EXHIBIT T
(Part 1)
United States Patent

[19] Sharma et al.

[54] DIGITAL SIMULTANEOUS VOICE AND DATA MODEM

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(List continued on next page.)

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[57] ABSTRACT

A personal communications system is described which includes components of software and hardware operating in conjunction with a personal computer. The user interface control software operates on a personal computer, preferably within the Microsoft Windows® environment. The software control system communicates with hardware components linked to the software through the personal computer serial communications port. The hardware components include telephone communication equipment, digital signal processors, and hardware to enable voice, fax and data communication with a remote site connected through a standard telephone line. The functions of the hardware components are controlled by control software operating within the hardware component and from the software components operating within the personal computer. The major functions of the system are a telephone function, a voice mail function, a fax manager function, a multi-media mail function, a show and tell function, a terminal function and an address book function. The telephone function allows the present system to operate, from the users perspective, as a conventional telephone using either hands-free, headset or handset operation. The telephone function is more sophisticated than a standard telephone in that the present system converts the voice into a digital signal which can be processed with echo cancellation, compressed, stored as digital data for later retrieval and transmitted as digital voice data concurrent with the transfer of digital information data.

10 Claims, 52 Drawing Sheets

Microfiche Appendix Included
(14 Microfiche, 1172 Pages)
<table>
<thead>
<tr>
<th>Patent Number</th>
<th>Year</th>
<th>Inventor(s)</th>
<th>Title</th>
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<tbody>
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FIG. 2

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<td>115 Telephone</td>
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<td>117 Voice Mail</td>
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<td>119 Fax Manager</td>
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<tr>
<td>121 Multi-Media Mail</td>
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<td>123 Show and Tell</td>
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<td>125 Terminal</td>
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<td>127 Address Book</td>
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FIG. 5B
FIG. 5C
FIG. 6C
FIG. 7A
FIG. 8A