Overview

Below is the project broken down into Deliverables, Scope of Work, and Cost. The project is broken down into three phases. Cost will be adjusted per estimated work to be done and agreed to by both parties. Payment will be collected upfront for each phase.

Assumptions

- Power supply will not be changed.
- Current prototype works. There is no need to redesign ADC or relay circuits.

Deliverables

Phase I:

- 3 PCBs. PCBs may not be fully working, but troubleshot before starting next phase.
- Estimated cost for final/assembled PCBs.

Phase II:

- 3 PCBs. Again, PCBs may not be fully working. Progress will be shown from Phase I. Remaining issues will be troubleshot.
- Revised Estimated cost for final/assembled PCBs.

Phase III:

- 3 fully working "production-ready" PCBs
- Gerber/Design files for manufacturing
- All documentation required for manufacturing.
- Cost/Introductions for 2 (One US and One Non-US based) manufacturers

Description of Work

Phase I

Bulk of work.

- Eliminate unnecessary parts (ADC has multiple Vrefs and outputs)
- Translate relay circuit, ADC circuit, and power circuits into PCB Software.

- Learn to program EEPROM (**address/contents will probably change)**
- Order PCBs (3)
- Troubleshoot PCBs

Phase II

Fix any mistakes from Phase I. This phase is sometimes required to be done twice be merged with Phase III.

- Replace all through hole with surface mount components.
- Order PCBs (3)
- Troubleshoot & design for manufacturing. Housing/Form/Fit.

Phase III

- Finish last PCB changes
- Ensure Fabrication house can assemble PCB
- Deliver final PCB (Gerber files) and BOM for production.

Timeline

Lead times for PCBs are 1 week. **Please keep in mind this is not my full time job. I can not work 8 hour days.**

- Phase I: 11 days + 7 lead time
- Phase II: 5 days + 7 lead time
- Phase III: 4 days + 7 lead time

Total 41-50 days - Puts us around 25 Oct to 4 Nov if we were to start today (8 Sept).

Cost Breakdown

Phase I

Item	Hours	Rate	Fixed cost
Research	4	$400	
Design	20	$2000	
PCB + Parts (3)			$400

Item	Hours	Rate	Fixed cost
Assembly	3	$300	
Troubleshooting	5	$500	
Total			**$3,600**

Phase II

Item	Hours	Rate	Fixed cost
Design	10	$1000	
PCB + Parts (3)			$400
Assembly	3	$300	
Troubleshooting	2.5	$250	
Total			**$1,950**

Phase III

Item	Hours	Rate	Fixed cost
Design	5	$500	
PCB + Parts (3)			$400
Assembly	3	$300	
Work with Fab house	3	$300	
Total			**$1,500**