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Computer Controlled Switching Power Supply

Claudio Basilici

Indiana University - Purdue University Fort Wayne

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Final Report
COMPUTER CONTROLLED SWITCHING POWER SUPPLY

Prepared by
Claudio Basilici

Submitted
to

Ronald E. Emery
Department Chairman
of
Electrical Engineering Technology
April 27, 1993

TABLE OF CONTENTS

SECTION	PAGE
LETTER OF TRANSMITTAL	ii
FIGURES	iv
ABSTRACT	v
1.0 INTRODUCTION	1
1.1 Problem Statement	1
1.2 Purpose of Report	1
1.3 Project Background	2
1.4 Designer Qualifications	3
1.5 Methods	3
1.6 Definitions	4
1.7 Plan of Presentation	4
2.0 ADVISORY MEETING	5
3.0 HARDWARE DESIGN DESCRIPTION & FUNCTION	6
3.1 Personal Computer	6
3.2 Stepdown & Filtering Unit	6
3.3 Power Supply Unit	8
3.4 Interface Card Unit	10
3.5 Hardware Specification Changes	11
4.0 SOFTWARE DESIGN DESCRIPTION & FUNCTION	14
5.0 CONCLUSION	16
6.0 REFERENCE	17
8.0 Appendix A -Simpler Switcher Data-Sheet	18
9.0 Appendix B -Addressing Decoding Article	19
10.0 Appendix C -Circuit Parameters	20
11.0 Appendix D -Component List	21
12.0 Appendix E -8255 Driving Software Listing	22
13.0 Appendix F -Power Supplies Electrical Diagram	23
14.0 Appendix G -Power Supply Unit Lay-out	24
15.0 Appendix J -Interface Board Lay-out	25

FIGURES

Figure 1	Overview of Computer Controlled Switching Power Supply	1
Figure 2	Computer Controlled Switching Power Supply Block Diagram	2
Figure 3	Stepdown and Filtering Unit Diagram and Waveforms	7
Figure 4	Basic Power Supply Electrical Circuit	8
Figure 5	Chip Select Decoding, Interface and A to D converter Unit.....	10
Figure 6	Current Sensing Circuitry	12
Figure 7	Computer Controlled Switching Power Supply Software Flowchart	14
Figure 8	Power Supply Unit Components Lay-out	24
Figure 9	Interface Board Components Lay-out	25

ABSTRACT

The increase of labor costs in the eighties has caused companies to find and develop systems that would reduce production costs and at the same time raise the quality of their products. To obtain this goal, Computerized Test-Bench Systems have been created to automate and facilitate the testing of printed circuit boards on production line. My Computer Controlled Switching Power Supply is designed to be integrated into a pre-existing Computerized Test-Bench and will furnish up to four different levels of voltages to the printed circuit board being tested. Generated DC voltages are +5 volts, +12 volts, +15 volts, and a variable level ranging from +16 to +20 volts. The Computer Controlled Switching Power Supply is composed of two main parts--the hardware and the software. The hardware component includes the Personal Computer, the Stepdown & Filtering Unit, the Power Supply Unit, and the Interface Unit. The Software component is composed mainly of a "C" language program which will serve as medium to exchange information and commands between the personal computer operator and the Power Supply Unit. A possible improvement of the Computer Controlled Switching Power Supply may result in a portable Test-Bench which could be used by field engineers when testing printed circuit boards on a customer's site.