



Mahendra Technical Institute

Smartphone 4G Handset Repairing

HARDWEAR SYALLBUS

CARD LEVEL

1. Use of various Tool and Equipment.

- | | |
|-----------------------|-------------------|
| A) SMD Rework Station | B) DC Machine |
| C) Battery Booster | D) Soldering Gun |
| E) ESD Tool | F) PCB Stand Etc. |

2. Hands on Practical Training

- | | |
|----------------------|-----------------------|
| A) Speaker | B) Ringer |
| C) Display | D) Mic |
| E) Vibrator | F) Charging Connector |
| G) Sim Slot | H) MMC Slot |
| I) Display Connector | J) USB Connector |
| K) ON OFF Switch | |

3. Basic Electronic Concept and Use Multimeter

A) Formation of Current AC/DC.

B) Checking Speaker, Ringer, Vibrator, Mic, Battery, LED

C) PCB Cool testing and hot testing.

D) Resistor- Symbol, Function, Denoting Letter, Solid Type Resistor Color Coding, SMD Type Resistor Coding, Value measurement by Multimeter and SMD Tester.

E) Capacitor – Function, Types, Symbol, Identification of Solid Type and SMD Type Capacitor, Testing of Capacitor by MultiMate and SMD Tester, Value measurement by SMD Tester.

F) Coil – Function, Symbol, Denoting Letter, Types of material, Properties of Coil, Identification of Solid and SMD type coil, Pack coil, Testing of Coil.

G) Diode: Function, Symbol, Denoting letter, Identification of Solid and SMD Type Diode, Types of Diode, Testing of Diode, Anode and Cathode Concept

H) Transistor: Introduction, Types, Symbol, Denoting Letter, PNP and NPN Concept, Testing of Transistor, Function etc.

I) Mosfet: Introduction, Types, 3 leg Mosfet, 8 Leg Mosfet, Identification of N-Channel and P-Channel Mosfet, Testing of Mosfet, Dual Mosfet Concept, Switching Concept Etc.

J) Crystal: Introduction, Concept of Quartz, Clock and Pulse, Measuring unit, Types and Real Shape, Testing of Crystal etc.

K) Types Of IC.

4. Smartphone Hard-rest & Soft-rest.

A) Android Phone

B) iPhone

C) Windows Phone

D) Future Phone.

5. Smartphone Hidden and Security Code

A) IMEI Code

B) SAR Code

- C) Formatting Code
- E) Self-Test Code
- F) Engineering Mode.

6. Mobile phone communication and History.

- A) information about GSM CDMA.
- B) Mobile Phone Founder
- C) Information of OS.

7. Types of Sensors in Smartphone.

- A) Accelerometer.
- B) Ambient temperature.
- C) Magnetic field sensor.
- D) Gyroscope.
- E) Heart Rate.
- F) Light.
- G) Proximity.
- H) Pressure.

8. Identify PCB Component for Smartphone.

- A) UI Section
- B) UEM Section
- C) Memory Section.
- D) Network Section
- D) Audio Section Etc.

9. Types Of Smartphone Display

- A) TFT LCD – (Thin Film Transistor technology)
- B) IPS-LCD – (In-Place Switching) ...
- C) Capacitive Touchscreen LCD. ...
- D) OLED – (Organic Light Emitting Diode)
- E) AMOLED – (Active-Matrix Organic Light-Emitting Diode) ...
- F) Super AMOLED displays.

CHIP LEVEL (Advance)

1.Jumpering and Track Finding Section

- 1.Charging Section.
- 2.Ligth Section.
- 3.Sim Reader Section.
- 4.MMC (Micro Memory Card) Section.
- 5.Touchpad PDA(Personal Digital Assistance) Section.
- 6.Digital SMD Mic Section.
- 7.Camera Section.
- 8.Headphone Section.
- 9.Ringer/Speaker/Mic/Vibratory Section.
- 10.ON/OFF and Volume Section.
- 11.Display Connector Section.
- 12.Network Section.
- 13.Battary Connector Section.
- 14.Wifi and Bluetooth Section.
- 15.Keypad Section for Basic phone.

2.Shorting Problem, Dead Solutions & fault finding.

- 1.Half Sorting
- 2.Full Sorting.
- 3.Open Circuit.
- 4.Water Damages.
- 5.Phichical Damages.

3.IC Rebellling & Refollowing.

- 1.Using SMD Rework Section.
- 2.Using BGA Machine.

4.OCA Lamination Machine BST -1 .

- 1.Repalce Polariser Film.
- 2.Remove Broken Glass.
- 3.Replace Backlight.
- 4.Repair Blank/Whit LCD.
- 5.Replace Broken glass EDGE/Curved Display.
- 6.Use Bubble remover.

