Dissertation

This peripheral circuit in cooperation with the PCB board of the microprocessor 89S8252 with Flash memory gives a circular text of 10 character width using dot matrix displays.
The basic idea of this particular system is based on the following.The microprocessor receives the characters from the keyboard and converts them into proper dual digit signals.
In this particular case,the only part of the “intelligent” circuit is on a separate microprocessor circuit in the form of the AT89S8252 card.The real circuit which eventually portrays the 10 character circular text on an array of twelve dot matrix displays is a purely passive system.This particular design presents some unusual properties.The different uses referred to the checking of the circular text can be defined with the help of a PC keyboard which is directly connected to the circuit as well as to the circuit of the serial portal which is on the board of the microprocessor.Moreover ,DS1302,an integrated circuit (IC) of real time clock is also included so that there is the potential of the alternative portrayal of date and time.

Entrance Signals

For the insertion of characters and checking codes,there is a PS/2 type serial portal in the circuit.The PC keyboard is connected with the K1 plugand the dual scan codes are temporarily stored in FIFO 40105 memory type.The card of the microprocessor with Flash memory reads the keyboard data from the integrated circuit FIFO on its own independent speed and converts the scan codes into ASCII characters.The codification of the keyboard characters can be properly adjusted in order to metch their German (DE) or English (EN) equivalent.The choice of the keyboard type is signaled by the most important digit of the textsel.The LED equivalent is switched on when the English (EN) characters are chosen.The circuit is alternatively checked by the serial portal of the microprocessor with 1200 Baud as the biggest transmission speed.With the help of the JP2 and JP3 short cables the transmission speed can be adjusted to 150,300,600 or even 1200 baud.With the JP1 short cable we can choose the insertion of the characters to be carried out by either the keyboard or the serial portal.This choice is taken into consideration from the system only after the reset of the microprocessor.
The text which is to be displayed is stored into the inserted EEPROM memory type of the microprocessor,owd in that way,the loss of data is avoided in case of power failure.The 2048 Bytes of the EEPROM memory are divided into eight parts of text characters of 240 Bytes each.In each one of these parts twelve text lines of up to 20 characters can be stored.In order for the space,in which each text is stored to be known the serial number of the part in which the running text belongs to is displayed in dual form in the most important nibble of the word which corresponds with the LED diode aray while in the less important nibble the number of the running text line is displayed.