a telephone cable connected to a wall jack, or any other external telecommunication outlet.

35           In another embodiment, the device comprises only a portable printer.

**BRIEF DESCRIPTION OF THE DRAWINGS**

**FIGURE 1** is a block diagram illustrating the connections of the portable device to a host computer, a cellular telephone and Internet.

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**FIGURE 2** is a block diagram illustrating the connections of the portable device to a host computer and Internet.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

10 The preferred embodiments will now be described with respect to the drawings. To facilitate description, any numeral identifying an element in one figure will represent the same element in any other figure.

The present invention relates generally to a process whereby a portable and  
15 wireless multi-function peripheral device, such as the portable facsimile and printer machine as claimed in US patent #5420697, entitled Portable Facsimile/Thermal Printer Utilizing a Multi-Purpose Single Roller, may connect to the Internet to retrieve a user's electronic mail. The portable device is compact and lightweight in design so as to be readily transported, for example in a briefcase, by the user. The device may interface with a host computer for  
20 scanning and printing information, and further comprises capabilities to connect to the Internet. The device is an essential item for those individuals who travel frequently because multiple functions are provided in one device, with the further advantage of electronic mail access.

25 Briefly, the portable device comprises thermal or thermal transfer technology. The device further includes a single drive roller, on one side of which is mounted a thermalprint head, and on the opposite side a scan head is mounted. A stepping motor powers the drive roller through a gear system. Print media is sandwiched between the drive roller and the print head, and traverses in a plane parallel to the scanned original that is sandwiched  
30 between the roller and the scan head. The print media and the scanned original are traversed in opposite directions on opposite sides of the roller as it rotates.

A preferred embodiment of the present invention is illustrated in **Figure 1** with a block diagram of the communications network. The portable facsimile and printer device  
35 connects to a host computer **2** for performing usual printing and scanning commands. The

device may also connect to a cellular telephone **3**, through a conventional telephone cable, for connecting to an Internet provider **4** of the user.

The device **1** comprises a micro-processing unit (MPU) **5**, into which the user may download, from the host computer, the necessary information regarding an electronic mail account. For example, an electronic mail address, a password for accessing the electronic mail account and an IP address for the electronic mail server could all be downloaded into the MPU. Thus, all of the information that is necessary to access and download electronic messages is stored in an internal memory of the MPU. Preferably, the user has a universally accessible electronic mail address or an Internet Service Provider (ISP) with a "1-800" telephone number, thereby avoiding long distance charges, when accessing the electronic mail account while traveling.

To access the electronic mail account, while the user is mobile, the user connects to the ISP, via the cellular telephone **3**, and a connection to the host computer is not required. The telephone cable connects the cellular telephone to an internal modem **6**, which modem transmits the electronic messages. The user may manually dial, on the cellular telephone's dial pad, the number for the ISP. Once a connection has been made, pertinent data stored in the memory of the MPU, such as user name and password, is transmitted to the ISP such that the user gains access to the electronic mail account. Thus, the user does not have to type usernames or passwords into the device. Subsequently, electronic messages that are pending on the server for the user are transmitted to the modem which modem sends the messages to an internal memory **7**, of the portable device. The messages may then be printed, or stored in the memory to be printed at a later time. Alternately, the device may print out a numbered list of the pending messages which list includes the name of the sender and if available, the subject of the message. The user may then specify which message or messages are to be printed and select the corresponding number on a keypad mounted on the exterior of the housing.

To send an electronic message, an original document is scanned into the portable facsimile and printed device. The user enters the electronic address of the receiver into the linear keypad mounted on the exterior of the housing of the portable device.

Alternatively, the user may download from the host computer multiple electronic mail addresses to be stored sequentially in the memory of the MPU. Thus, to send a

message, the user would select on the keypad a number corresponding to the stored address.

