1104). The array output pointer is again initialized (block 1105), and the update-display process is repeated.

It to be understood that the above-described data receiver is merely an illustrative embodiment of the principles of this invention and that numerous other arrangements may be devised by those skilled in the art without departing from the spirit and scope of the invention. In particular, the data receiver may be used to display not only the directory number of a calling station during the first silent interval, but also special service indicators, personal messages and the like. Thus, this data receiver may be used with any well-known station set to provide a plurality of special services to a telephone customer.

What is claimed is:

1. A method for displaying at a selected station special service information during a silent interval between ringing signals from a telephone switching system, said system being capable of sending to said selected station a modulated and an unmodulated signal during said silent interval, said modulated signal representing said special service information; said method comprising the steps of:

detecting said unmodulated signal during said silent interval between said ringing signals;

responsive to the detection of said unmodulated signal, receiving said modulated signal representative of said special service information during said silent interval;

storing said special service information during said silent interval; and

displaying said stored special service information at said selected station during said silent interval.

2. The method as set forth in claim 1 wherein said method further comprises the step of demodulating said special service information from said modulated signal during said silent interval.

3. The method as set forth in claim 1 wherein said method further comprises the step of filtering said modulated and unmodulated signals from said ringing signals during said silent interval.

4. The method as set forth in claim 1 in which said special service information includes a message type and wherein said receiving step includes the step of receiving said modulated signal representative of said message type during said silent interval after detecting said unmodulated signal.

5. The method as set forth in claim 4 in which special services information further includes a message length and wherein said step of receiving said modulated signal representative of said special services information further includes the step of receiving said modulated signal representative of said message length to store said special service information during said silent interval.

6. The method as set forth in claim 5 in which said special services information further includes a check sum and wherein said step of receiving said modulated signal representative of said special services information further includes the step of receiving said modulated signal representative of said check sum to ascertain errors introduced in sending said special service information during said silent interval.

7. The method as set forth in claim 6 wherein said method further comprises the step of demodulating said message type, said message length, and said check sum from said modulated signal during said silent interval.

8. The method as set forth in claim 7 wherein said method further comprises the step of filtering said unmodulated and said modulated signal from said ringing signals.

9. Apparatus for displaying at a selected station special service information during a silent interval between ringing signals from a telephone switching system, said system being capable of sending to said selected station a modulated and an unmodulated signal during said silent interval, said modulated signal representing said special service information; said apparatus comprising

detector means for detecting said unmodulated signal during said silent interval between said ringing signals;

receiver means responsive to the detection of said unmodulated signal for receiving said modulated signal representative of said special service information during said silent interval;

memory means for storing said special service information during said silent interval; and

display means for displaying said stored special service information at said selected station during said silent interval.

10. The apparatus in accordance with claim 9 in which said apparatus further comprises demodulator means for demodulating said special service information from said modulated signal during said silent interval.

11. The apparatus in accordance with claim 9 in which said apparatus further comprises filter means for filtering said modulated and unmodulated signals from said ringing signals during said silent interval.

12. The apparatus in accordance with claim 9 in which said apparatus further comprises processor means responsive to a first plurality of program instructions stored in a program memory for entering said special service information from said receiver means into said memory means during said silent interval.

13. The apparatus in accordance with claim 12 in which said processor means is responsive to a second plurality of program instructions stored in said program memory for sending said stored special service information to said display means during said silent interval.

14. The apparatus in accordance with claim 13 in which said processor means is also responsive to said second plurality of program instructions for periodically sending said stored special service information to said display means during said silent interval.

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