Development of an enhanced graphics terminal based on the μPD7220A Graphics Display Controller

by

Kimari John Wangai B.Sc.(Hons)

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Abstract

A microcomputer controlled graphics display system is presented. The system is built around a μPD7220A Graphics Display Controller (GDC) with a BBC Master Series microcomputer as a host. A Static RAM memory is instituted to store graphics information which is displayed on a Microvitec Cub 452 RGB monitor. The host computer issues commands which are decoded by the system to perform the required operations.

The display memory consists of three planes of size 256K bits each organised as 32K X 8bits. A color selection scheme is incorporated that provides eight figure drawing colors. In a 1024(H) X 256(V) display configuration, the system has been used to plot graphs resulting in the analysis of cooling trends of heated soot-coated and polished copper samples. The cooling rates of these samples were determined using Newton's law of cooling and were found to be consistent with Kirchoff's law of radiation.

The system offers simultaneous display of data and their graphs on separate screens and can be very useful in many fields of science where a microcomputer is used as a data acquisition tool. Not only is more projection space available but also that the data is instantly converted into graphic objects that are easily interpreted.