

MICROCHIP EXPERT SOLUTION PVT. LTD.

DESKTOP-LAPTOP CHIP LEVEL REPAIRING & TRAINING INSTITUTE
An ISO 9001:2008 Certified Institute

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PROSPECTUS

Course Name: Laptop-Desktop Chip Level Repairing Course

Duration: 3 Months

MODULE 1: CARD LEVEL REPAIRING & SOFTWARE

- What is Computer software?
- What is Operating System?
- How to install Operating System?
 - ❖ Windows 98
 - ❖ Windows 2000,2002,2007,2008
 - ❖ Linux Operating system
 - ❖ Apache
- What is Application and System Software?
- How to install Off line and On Line Driver
- How to install application and System Software?
- About DATA RECOVERY
- How Recover Data from Hard Disk, Pen Drive and other storage Devices
- How to create One Bootable pen Drive for Multiple operating System
- Basic knowledge about Networking
- Different Laptop/Desktop Models Assemble and De-Assemble.
- Block diagram of Laptop Function.
- Windows Backup & Restore.
- Driver Backup and Restore.
- Installation of other Software
 - ❖ Antivirus, LAN/WAN, ISO Burner,
 - ❖ Partition Magic, Bootable USB maker,
 - ❖ Office 2007 & 2010, ERD commander,
 - ❖ Installation and Removal of Antivirus,
 - ❖ Password Breaker software etc.

MODULE 2: DESKTOP-LAPTOP CHIP LEVEL

➤ Identification of laptop-Desktop part

- **Adapters:** Types, work, volt, Ampere, pin detail, Basic problem.
- **Battery:** Types of Battery, work, volt, pin detail, Basic problem.
- **LCD:** Types LCD, Company, size, Wideness.
- **Inverter:** types of Inverter, pin detail.
- **Hard disk:-** Type of Hard disk, Company.
- **Keyboard:** Type of keyboard, Basic problem.
- **Body:** Hinges size, Front Panel, back Panel.
- **Motherboard:-** Type of Motherboard, company, Identify.
- **Ram:** Types of RAM, Company , pin detail, volt.
- **CPU:** Types of Laptop CPU, Identify.
- **CD/DVD:** Type, company, Basic problem.
- Troubleshooting of all part problem

➤ Basic Electronics:

Analog Electronics : AC / DC Fundamentals

- Introduction of Electricity (Volt, Current, watt, Ampere)
- What is Circuit?
- Type of Circuit
- Using & Testing of electronic components
- Resistors, Capacitors, Diode, Inductors & Fuse
- Transistors & Transformer
- Mosfet & IC's

Digital Electronics : Types of Number

- System
- Binary, Octal, Hexa
- Conversion of Number Systems Types of Gate, AND or NOT NOR etc.
- Removing & Fixing of Components & Chips with Micro Iron and Bga Machine.

Advance Testing and Repairing Tools

- CRO Machine & BGA Machine
- Universal Bios Programmer
- IRDA Machine & SMD Component Tester
- Digital Millimeter
- Advance Magnetic Screw Driver kit

- Desktop Diagnostic Card & Laptop Diagnostic Card
- CPU Socket Tester

➤ **Component & IC's Checking different method or device**

- Identify each component & IC's in Laptop motherboard.
- Damaged and ok component Testing practice.
- Component checking by analog and digital multi-meter.
- Component checking by Analog CRO.
- Using of DC power supply.

➤ **Soldering and De-soldering practice of Component & IC's**

- Removing and Inserting SMD Components
- Removing and Inserting Connector, Socket
- Chip Practice.(Using Solder IRON, SMD Machine, IRDA Machine, BGA Machine)

➤ **Tracing Different Section of Motherboards:**

Power supply of different chips vcc core, 5v sus, 3v, 1.5v, 1.8vsus, 5v, 2.5v

- 1st Power stage primary 5v, 3v (Always On)
- 2nd power stage secondary 2.5v 1.5v 1.8v
- 3rd power stage VRM CPU CORE 1.3v
- Dc to Dc conversion Section
- CPU Core voltage generator section
- Stand by voltage generator section
- Chip set voltage generator section
- Battery charging/Discharging section
- Ram voltage generator section
- Clock generator section
- Bios chips section

Tracing Different Connectors and Socket with Pin Detail

- Mini PCI Slot, LAN IEEE 1394, Audio Connection, Modem Acc, RTL, I/O Controller, CD Rom Connection, HDD Connection, VGA Connection, Key Board Connection, Touch Pad Connection, On/Off switch Connection.

➤ Laptop chip Level Fault & Trouble shooting

- Laptop M/B DC to DC Conversion Voltage Generation Problems, main Power Supply short Problems, Diagnosis, isolation and solution.
- Laptop M/B Diagnosing, isolating problem between power and other sections, diagnosing the problem in systematic way or short cut way.
- Diagnosing and solve the critical problems like hanging, Battery not charging, Drives not detecting, K/B not detecting, AC Adapter not detecting and all other Semi working problems of the Laptops.
- Laptop Dim display problem isolating the problem between screen, inverter board and the main M/B.
- Laptop internal and external display Problem, difference and its fault finding.
- Laptop K/B problem, isolating the problem between K/B and M/B. finding the solution for it or keyboard connector pin details.
- Laptop USB Device not working problem, isolating the problem between power section and data section and its solution or pin details.
- Laptop drives (HDD/DVD) not detecting problems and drives pin details in the M/B's, checking points and solution.
- Laptop Network port problem, isolating the problem between port and network IC. Its pin details and solution.
- Laptop display screen working technology, isolating the problem between screens, cable, M/B. further isolating the problem between power and logic section in the M/B.
- Understanding of stand by voltages and its requirement in the laptop M/B.
- BIOS up gradation using different methods.
- Laptop password Break of different method, its storage and removal steps.
- Laptop adapter working technology and its fault finding.
- Laptop Battery Refurbish technology.
- Laptop sound problem. Isolating the problem between sound jack, sound Ic, component and its fault finding.
- Touch pad not work problem. Isolating the problem between Touchpad, cable, I/O, SMD component and its solution or pin detail.
- Camera not open problem. Isolating the problem between cameras, cable, IC's and its fault finding or pin detail.
- Usage of Digital and analog CRO and its importance in fault finding.

➤ Special service center classes

- How to read different Component data sheets.
- Basic cleaning and washing method of M/B.
- SMD Components Remove and replacement practice.
- Use of debug card error code.
- Training of using BGA Soldering Station.
- Remove of BGA IC'S and rebelling it using Reball Stencil.
- CPU Socket Tester Practical with fault.

- Ram Slot Tester Practical with fault.
- IC'S Rebellling, BGA Ball Arrangement practice.
- Shortcuts in repair.

MODULE 3: REPAIRING TOOLS AND SERVICE CENTER TRAINING

➤ Participants Will Receive

- Certificate (to be given after the training)
- Service Manuals of different Laptop.
- Schematic diagram, Bios update files, Datasheet etc.
- Life time technical Support.
- IC,s list and used of different IC,s with models list.
- Market Detail, Shops Reference.
- Service Center Training

Thanking You.....



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