



## THERMAL PRINTER CONTROL CARD DESIGN



### THE CLIENT

The client is a promising vendor of micro-controllers.



### BUSINESS NEED

The client envisaged to design and develop thermal printer control card hardware based on M16 series Renesas micro-controller for industrial and commercial applications. The design supports both 2" and 3" thermal printer mechanisms. The challenges faced in the process includes the following:

- ⦿ Design and develop a cost-effective, feature-rich controller that supports multiple size print mechanisms (2" and 3") and is fast enough to handle continuous print jobs
- ⦿ Support multiple mode operations like master and slave operations
- ⦿ Master mode had to support SPI interface so that it could be interfaced to any host Supporting SPI interface
- ⦿ Development of APIs which could be used by any host for interfacing with the controller/printer



### TECHNOLOGY USED

- ⦿ M16 series micro-controller from Renesas
- ⦿ Motor controller
- ⦿ Board firmware
- ⦿ SPI /Rs232
- ⦿ APIs for SPI interface
- ⦿ PADS & Orcad



### SOLUTION DELIVERED

- ⦿ Designed and developed thermal printer controller card based on Renesas R8C/25 processor with master and slave interfaces
- ⦿ Developed motor controller interface and Fujitsu printer driver
- ⦿ Designed & developed software for thermal printer application on prototype board
- ⦿ Performed integration testing with printer mechanism (2" or 3") application as per approved test plan
- ⦿ Fabricated, assembled and tested prototype board for required number of prototypes



### BUSINESS BENEFITS

- ⦿ Multi-mode Support
- ⦿ Variable print size support

#### ABOUT ALLEN CALSOFT LABS

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[www.altencalsoftlabs.com](http://www.altencalsoftlabs.com)



[business@altencalsoftlabs.com](mailto:business@altencalsoftlabs.com)