5.Use Block diagram, Manual & Schematics.

- 1.Service Manual.
- 2.Dissassembly & Reassembly.
- 3.Electrical Part.
- 4.Exploaded View.
- 5.Product Specification.
- 6.Troubleshooting.

6.I-Phone Hardware Section.

- 1.Identify of iPhone.
- 2.Identify of iPhone Component.
3. iPhone Disassembly & Reassembly.
- 4.iPhone Troubleshooting and Fault Finding.
- 5.Use Of iPhone Schematics and Block Diagrams.



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SOFTWARE SYLLBUS

1.CPU Based Smartphone Flashing.

1.Samsung (Exynos)android Flashing with Odin Tool

2.MTK (MediaTek)

A)Smartphone Flash Tool (SP Tool).

B)Smartphone Multiport Download Tool.

3.SPD (Spread rum)

A)SPD Upgrade Tool

4.Broadcom

A)Broadcom Multi downloader.

B)DFU Flash Tool.

5.Intel Phone Flash Tool.

6.Rockchip Batch Tool.

7.Allwinner

A)Phoenix USB Pro

B)Phoenix suit Tool

C)Live suit Flasher

8.RDA

A)Multi IE download Tool

9.Qualcomm

A)QFIL(Qualcomm Flash Image Loader)

2.CPU Based Smartphone IMEI Repair.

1.MTK

A) IMEI repair with Engineering Mode Code.

B) IMEI AND SN (Serial Number) writer Tool

C) Maui Meta 3G Tool

D)Using Chamelephoe app.

2.SPD

A)SPD IMEI Repair Tool

(Normal Mode & Calibration Mode)

3.Qualcomm snapdragon

A)Qualcomm Diag Mode IMEI Repair Tool

3.CPU Based Smartphone FRP Unlock.

1.All Samsung FRP LOCK BYPASS & Unlock Gmail Account.

2.MTK (Remove Tool)

3.SPD (Android Fast boot Reset Tool)

4.Qualcomm FRP Tool

5.Motorala FRP Tool

4. Sony Xperia with Sony Pc Companion.

- 1.Flashing.**
- 2.Unlocking.**

5. I Phone Flashing Online and Offline.

- 1.Flashing with I Tune.**
- 2.Jalbrak 9.1 to 10.1**
- 3.I Cloud Id break**
- 4. Unlocking code for I Phone.**
- 5. Update software version.**
- 6.Formatting Soft reset Hard reset**

6. How to make RX TX Cable 3 Method.

- 1.USB Method.**
- 2.Miracal Cable.**
- 3.RJ45 Cable.**

7.How to make EDL cable and using cable.

- 1.EDL / Xiaomi Deep Flash Cable For Qualcomm.**
- 2.Test Mode for Xiaomi.**

8.MOTO Auto Flash Tool.

- 1.Flash with Motorola Device Manager 2.4.5**
- 2After Flashing and FRP “Emergency Service” Solution using CMD.**
- 3.Unlocking FRP Moto Tool.**
- 4.Install Moto Driver.**

9.MI Flashing Tool

- 1) MediaTek (MTK) Processor**
- 2) Snapdragon (Qualcomm) Processor**
- 3) Recovery ROM**
- 4) Fastboot ROM**
- 5) Mi Flash Tool**

6) SP Flash Tool

7) Mi Cloud password (**Mi Account**)

10.UMT (Ultimate Multi Tool) Dongle.

1) USB Flashing

2) FRP

3) Reset Settings

4) Pattern Reset

5) Mi Account

6) Vivo Demo Unlock

7) Moto Flashing

8) Moto FRP (All Patches)

11.Miracle Box.

1. MTK Add Unlock Network Support Meta Mode.

2. Qualcomm Improve OEM Read/Write.

3. Qualcomm Add New Xiaomi Redmi 5/5A/5 Plus Account Unlock Support.

4. Qualcomm Add Meizu E3 Account Unlock Support.

5. LG Add New FRP Remove Support.

12.Z3X Box for Samsung.

1. Flashing.

2.Unlocking.

3.IMEI Repair.

4.Root.

13.Using Creak Box Setup.

A) Z3X Pro27.2

C) Volcano Tool V2.2.9

E) UMT Box GSM Crack 1.3

G) Infinity Box CM2 Samsung.

I) Infinity Best V2.15 Nokia Flasher

K) ATF Crack Without Key.

B) Miracle Box 2.27A

D) Merapi Tool

F) Octoplus Samsung Tool 1.6.5

H) RBSOFT Mobile Tool V1.6

J) Miracle Falcon Box.



Thanks And Regards

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