



# Embedded Hardware Engineer- Team Lead

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JOINING DOCUMENT

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## Version History

VERSION NO.	DETAILS	PREPARED BY	VERIFIED BY	APPROVED BY	DATE
1.0	Document	Priya Nair	Hardik Mewada	Hardik Mewada	June 2019

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# Job Description for Embedded Hardware (T.L)

## Job Brief

We are looking for a high-performing T.L Embedded Hardware Engineer who will be responsible for Planning of Project & Team, Validation and Approval of Designs using appropriate process, Timely Completion of Task for Teams Managed under him, Create Reports, Lead and facilitate the constructive communications..

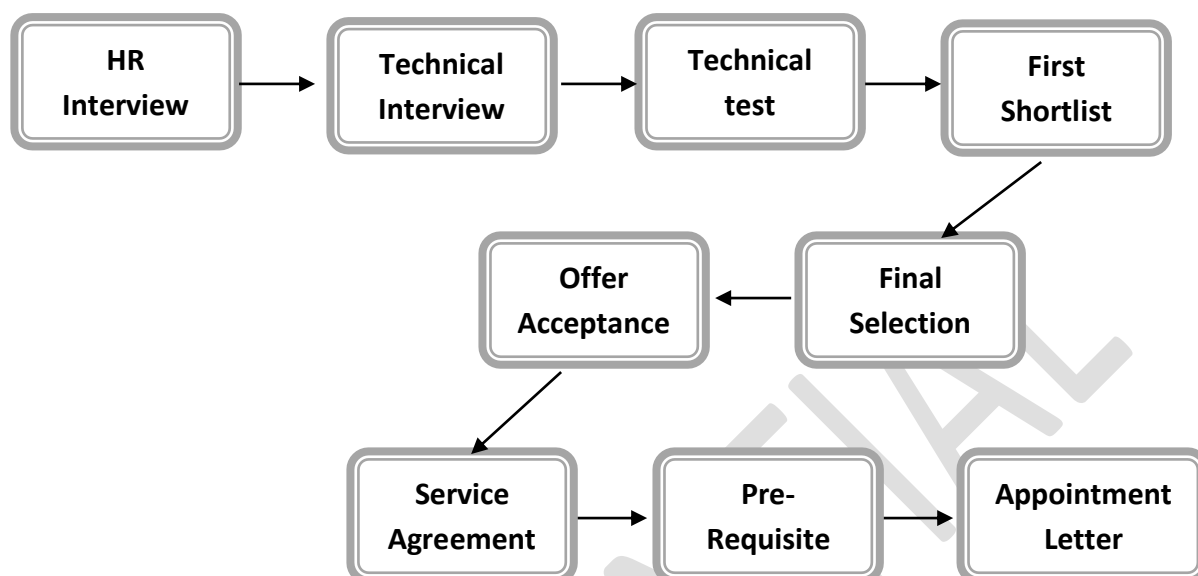
## Role & Responsibility

<b>Role Definition</b>	Your role is to provide direction, instructions and guidance to a team, for the purpose of achieving a certain goal. Their Role is to get the task done by using allocated resources available with them.
<b>Responsibility Deliverable</b>	<ul style="list-style-type: none"> <li>• Planning of Project.</li> <li>• Planning of Team.</li> <li>• Validation and Approval of Designs using appropriate process.</li> <li>• Timely Completion of Task for Teams Managed under him.</li> <li>• Create Reports</li> <li>• Lead and facilitate the constructive communications.</li> </ul>
<b>Task and Activity</b>	<p><u>Planning of Project:</u></p> <ul style="list-style-type: none"> <li>• Sprint Generation</li> <li>• Task Validation given by Team Members.</li> <li>• Monitor Team for timely task completion.</li> <li>• Communicate Clear Instructions to Team Members</li> <li>• Manage flow of Day-2-Day operations.</li> <li>• Ensure deliverables are prepared to satisfy the project requirements, cost and schedule</li> <li>• Keep the project manager and product committee informed of task accomplishment, issues and status</li> </ul> <p><u>Planning of Team</u></p> <ul style="list-style-type: none"> <li>• Allocation of Task.</li> <li>• Provide Training to Team.</li> <li>• Distribute work as per the strength and qualities of the engineers</li> <li>• Keep the Team Focused on Task Completion.</li> </ul> <p><u>Validation and Design Approvals using appropriate process</u></p> <ul style="list-style-type: none"> <li>• Monitor the design and development phase for the task allocated to each team member.</li> <li>• Approve the design after proper validation and documentation provided by the team members.</li> <li>• Documentation of design specifications and implementation details. Lead design reviews. Upholding of hardware design</li> </ul>

