

A MICROCOMPUTER CONTROLLED ELECTRONIC
DISPLAY SYSTEM
USING LIGHT EMITTING DIODES (LEDS)

ABSTRACT

Small and simple alphanumeric electronic display systems are becoming more and more common as a means of advertising, providing public information and as readouts in electronic equipment. These systems usually have one or more banks of light emitting diodes (leds) arranged in a matrix of 60 - 70 columns by seven or eight rows. Approximately 12 - 15 characters of a message may be displayed in a given frame. Microprocessors have replaced electromechanical components in making these systems both more efficient and less costly.

For this thesis, a 24 x 7 LED matrix, capable of displaying a maximum of three (3) characters in a 5 x 7 array was used. The matrix plus the drive circuitry were hardwired but the interface between the matrix and the microcomputer was constructed on bread board. This system can be easily expanded to handle more characters. The Commodore 64C PC is the micro-computer system used in this project to control the electronic display system. Because of its low price, the Commodore 64 is a very affordable computer that can be used for this type of system.

Features available in the system are:

- 1) Presenting of the characters in a segmented format
- 2) Left scrolling of the characters
- 3) Right scrolling of the characters
- 4) Scroll up

ABSTRACT

- 5) Scroll down
- 6) Blinking.