

NARULA INSTITUTE OF TECHNOLOGY
ELECTRONICS AND COMMUNICATION ENGINEERING
DEPARTMENT

REPORT ON
INDUSTRIAL TOUR IN SIMOCO TELECOMMUNICATION ON
5TH MARCH 2013

An industrial tour was organized by the department of Electronics and Communication on 5th of March 2013 for post graduate students. A total number of 23(20 students from M-Tech Communication and 3 students from M-Tech VLSI) students and four faculty members had done the industrial visit in Simoco Telecommunication, Sector – V, Saltlake City, Kolkata. Mrs Bidisha Barua , head operation Training and solution introduced the program scheduled to us and h

The training was supervised by Mr. Kamalendu, who showed the production unit which consists of three sections:

1. **Surface Mount Section**
2. **Testing Section**
3. **Quality Checking Section**

SURFACE MOUNT ASSEMBLY

Surface-mount technology is a method for constructing electronic circuits in which the components are mounted directly onto the surface of printed circuit boards (PCBs). An electronic device so made is called a surface-mount device (SMD). In the industry it has largely replaced the through-hole technology construction method of fitting components with wire leads into holes in the circuit board. Both technologies can be used on the same board for components not suited to surface mounting such as transformers and heat-sinked power semiconductors.

An SMT component is usually smaller than its through-hole counterpart because it has either smaller leads or no leads at all. It may have short pins or leads of various styles, flat contacts, a matrix of solder balls (BGAs), or terminations on the body of the component.

The SMA (Surface mount assembly) section consists of three additional sections namely:

- SMA Stencil Printer



Students being demonstrated by Mr. Kamalendu of SIMOCO Telecommunication

- SMA Pick and Place Machine



M-Tech students are being given demonstration of the SMA pick and place machine.

- SMA Reflow Oven



SMA Reflow Oven is being demonstrated

The Reflow Oven had five different heating sections embedded inside. The matrixes of components are slowly passed through all the five sections and they get mounted on the PCB board. The temperature is gradually increased since the components may get damaged due to high temperature at once.

SMA SECTION AT A GLANCE

- PCB board: where all components are soldered and pasted.
- clc machine(MICRO DEK):here soldering and pasting is done.
- CMS 84:It's a surface mount assembly system. It fixes component in a rill wise selection fashion. It's a programmable machine where text program is done manually.
- Bare PCB: It's stencil fixing board, it helps in soldering and pasting.
- INFRAFLO™500C TURB AIR: It does final assembly, it checks pre heating temperature(its generally 150°C). Usable temperature range: 290°C to500°C.
- Hand soldering: Here soldering is done manually. Heat sink is used for this purpose.

TESTING SECTION

Thereafter manual soldering of secondary component and coils on PCB board are done in the testing section. It checks all the parameters whether It matches with the required one. The section comprises of a number of



Matrix being tested in the testing section in SIMOCO Telecommunication

QUALITY TEST ROOM

In this section all the SIMOCO products' quality are being tested which were shown to us by Mrs. Sucheta Panja. Quality of the product for a manufacturing company is basically the customers' specification quantity on particular parameter of these products.



Quality test room, the designed matrix is being displayed

A radio (TM-610 with 128 channels) was shown to us who is mainly used in wireless communication in police force. The radio works on some frequency ranges like High (66 MHz to 88 MHz), Very High frequency (136 MHz to 174 MHz) and Ultra High frequency (350 MHz to 800MHz). Thereafter parameters like frequency, sensitivity, distortion, stability, fidelity, deviation of both transmitted signal and received signal were measured to check it out whether they were matching with its standard reference value or not.

The tour done was very information content and appreciated by the post graduate student.