	<p>standards and methodologies</p> <ul style="list-style-type: none"> <li>• Realisation of complex system requirements to provide robust and reliable hardware solutions.</li> <li>• Responsibility for the complete implementation of detailed technical items and an understanding /appreciation of system level items.</li> <li>• Monitoring and reporting of progress of development to immediate supervisor and development team.</li> </ul>
<b>Measurement Matrices</b>	<ul style="list-style-type: none"> <li>• # of successful completion of Projects/ Tasks</li> <li>• Value Creation of the Product</li> <li>• Documentation.</li> </ul>

<b>Growth Scale</b>	<b>Design and Development team</b>	
	Grade A	Director -Technical
	Grade B	VP-Design and Development
	Grade B	General Manager-Design
	Grade C	Team lead-Project Manager
	Grade C	Project Engineer
	Grade D	Senior Engineer
	Grade D	Junior Engineer
Grade E	Core Design Trainee-Programming/Analog Design/Circuit Design/QC	

## Selection Process



## Documents required at the time of interview

1. Updated Resume
2. Photograph
3. Salary slips of last three months

## Post Offer Acceptance Process

- The selected Candidates who are willing to accept the Service Agreement will have to submit 2 Revenue Stamp Papers of value 100 Rupees purchased in the name of the candidate and his surety.
- The selected Candidates (freshers) will have to submit their original documents (LC / marksheet / Diploma or Degree Certificates) as well as three bond cheques in the name of the company as part of two years of service agreement.
- For experienced three cheques submission in the name of the company as part of two years of service agreement.
- The marksheet and cheques submitted will be returned to the candidate after completion of two years.

- Each candidate will be required to complete certain Pre-Requisite training –for fresher's before receiving the Appointment Letter.
- Complete Support in terms of Theoretical and Practical Sessions will be provided by the Team for all candidates during the pre-requisite training period.
- It is not necessary that two candidates selected for the same profile be given the same starting package. The Package will depend completely on your skill set and dedication towards the Pre-requisite training.

## Documents required at the time of joining

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- ✓ Degree/ Diploma Mark sheets original as well as copy
- ✓ 3 Cheques submitted in the name of the company
- ✓ Id and address proof copy
- ✓ Reliving letter, if applicable
- ✓ last three month's salary slips, for experienced
- ✓ Joining form to be filled for company records
- ✓ Declaration sheet to be signed by the surety
- ✓ Undertaking letter signed by the candidate

## Retention Policy

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- Understanding and valuing the efforts of all team members towards the making and growing of this company, the team members are rewarded with a retention bonus who complete 3 years within the company at a stretch.
- We herewith commit to award each employee a lumpsum retention bonus of the amount equivalent to the sum of average annual salaries drawn by the employee during the first, second and the third year at the completion of 36 months of active service.

