

In addition to reading tapes, the machine provides for writing of notes. In the note-writing mode, a standard braille keyboard 162 is provided. Braille keyboards are in current use which have six keys and a space bar to form the desired braille pattern. The hammers which imprint the braille medium are driven by the keys through mechanical linkage. To operate with the machine of this invention, it is only necessary to replace the mechanical linkage with switches operated by the keys. The operator uses the keyboard to provide input information to gate 143. This input information is coupled through gate 145 to one of the registers 147 and 148 in the manner previously described. The output of register 147 or 148 is coupled through gate 150 to belt 120 in the manner previously described. This information is also coupled from gate 150 back to register 138 through gate 164.

In operation in the note-writing mode, tape 114 is moved until the ID bits 98 of FIG. 5 of the next available note character are positioned in register 139. At this point the contents of register 138 are read into the tape through write switch 165. The tape then advances to the next note character and the next character put in through keyboard 162 is read into register 138 and from register 138 to the tape through write switch 165, tape head switch 127 and tape head 126. The prerecorded tape has an 0 pattern in all unused note portions so that clock pulses are available. Control logic 123 in the note-writing mode ignores book and index portions so that these prerecorded portions of the tape cannot be altered or destroyed by the machine operator.

In addition to being able to write notes on a previously prepared tape, the machine permits writing in a blank tape. This tape prepared by the machine can be read by another operator on a different machine. To perform this operation, the machine is operated in a manner similar to that used when notes are written. However, since there is no note identification bit present on the tape, the machine provides its own. With the tape prepared to receive information, the desired character is placed in register 138 in the manner described for operation of the note-writing mode. In addition, note identification bits from note encoder 167 are transferred to register 139 and a bracket pulse is transferred from note encoder 167 to write switch 165. The bracket pulse, note identification bits and note bit pattern are transferred to the tape head 126 in the manner previously described. In this mode of operation, clock pulses are provided by oscillator 132. Another operator desiring to read the tape prepared in this manner places his machine in he read note mode and the operation is as previously described.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A machine using raised patterns to convey information, including in combination, an endless reading belt, a magnetic tape having a plurality of different information portions thereon with said tape information portions including pluralities of each of character portions, note portions and index portions, with said character portions, said note portions and said index portions being arranged on said tape in a desired sequence, each of said information portions of said tape include a bracket pulse section indicating the beginning of a particular information portion, an identification section for identifying the type of said particular information portion, and an information storage section, tape-reading means, drive means for moving said tape past said tape-reading means to read out the information stored in selected ones of said different information portions, belt-imprinting means, said drive means also acting to move said reading belt past said belt-imprinting means, control means coupled to said drive means, said tape-reading means and said belt-imprinting means, said control means including means for selecting desired ones of said character portions, said note portions, and said index portions, said control means being responsive to said information read out of said selected tape information portion to develop data signals, said belt-imprinting means being responsive to said data signals to form raised patterns on said raising belt,

said drive means further including means for removing said raised patterns from said reading belt, input writing means coupled to said control means and generating writing signals representative of desired raised patterns in response to the operation thereof, tape-writing means coupled to said control means and positioned adjacent said tape, said control means further having a writing mode, said control means in said writing mode acting in response to said writing signals to position said note portions of said tape in desired relationship to said tape-writing means, said tape-writing means being responsive to said writing signals to record signals on said tape in said information storage section of said note portion representative of said desired raised patterns.

2. A machine using raised patterns to convey information, including in combination, an endless raising belt, a magnetic tape having a plurality of different information portions thereon, with said tape information portions including pluralities of each character portions, note portions and index portions with said character portions said note portions and said index portions being arranged on said tape in a desired sequence, each of said information portions of said tape including a bracket pulse section indicating the beginning of a particular information portion, an identification section for identifying the type of said particular information portion, and an information storage section, tape-reading means, drive means for moving said tape past said tape-reading means to read out the information stored in selected ones of said different information portions, belt-imprinting means, said drive means also acting to move said reading belt past said belt-imprinting means, control means coupled to said drive means, said tape reading means and said belt-imprinting means, said control means including means for selecting desired ones of said character portions, said note portions and said index portions, said control means being responsive to said information read out of said selected tape information portion to develop data signals, said belt-imprinting means being responsive to said data signals to form raised patterns patterns on said reading belt, and said drive means further including means for removing said raised patterns from said reading belt, input means coupled to said control means and generating writing signals representative of desired raised patterns in response to the operation thereof, tape writing means coupled to said control means and positioned adjacent said tape, said control means further having a writing mode, said control means in said writing mode acting in response to said writing signals to position said note portions of said tape in desired relationship to said tape-writing means, said tape-writing means being responsive to said writing signals to record signals on said tape in said information storage section of said note portion representative of said desired raised patterns, said reading belt being formed of a plastic material with a timing portion positioned along one edge thereof, said timing portion having indexing marks located thereon, a reading head positioned adjacent said belt and coupled to said control means, said reading head being responsive to said indexing marks to develop control signal therefrom, said control means being responsive to said control signals to actuate said belt-imprinting means to cause said raised patterns to be imprinted on said belt in desired locations.

3. A machine using raised patterns to convey braille information, including in combination, a endless plastic reading belt including a plurality of bubbles formed in a desired pattern on said reading belt, each of said bubbles being capable of being in a first position with said bubble extending from one side to said belt and a second position with said bubble extending from the other side of said belt, each of said bubbles being stable in each of said first and second positions, a magnetic tape having a plurality of different information portions thereon with said tape information portions including pluralities of each of character portions, note portions and index portions, with said character portions, said note portions and said index portions being arranged on said tape in a desired sequence each of said information portions of said magnetic