5 The scanned image of the original document is automatically included as an attachment to the electronic message. The message is transmitted through the internal modem and the cellular telephone to the electronic mail server. The mail server subsequently sends the message to the electronic address of the receiver.

10 In an alternate embodiment of the present invention, the internal modem **6** of the portable facsimile and printer device **1** connects via a telephone cable to a wall jack **8**, or an outlet on an airplane, as illustrated in **Figure 2**. The Internet server **4** may be dialed directly on the linear dial pad mounted on the exterior of the housing of the portable device. Electronic messages are downloaded to the modem, which modem sends the messages to the internal memory **5**. The messages may be printed immediately, or  
15 stored in the memory to be printed at a later time.

In another embodiment of the present invention, the device is a portable printer that includes a modem attachment and not a printer and scanner as described earlier.

**CLAIMS**

What is claimed is:

1. A portable printer device including a modem comprising;  
means for downloading electronic messages through the Internet and printing the  
5 electronic messages.

2. A portable printer device including a modem, as claimed in Claim 1, comprising;  
memory for storing user names, passwords, and other pertinent information required  
for connecting to an Internet Service Provider.

10

3. A portable printer device including a modem, as claimed in Claims 1 and 2, such  
that;  
the stored information is downloaded from a host computer.

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4. A portable device that comprises multi-function capabilities.

5. A portable scanning device including a modem such that;  
the device can send e-mails with attached files that have been scanned into the  
device.

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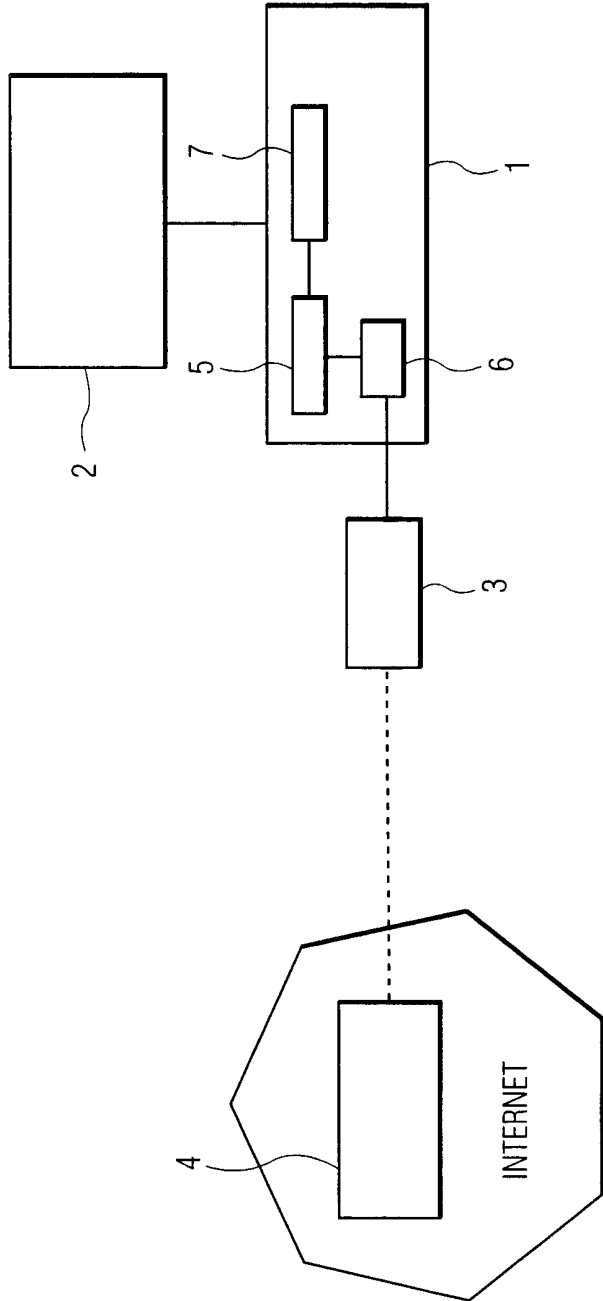


