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## **WD HARD DISK FIRMWARE REPAIR AND RECOVERY TRAINING**

**WD DR/REP :- WESTERN DIGITAL HARD DISK FIRMWARE REPAIR  
AND RECOVERY TRAINING ONLINE OFFLINE**

(before this student should have knowledge of computer hardware & logical  
data recovery, software based )

### **Course id :- WD - 0 HARD DISK STORAGE BASIC (beginners)**

- Data storage process in hard disk
- Track sector , cluster , cylinder head
- MBR /GPT , boot sector ,
- Hard disk from inside
- Size of service area ROM , RAM
- working idea of Rom ,service area modules ,
- working and booting concept or wd hard disk
- Hdd diagnostic signal name BSY DRD DSC etc

### **Course id :- WD - 1 WD HARD DISK INTRODUCTION (beginners)**

- Identify HDD model no , families, pcb no , parts, DCM no

- Wd hard disk families with micro code,
- Hard disk PCB board types ,
- USB to sata conversion detail, jumper
- **Locked new SMR disk PCB**
- **Unlock pcb no and compatible,**
- Common problem due to firmware corruption
- Short detail of Wd firmware ,
- RAM , ROM, SA files, importants
- tools used for repair WD hard disk firmware
- Wd marvel and MRT tools basic used

### **Course id :- WD - 2 WD HDD ROM , MODULES**

- WD ROM modules (0A, 0B/20b 0D, 47, 4F
- **new hdd ROM 181, 1A2 1B0 1B6)**
- Head map 0A, detail,
- Changing head enable disable in 0A
- Rom directory 0B/20B,
- Changing location of Servie area in ROM
- Micro jog Preamp values in Module 47
- Micro code version of ROM from module 5F
- Backup ROM in SA detail
- Regenerate ROM when ROM is damage
- Read and write ROM modules
- loading LDR and directory module in RAM

### **Course id :- WD - 3 WD SA MODULES IN DETAIL**

- Directory Module 01
- 02 Hard disk id
- Slow responding hdd repair by module 2
- Module 03, 04 analysis.
- Overlays module 11 , 5c, 13, 10
- ATA Modules.
- Load Overly to RAM
- Defect module P-list 33. P-list Translator 31.
- G-list 34. G-list translator 32. SA Defect list 35.

- SA Translator (in Rom) 30. Track Defect List (T-list) 36.
- Adaptives module analysis.
- Modules 40, 41. Module 49,4a.
- **NEW smr drive module 189 , 190 2<sup>ND</sup> translator working**
- Key modules for data recovery
- Common fault due to ROM & SA modules

### **Course id :- WD - 4 WD RAM, DATA EXTRACTOR**

- how to load LDR and directroy to RAM
- RAM head map
- DATA extractor , working and function
- New task parameters
- disk to disk image , copy folders, etc
- read, error, time, head wise recovery , fast slow, etc
- head mapping , skipping bad , setting

### **Course id :- WD - 5 MRT TOOLS ADVANCE**

- MRT extractor ( data extractor , copy data, clone hard disk
- MRT WD ( modules, rom , backup, repair option etc)

### **Course id :- WD - 6 COMMON CASE STUDY OF WD HARD DISK**

- Undetected hard disk repair
- Wd slow responding hard disk repair
- Continuous busy error solution
- **New wd SMR disk unlocked process**
- SED error solve
- Recover head damage hard disk
- Repair bad sector
- Head depop Cut head
- Fix clicking wd hdd ( firmware)
- To see whether its head or firmware problems
- Head map editing
- Small scratched area remove concept
- Translate , self scan and servo calibration

- Low level format
- Fix adaptive problems
- Regenerate plist
- Wd self calibration
- Wd Hot swapping concept
- 0 capacity show 02 module defective
- Mr jog parameter copy area
- Whole wd hard disk shown bad sector
- Wd hard disk password removing
- Factory firmware flashing steps