

ter elements of the reading table are set according to this character pattern.

According to present standards the viewing screen page is divided into 24 lines of 40 characters each. A reading table intended for reproducing a whole viewing screen page accordingly shows 24×40 character fields with 4×6 character elements each, in the character element arrangement described above, that is a total of 23,040 character elements. In order to keep within limits, the expense for the setting and clearing of the character elements as well as for retaining these in their set or cleared position despite the plurality of character elements, it is provided that the character elements in their set or cleared position assume inherently stable positions; pistons acting in the setting or clearing direction serve as means for setting or clearing the character elements. These may retract after the setting or clearing operation, since they must apply no retaining force. This solution moreover respectively enables a plurality of character elements to be operable one after another by means of at least piston which can move relatively to these in the plane of the reading table. It is conceivable for example for a single piston to sweep over the whole reading surface in the manner of a print head and operate one after another all of the character elements to be set. But in order to accelerate the write operation, in a preferred development of the invention, a row of pistons arranged, for example, for setting the character elements corresponding to one line or one column of the reading table is provided and the reading table and the row of pistons are movable relative to each other in the column direction or in the line direction. In this way all the character elements of one column or one row can be operated simultaneously; by a stepwise movement of the reading table or of the row of pistons in the line direction or the column direction, the whole reading table can be described.

In an especially simple design, the character elements are formed as cap-like knobs made of an elastic material and projecting out of the reading table in their set position, which knobs can be retracted for clearing. The retracted or protruding positions of the knobs are relatively inherently stable positions which cannot be altered by the finger of the person reading. Yet the force required for retraction or protrusion of the knobs is small, so that the operating drives for moving the pistons can be kept small.

In a further development of the invention, it is provided that the reading table is made as an endless belt movable in the line direction or in the column direction and that the rows of pistons are respectively arranged stationary. The belt movable in the line direction moves out over a row of pistons arranged in the column direction; a belt movable in the column direction accordingly moves out over a row of pistons arranged stationary in the line direction, as will be described in detail further on.

With the unit according to the invention, all of the characters of the viewing screen text or video text system are displayable with the exception of colors and inverse-brightness character display. Since the character inversion generally contains no essential information, it is provided that the control unit shows means for suppressing the inversion command.

In a further development of the invention, the control unit also contains means for suppressing characters of one or a plurality of predetermined colors displayable on the viewing screen, so that only video information of

a desired color is displayed on the reading table. Complicated graphics can be unravelled in this way.

Frequently color areas blend with one another in a viewing screen text. If, for example, only the light-dark information in the graphic symbols is to be evaluated in this case, the pictures can no longer be detected by touch. But if the color information in the video text or viewing screen text signal is also to be evaluated, then the setting of the knobs in the color area can be suppressed and only the characters with an adjacent character of another color are set. Flat graphics then appear only as contour pictures.

For this purpose, the control unit shows means for the selective display of characters arranged on the boundary of certain color fields on the viewing screen page as well as for suppressing the characters arranged inside these color fields.

Besides this, the control unit may show means which permit selectively displaying only the alphanumeric characters or the graphic characters of a viewing screen page containing both types of characters. In this manner it is possible to view the graphics alone without being annoyed by the text scattered through this. The text can then be called up as a succeeding picture.

In a further development of the invention, the control unit contains means for the enlarged display of sectors of a viewing screen page on the reading table.

A number of embodiment examples of the invention are represented in the drawings and described in detail in the following. In these:

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a segment of a reading table with a division of the character elements intended for the displaying of print characters;

FIG. 2 shows a segment of a reading table with a division of the character elements laid out preferentially for the displaying of graphics;

FIGS. 3 to 6 show different representations of characters in a character field of the reading table;

FIG. 7 diagrammatically shows a control unit for describing a reading table;

FIG. 8 shows a single character element in a longitudinal section in the set position;

FIG. 9 shows a character element in the cleared position;

FIG. 10 shows a reading table made as a belt movable in the line direction; and

FIG. 11 shows a reading table made as a belt movable in the column direction.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

FIG. 1 shows a sector of a reading table which is occupied by a plurality of character elements 4. The character elements are arranged in lines and columns with a uniform line and column spacing. The totality of the character elements defines certain inner character fields 6 which are intended for the representation of one Braille character each. In the embodiment example represented in FIG. 1, each of the inner fields 6 respectively contains 2×4 character elements and thus corresponds to the known arrangement for representing the 8-point Braille code. Each of the inner character fields 6 is surrounded on all sides by one row of character elements and is completed for an outer character field 8. Each outer character field 8 contains 4×6 character elements.