FIG. 1

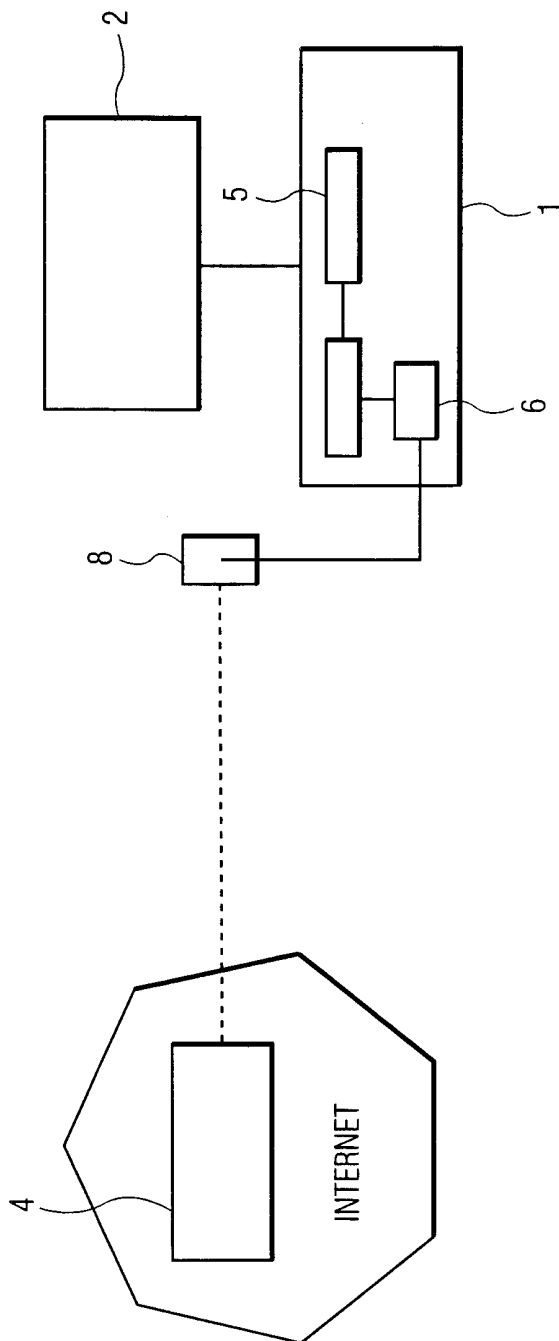


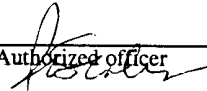
FIG. 2



# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/04045

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
IPC(7) : H04N 1/00 US CL : 358/1.9, 402		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) U.S. : 358/1.9, 1.15, 402, 403, 434, 4+3, 468; 379/93.24, 100.01		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,805,298 A (HO et al) 08 September 1998, see entire document.	1, 4, 5
X	WO 97/10668 A1 (KULAKOWSKI) 20 March 1997, see entire document.	1-5
X	US 5,936,609 A (MATSUOKA et al) 10 August 1999, see Figs. 1-12.	4
X	US 5,904,428 A (SHIMAMURA) 18 May 1999, see Figs. 1-12.	4
A	US 5,956,681 A (YAMAKITA) 21 September 1999, see entire document.	1-5
A	US 5,732,074 A (SPAUR et al) 24 March 1998, see entire document.	1-5
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E"	earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O"	document referring to an oral disclosure, use, exhibition or other means	
"P"	document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family
Date of the actual completion of the international search 20 April 2001 (20.04.2001)		Date of mailing of the international search report <b>06 JUN 2001</b>
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230		Authorized officer  Edward L. Coles Telephone No. (703) 305-4700

**INTERNATIONAL SEARCH REPORT**

International application No.

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**Continuation of B. FIELDS SEARCHED Item 3: EAST**

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