is periodically entered from the main program to administer the message queue. The program determines at step 3401 if the queue is empty. If not, it loads the next display buffer (which is the third display buffer for the first message returned from AP 103) with the top message in the queue for this station. If this is the first message to be returned (step 3403), DSP_TSK sends a command to the display module at step 3404 to display the second buffer, which it is recalled contains a message identifying the principal and the principal station number. If the message loaded into the next buffer is not the first message responsive to the display request, DSP_TSK takes no further action and returns to the main program. Each subsequent display thereafter is made in response to an operation of the step button 309 on the display module. Assuming such a step button operation is made by the principal, entry is made to MR_STEP in FIG. 35. At 3501, a request is made to the DCIU interface program for the next message stored in the applications processor 103 for this station. The message in the next display buffer at the principal station is next displayed at step 3502 by a command from MR_STEP. This completes execution of MR_STEP in response to the one step button operation. Execution of MR_STEP is repeated thereafter in response to each step button operation until the display mode is exited.

Messages that are displayed are retained in applications processor 103 unless deleted in response to an operation of the display set delete button 308. An operation of the delete button causes entry to program MR_DELETE in FIG. 36. This program displays the term DELETED at the display set by loading the current display buffer and sends a delete message to the DCIU interface program at steps 3601 and 3602. The details of which message to delete in applications processor 103 are included in the message to the DCIU interface program.

It is to be understood that the above-described arrangement is merely illustrative of the application of the principles of the invention and that other arrangements may be devised by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. A method of providing call message service in a telephone system having a memory and serving a plurality of stations, comprising the steps of

after an off-hook state and before an on-hook state at a calling one of the stations on a call intended for a principal one of the stations, recognizing an activating signal from a station associated with the call as a request to store a callback message for the principal station,

identifying the station from which the activating signal was received,

automatically generating a callback message for the principal station, including in the callback message the identity of one of the stations also having an association with the call and determined by a predetermined algorithm based on the station from which the activating signal was received,

storing the callback message in the memory, and

automatically operating a message waiting indication for the principal station signifying the presence of the stored message.

2. The invention of claim 1 wherein the system has provision for redirecting the call to a call covering one of the stations under prescribed circumstances, and the callback message generating step further comprises the step of

including the identity of the covering station in the callback message responsive to said activating signal (LWC) from the covering station.

3. The invention of claim 1 wherein the system has provisions for automatically redirecting the call to a call covering one of the stations under prescribed circumstances, and the callback message generating step further comprises the step of

including the identity of the calling station in the callback message responsive to said activating signal (coverage callback) from the covering station.

4. The invention of claim 1 wherein the callback message generating step further comprises the step of

including the identity of the calling station in the callback message responsive to the activating signal (LWC) being from the calling station.

5. The invention of claim 1 wherein the callback message generating step further comprises the step of

including the identity of the calling station in the callback message responsive to the activating signal (LWC) being from the principal station.

6. The invention of claim 1 wherein the method further comprises the step of

directing a call to the principal station responsive to a receipt of an off-hook signal from the calling station followed next by receipt of a telephone number identifying the principal station, and the message generating step further comprises generating the callback message responsive to receipt of the activating signal (LWC and COVERAGE CALLBACK) during any phase of the call.

7. The invention of claim 1 further comprising the step of

preventing completion of a call to the principal station responsive to a receipt of the activating signal before receipt of a telephone number identifying the principal station.

8. The invention of claim 1 wherein the method further comprises the step of

ringing the principal station responsive to a receipt of an off-hook signal from the calling station followed by receipt of a telephone number identifying the principal station, and the message generating step further comprises

generating the callback message responsive to receipt of the activating signal during ringing of the principal station.

9. The invention of claim 8 further comprising the step of

discontinuing the ringing of the principal station after generation of the callback message responsive to receipt of the activating signal from the calling station while ringing the principal station.

10. The invention of claim 1 wherein the station identity stored in the callback message is of the station requesting callback from the principal station and the message generating step further comprises

treating the calling station as the station requesting callback responsive to receipt of the activating signal from the calling station.

11. The invention of claim 1 wherein the station identity stored in the callback message is of the station requesting callback from the principal station and the message generating step further comprises