

include additional time slots of a particular frequency channel, or additional time slots of several frequency channels. The amount of bandwidth allocated may also be based on other factors including availability of communication channels and demand for services.

Task 516 determines if a data message was transmitted successfully in task 514. If the transmittal is unsuccessful, task 524 is performed. In task 524 the data message is provided for a pre-determined number of retries. Examples of unsuccessful transmittals include destination subscriber unit 26 (FIG. 1) in use or busy, communication system 10 (FIG. 1) disallows access to the system, or originating subscriber unit 26 (FIG. 1) not working correctly. In one preferred embodiment, the pre-determined number of retries is selected by a subscriber. In another preferred embodiment, the pre-determined number of retries is a default set by subscriber unit 26 (FIG. 1) and/or communication system 10 (FIG. 1).

When a retry is unsuccessful, but less than the pre-determined number of retries, task 526 provides the message to task 514. Task 514 transmits the message again. Task 516 determines if the transmittal is successful or not. If task 516 determines the transmittal is unsuccessful, task 524 retries the transmittal. This loop preferably continues until task 524 determines a successful retry or task 526 determines a time-out.

If task 516 successfully transmits a message or task 524 determines a retry is successful, task 518 preferably records the time the successfully transmitted message is sent. After task 518, task 520 sends an indication that a message was sent. Task 522 preferably stores an indication in field 310 (FIG. 3) that a message was transmitted.

If task 524 determines that a retry is unsuccessful and reaches the number of pre-determined retries, task 526 times out the message transmittal. Task 528 cancels the message transmittal. Once a message transmittal is canceled by task 528, task 520 preferably sends an indication to task 522 that the message was canceled. Task 522 stores an indication of the canceled message transmittal in field 310 (FIG. 3). An indication stored in field 310 (FIG. 3) may provide a subscriber with visual alpha-numeric or iconic or video display 52 (FIG. 2), audio tone, visual signal, or vibrational signal.

FIG. 6 illustrates receive schedule table 600 suitable for use in a preferred embodiment of the present invention. Receive schedule table 600 is preferably located in storage medium 55 (FIG. 2). Receive schedule table 600 records messages received by a subscriber unit 26 (FIG. 1) in field 602. Type of message is provided by an originating subscriber unit 26 (FIG. 1) in field 302 (FIG. 3). Field 602 lists the type of message files, such as: data files 604, fax files 606, pre-recorded voice files 608, pager message files 610 or video files 612.

Field 614 is where a file name of a message is stored. The name of a subscriber originating a message is recorded in field 616. The time when a message is received is recorded in field 618 by subscriber unit 26 (FIG. 2) preferably using a time provided by timer 48 (FIG. 2).

A message status indicator(s) in field 620 is preferably received from personal preferences table 400. Message status field 620 includes indicators, such as: a message stored indicator 622, a provided to destination party indicator 624, or a default indicator 626. Stored indicator 622 may be associated with store for destination party option 414 (FIG. 4). Provided to destination party indicator 624 may be associated with provide to destination party immediately

option 412 (FIG. 4). Default indicator 626 may be associated with default option 410 (FIG. 4). A received message file with an associated message status in field 620 of stored indicator 622 or default indicator 626 is preferably stored upon receipt in storage medium 55 (FIG. 2) of destination subscriber unit 26 (FIG. 2).

Storage location field 628 is preferably the location in storage medium 55 (FIG. 2) of destination subscriber unit 26 (FIG. 1) of received message files identified in field 602. When a message is stored in storage medium 55 (FIG. 2), a storage location in field 628 is associated with file name in field 614, subscriber name in field 616, and receive time in field 618. In one preferred embodiment, a destination party enters one or more fields of receive schedule table 600 into subscriber unit 26 (FIG. 2) for retrieving a message. Fields entered from receive schedule table 600 are comprised of: file name field 614 and/or subscriber name field 616 and/or receive time field 618. A stored message associated with an entered field at associated storage location from field 628 preferably is retrieved. In another preferred embodiment, a destination party peruses a list of file names in field 614 and/or subscriber names in field 616 and/or receive times in field 618 and selects an associated message for retrieval preferably located at an associated storage location in field 628.

FIG. 7 illustrates a simplified diagram of procedure 700 for receiving a pre-programmed message transmitted for use in a preferred embodiment of the present invention. In the preferred embodiment, receive procedure 700 is performed by processor 44 (FIG. 2) in conjunction with timer 48 (FIG. 2), memory 43 (FIG. 2), storage medium 55 (FIG. 2), and transceiver 42 (FIG. 2). Subscriber unit 26 (FIG. 1) sends a message file using transmit procedure 500 (FIG. 5). The message file is received using receive procedure 700. Receive procedure 700 is capable of autonomously accepting an incoming message file and placing the message file in storage as a data file, fax file, voice file, pager message, or video file and recording the storage location.

Task 702 preferably accepts a message file transmitted by transmit procedure 500 (FIG. 5). To accept a message file, subscriber unit 26 (FIG. 1) monitors broadcast channels 18 (FIG. 1) to detect messages which may be addressed to them. Subscriber unit 26 (FIG. 1) preferably answers a page or responds to a ring-alert on broadcast channel 18 (FIG. 1). Communication system 10 (FIG. 1) assigns subscriber unit 26 (FIG. 1) a communication channel to lock on to for message communication. In one preferred embodiment, communication system 10 (FIG. 1) preferably locates destination subscriber unit 26 (FIG. 1). Communication system 10 (FIG. 1) preferably assigns traffic channel 17 (FIG. 1) to destination subscriber unit 26 (FIG. 1). In another preferred embodiment, rather than a two-way traffic channel, a one-way channel is assigned by communication system 10 (FIG. 1). Subscriber unit 26 (FIG. 1) receives a message on the assigned channel. In one embodiment of the present invention, communication system 10 (FIG. 1) allocates channel bandwidth based on the type of message (from field 302 (FIG. 3) transmitted by an originating subscriber unit 26 (FIG. 1)) or the size of the message file or data file. For example, a very large data file would be allocated a large bandwidth, while small message files would be allocated less bandwidth. In the preferred embodiment, an allocation of more bandwidth would include additional time slots of several frequency channels. The amount of bandwidth allocated may also be based on other factors including availability of communication channels and demand for services.

After task 702 receives a message file from communication system 10 (FIG. 1), task 704 identifies the type of