## Pre-Requisite

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- C – Programming
  - (INCLUDING - File Handling, Pointers, Link List, Binary Tree, Graphic Programming)
- R / L / C / RL / RC / LC / RLC networks & Filter Design.
- Transistor (as an amplifier and as a switch), SCR / Triac / DIAC / Mosfets.
- PCB Designs (single and Dual layer)
- Power Supply design
  - (INCLUDING – SMPS / DC – DC in Constant Voltage and Constant Current configurations)
- Magnetics of Inductors and Transformers.
- 8085 & 8086 (minimum system design)
- 8051 Microcontroller
  - (INCLUDING – Architecture, GPIO / Timer / Counter / Interrupt programming in C & Assembly)
  - (INCLUDING – Communication Interfaces like Serial, parallel, I2C, SPI, Bit banding, Power Modes)
  - (INCLUDING – Testing on breadboard, PCB design and soldering and Testing)
  - (INCLUDING – GLCD, GSM, GPS, 7-Seg, ADC, DAC, EEPROM, Relay, 4x4 keypad, stepper Motor)
- 8 Bit MCU (AVR)



# Training Program

Under Professional Training Program on Hardware the company expects you to acquire thorough knowledge of the following modules:-

## 1. Basic Theory

<ul style="list-style-type: none"> <li>Basic Concepts Of Electricity</li> <li>Ohm's Law</li> <li>Series And Parallel Circuits</li> <li>Passive Elements: Diode, Light-emitting diode (LED)</li> <li>RC and L/R Time Constants</li> <li>Divider Circuits And Kirchoff's Laws</li> <li>Series-parallel Combination Circuits</li> </ul>	<ul style="list-style-type: none"> <li>DC Network Analysis</li> <li>Magnetism and Electromagnetism</li> <li>Coupled Circuits</li> <li>Network Theorems : DC Analysis</li> <li>Physics Of Conductors And Insulators</li> <li>Passive Elements: Resistor , Capacitors ,Capacitor (component)</li> <li>Inductors</li> </ul>
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## 2. Basic AC Theory

<ul style="list-style-type: none"> <li>Root Mean Square, Average electrical power</li> <li>Transformers</li> <li>Reactance and Impedance -- Inductive</li> <li>Power Factor</li> <li>Reactance And Impedance -- Capacitive</li> <li>Reactance And Impedance -- R, L, And C</li> <li>Filters</li> </ul>	<b>Practical's</b> <ul style="list-style-type: none"> <li>Introduction</li> <li>Basic Concepts and Test Equipment</li> <li>DC Circuits, AC Circuits</li> <li>555 Timer Circuits</li> </ul>
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## 3. Regulator & SMPS

<b>1. Linear regulator</b> <ul style="list-style-type: none"> <li>Zener diode</li> <li>Low dropout (LDO) regulator</li> <li>Band gap voltage reference</li> </ul>	<b>2. SMPS Design</b> <ul style="list-style-type: none"> <li>Fly back - 9W, 18W</li> </ul>	<b>3. DC To DC Regulator</b> <ul style="list-style-type: none"> <li>5V DC Regulated Supply</li> <li>12V DC Regulated Supply</li> <li>Variable 3V to 6V Regulated Supply</li> </ul>
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## 4. Semiconductor Related

<ul style="list-style-type: none"> <li>Solid-state Device</li> <li>Diodes and Rectifiers</li> <li>Bipolar Junction Transistors</li> <li>Thyristors and Operational Amplifiers</li> </ul>	<ul style="list-style-type: none"> <li>Junction Field-effect Transistors</li> <li>Amplifiers and Active Devices</li> <li>Active Filters</li> <li>MOS Field-effect Transistors</li> </ul>
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## 5. Digital Theory

<ul style="list-style-type: none"> <li>Numeration Systems</li> <li>Binary Arithmetic</li> <li>Logic Gates</li> <li>Multivibrators</li> <li>Ladder Logic</li> <li>Boolean Algebra and Karnaugh Mapping</li> </ul>	<ul style="list-style-type: none"> <li>Switches</li> <li>Electromechanical Relays</li> <li>Combinational Logic Functions</li> <li>Sequential Circuits</li> <li>Shift Registers</li> <li>Digital-Analog Conversion</li> </ul>
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## 6. Oscillator - Related

