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Computer Controlled Switching Power Supply

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Final Report

COMPUTER CONTROLLED SWITCHING POWER SUPPLY

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TABLE OF CONTENTS

FIGURES

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.