

HIGHER TECHNICAL INSTITUTE
ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

DEVELOPMENT OF AN
ALPHANUMERIC DISPLAY

GEORGIU GEORGE

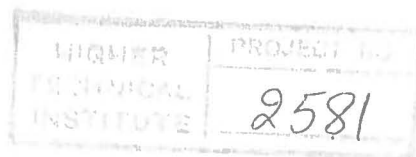
E/1008

1996

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ELECTRICAL ENGINEERING COURSE

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ALPHANUMERIC DISPLAY**

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E.1008

TABLE

Alphanumeric Display

Project report and construction submitted by:

GEORGIU GEORGE

in part of satisfaction of the award of

Diploma of Technician Engineer

in ELECTRICAL ENGINEERING

of the HIGHER TECHNICAL INSTITUTE

NICOSIA, CYPRUS

June 1996

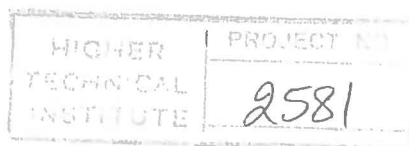


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ACKNOWLEDGEMENTS

The author believes it is his duty to express his sincere gratitude to his supervisor Mr. Soteris Hadjioannou for all his help and support.

The author also wants to thank Mr. Charalambos Theopemptou for scouting and finding in the InterNet the data sheets for the IC's used.

SUMMARY

Development of an Alphanumeric Display

Written and Constructed by: George Georgiou

Supervised by: Mr Soteris Hadjioannou

The purpose of the work is to create an alphanumeric display, and the appropriate driver so that a number of alphanumeric displays (16-segment LED displays) can be driven so that data can be outputted. This data can be results of an operation, status reports or simple data.

The display will make use of the persistence of vision. This is the inability of the human eye to see things which change in a frequency more than 30 Hz. When the displays will individually switch ON but at a high frequency they will seem stationary and therefore the eye will believe that all are lit up at the same time.

In order to make the construction easy and simple and the programming of the device as simple as possible, a handful of discrete components is going to be used. The simplicity of operation of the driver allows the connection of such a display driver to any microprocessor that has an output port available.

In order to avoid the troublesome programming of microprocessors using EPROM's and EPROM programmers, a Personal Computer is going to be used. Many dedicated I/O cards are available for outputting data but since the printer

port of the PCs has similar characteristics to the output ports of microprocessors and is something that all computers have and therefore the cheapest solution, it was preferred.

The control of the display is made possible using the parallel printer port of a PC and the programming is part was made using one of the High Level languages available; Quick Basic.

The display will be connected to a driver which will be connected to a port extender. The port extender is used to increase the output lines of the parallel printer port.

The port extender is connected to the driver which is in turn connected to the alphanumeric display. The driver receives the information and drives the display. On the next page a simple diagram shows the parts which make up the project.