<ul style="list-style-type: none"> <li>555 timer IC</li> <li>Multivibrator</li> <li>Flip-flop</li> </ul>	<ul style="list-style-type: none"> <li>Latch</li> <li>Relaxation oscillator</li> <li>Schmitt trigger</li> </ul>
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## 7. Amplifiers

<b>1. Amplifier classes</b> <ul style="list-style-type: none"> <li>Class A, Class B and AB , Class C, Class D</li> <li>Common Collector</li> </ul>		<b>2. Crossover distortion</b>
<ul style="list-style-type: none"> <li>Differential Amplifier , Common Emitter Amplifier</li> <li>Push Pull</li> </ul>		<b>3. Switching amplifier</b>

## 8. Control Systems/Transducers/Conversion

<ul style="list-style-type: none"> <li>PID control using Hardware and Software.</li> <li>System Stability consideration aspects.</li> </ul>	<ul style="list-style-type: none"> <li>Understanding and Implementation of Transducers and Sensors.</li> <li>Conversion from Voltage to Current Source and Vice Versa.</li> </ul>
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## Company Profile







Leons Integrations Pvt. Ltd. is a complete automation developer unit based in Vadodara, India. Within just 15 years of existence, we've generated a reputation in the industry as a Design House and Solutions Provider. We provide tailor-made solutions in Electronic and Mechanical Hardware as well as Software for each of our esteemed clients across the global.

We provide tailor-made solutions in Electronic and Mechanical Hardware as well as Software for each of our esteemed clients across the global.

We create Value Proposition for our customers by:

- ✓ Flexibility in the Design
- ✓ Seamlessly understanding the clients' needs and limitations
- ✓ Using Agile Methodology at every stage to make every interaction Transparent at every stage
- ✓ Reliability and Continuous Improvement
- ✓ Simple and Durable Solutions

## Our Products

<ul style="list-style-type: none"> <li>• <i>Credit Card Swipe Machine</i></li> <li>• <i>Kiosk</i></li> <li>• <i>Pin Pen Devices</i></li> <li>• <i>Tablet POS Products</i></li> </ul> <p><b>Banking Products</b></p> 	<ul style="list-style-type: none"> <li>• <i>Energy Meter</i></li> <li>• <i>BLDC Ceiling Fan Driver Card</i></li> <li>• <i>Street Light Solutions</i></li> <li>• <i>Solar Monitoring</i></li> <li>• <i>HVDC Motor Solutions</i></li> <li>• <i>Solar MPPT Driver Card</i></li> <li>• <i>MPPT Charger with Inverter</i></li> </ul> <p><b>Smart Energy Management</b></p> 	<ul style="list-style-type: none"> <li>• <i>Electronic Baby Weight Scale</i></li> <li>• <i>Human Safety Devices</i></li> </ul> <p><b>Social Welfare</b></p> 
<ul style="list-style-type: none"> <li>• <i>2" Bluetooth TP</i></li> <li>• <i>2 " Mechanism</i></li> <li>• <i>2 " Desktop TP</i></li> <li>• <i>3" Bluetooth TP</i></li> <li>• <i>2" Panel Mount TP</i></li> <li>• <i>3" Desktop TP</i></li> </ul> <p><b>Thermal Printers</b></p> 	<ul style="list-style-type: none"> <li>• <i>SMBT- 1T01</i></li> <li>• <i>SMBT- 1T07</i></li> <li>• <i>GSM Modem -3G</i></li> <li>• <i>SMBT -1T 02</i></li> <li>• <i>SMBT -1N 01</i></li> <li>• <i>GSM Modem -4G</i></li> <li>• <i>SMBT-1T06</i></li> </ul> <p><b>IoT/IIoT Modules</b></p> 	<ul style="list-style-type: none"> <li>• <i>Smart Switches</i></li> </ul> <p><b>IoT Solutions</b></p> 



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