Mobile Repair Course Outline

a) Repair Equipment/tools and uses
b) Trade only Online Mobile Repair Resources
c) Use of Soldering Iron and dedicated tools
d) IMP Workbench Management
e) Mobile Phone Disassembly processes
f) PDBC Basic Part replacement
g) Principles of Electronics
h) INCEPTOR Tech Accurate Fault Finding
i) Common Repairs / Advanced Part Replacement
j) Repairing Water Damaged Mobile Phones
k) Manufacturer Owned Software - Flashing / Unlocking
l) Marketing / Marketing Resources
m) Pricing Phone Repairs and Business Management

Part 1 : Smartphone Repair

    i. Mobile phone Basics
    ii. Block Diagrams
    iii. Hardware Troubleshooting & Repair
    iv. Software Troubleshooting & Repair
    v. Flashing & Unlocking Techniques
    vi. User lock, SPC, MSL, FSC, OTKSL
    vii. GSM unlocking: using codes
    viii. Using software to remove user lock, SPC
    ix. What is prl
    x. What is ESN/MEID
    xi. CDMA Software Defined

Part 2: Basic Electronics

    i. Ohm's Law
    ii. Series Circuit
    iii. Parallel Circuit
    iv. Identifying Electronics Components and Circuit Symbols
    v. Resistors
    vi. Capacitors
    vii. Transistors
    viii. Diodes & Fuse
    ix. Coils & Inductors
    x. Crystal Oscillators
    xi. RF & IF Amplifiers and Filters

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xii. EMI and ESD Filters

Part 3: Tools and Test Equipments

    i. Safety Procedures and Proper Handling of Tools and Test Equipments
    ii. How To Use and Read a Multimeter Tester
    iii. Test and Check up Procedures on Electronics Components
    iv. Preparing the Proper Tools For Repairing
    v. Opening Tools and Tweezers
    vi. Soldering and De-soldering Tools
    vii. Muti Tester
    viii. SMD Rework Stations
    ix. DC Power Supply
    x. Cleaning Kits
    xi. Reballing Kits
    xii. Working Table Equipments

Part 4: Schematic Diagrams

    i. How to Read Mobile phone's Schematic Diagrams
    ii. Identifying Component Symbols and Layout in Schematic Diagram
    iii. Resistor's Symbols and Layout
    iv. Capacitor's Symbols and Layout
    v. Transistor's Symbols and Layout
    vi. Diodes Symbols and Layout
    vii. Coil Symbols and Layout
    viii. Integrated Circuit Symbols and Layout
    ix. DC to DC Voltage Drivers, Regulators
    x. Converters Symbols and Layout
    xi. EMI-ESD Symbols and Layout
    xii. RF Filter Symbols and Layout
    xiii. Battery Mobile Symbols and Layout
    xiv. Power Switch , Mouthpiece, Earpiece and Ringtones Speakers
    xv. User Interface Symbols and Layout
    xvi. Clock Crystal Oscillator Symbols and Layout
    xvii. Fuse Symbol and Layout
    xviii. Lines and Symbols on Schematic Diagram

Part 5: Soldering

    i. How to Find and Locate Components on PC Board
    ii. How to Solder SMD Components Manually by Hand

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iii.   Master soldering on any electric board
iv.   BASICS OF SOLDERING
v.   Advantages of Soldering
vi.   What is Soldering & de-soldering? Lead free or not?
vii.   Hand soldering vs. machine soldering
viii.   Electric tools used in soldering: Soldering machines, Hot-Air machines, Pre-heaters, Infrared machines,
ix.   Rework stations...etc
x.   Soldering tips & soldering irons
xi.   Hand tools & accessories used in soldering: magnifier, tweezers, Fume Extractor , sponges.etc
xii.   Chemicals used in soldering: flux, lead, solder wire, flux remover, tin

Part 6: Application of Soldering In Mobile Phone Repair

i.   Types of circuit boards: PCB solder types and Mobile phone generations
ii.   Which electronic components are found in a Mobile phone PCB
iii.   diode, transceiver, transistor, integrated circuit, 2 point solder joints or 3 joints multi points?
iv.   Underfill & under film
v.   Practical basic soldering trainings
vi.   Basic and intermediate applications for training
vii.   Soldering charging ports
viii.   Soldering power buttons
ix.   Soldering flex cables
x.   Soldering SIM card trays
xi.   Memory modules
xii.   Camera modules
xiii.   Battery sockets
xiv.   LCD Connector modules
xv.   How to Reball BGA Chips Manually by Hand
xvi.   Identifying and Familiarization of Common Mobile Phones Components and Spare Parts
xvii.   LCD's Touch Screen Panels Microphones Micro Speakers Switches Charging Pins Antenna's Battery
xviii.   USB connectors

Part 7: Integrated Circuits

i.   Understanding Major Integrated Circuits (IC) on Mobile Phones
ii.   Power Management IC

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Location: Kenya House Complex, 2nd floor, Koinange Street Opp. KEMU Hub

Tel: +254 728 456 781 **Web:** www.inceptor.co.ke **Email:** admin@inceptor.co.ke

iii. Application Processor

iv. Flash IC

v. RAM IC

vi. Hardware Handling Procedures

vii. Proper Disassembling and Assembling Methods

viii. How to Test Mobile phone Speaker,Buzzer or Ringer

ix. How to Test Mobile phone Microphone or Mouthpiece

x. How to test Mobile Phone Charger Voltage

xi. How to Test Mobile Phone Vibra Motor

xii. How to check Mobile Phone Battery Voltage

xiii. How to test Power ON OFF Switch

Part 8: **Liquid Damage**

i. Types of liquid damage: Toilet, fresh, salt, food

ii. Tools used in treatment

iii. Chemicals used in treatment

Part 9 : **Troubleshooting**

i. Hardware Troubleshooting Basics

ii. How to Troubleshoot Not Charging Issues

iii. How charging circuit works

iv. No Charging Response

v. Charger Not Supported

vi. Not Charging

vii. How SIM Circuits works

viii. Insert Sim Card Problem

ix. Invalid Sim Card

x. How Keypad Circuits Works

xi. How to Map and Trace keypads Lines

xii. Understanding The LED light Circuits

xiii. Explanation on How Audio Circuits work

xiv. Mouthpiece

xv. Earpiece

xvi. Buzzer

xvii. Ringer

xviii. Headset

xix. Vibra motor

xx. How LCD Display Circuit Works

xxi. Understanding How RF circuit works

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