

DATA RECOVERY SERVICE CENTRE TRAINING (WORKSHOP TRAINING)

Module D3 Physical (Mechanical)Data Recovery Training

D3. 1 PHYSICAL (MECHANICAL) HARD DISK FAILURE PROBLEMS

- Clicking hard drive
- Drive not spinning
- Head crash
- Damaged Platters
- Actuator failure
- Stepper motor failure
- Spindle bearing seizure (block)
- More voice from hard disk
- Head stuck on platter
- Liquid Damage
- Fire Damage
- Dropped Hard Drives
- Different voice in different hard disk (video)
- Common fault and solution in physical repair

D3. 2 DONOUR SELECTION OF DIFFERENT HARD DISK

- Data recovery and donors
- Donors' Recognition: Firmware Donors, PCB Donors, Head Donors
- Matching criteria of Donours for hard disk
- Different models and product detail of hard disk
- Identify hard disk size, types, models, platter, connection etc from models no
- Hard disk vendors with model detail
- Select donor for hard disk to be recover
- Identify from hard disk
- Model no
- Rpm
- DCM drive configuration matrix (western digital hard disk)
- Key (Maxtor)
- Site Code (Seagate hard disk)
- MLC machine level code(Hitachi, IBM)
- Firmware code (Seagate, Samsung hard disk)
- Manufacture dates

- Manufacture in country
- Matching donor for western digital hard drive
- Matching donor for SEAGATE hard drive
- Matching donor for TOSHIBA hard drive
- Matching donor for FUJITSU hard disk
- Matching donor for HITACHI (IBM) hard drive
- Matching donor for HITACHI (Native) hard drive
- Matching donor for SAMSUNG " hard drive
- Matching donor for Maxtor " hard drive
- Matching donor for QUANTUM-MAXTOR 3.5" hard disk

D3.3 Data Recovery Instrument detail and using detail with demo on opening hard disk

- Instrument list demo used for physical data recovery
- Instrument detail used for data recovery
- Motor unstuck tools
- Punching tools
- Clean room concept
- Hand gloves, fingers top cover
- HD HPE PRO
- Different instrument used for data recovery centre
- Replacement of Damaged Heads - Read-Write head change tools
- Replacement of Magnet - Magnet Exchanger Tools
- Platter Transplantation --- Platter Replacement Tools
- Seized Damaged Bearings Replacement -- Spindle motor Replacement Tools
- What are clean room data recovery cases?
- Head swap process for hard drives with or without spacers/bracelet
- Multiple platter exchange process
- Clean room or clean bench
- Hands on practice using HD HPE PRO/ or OTHER INSTRUMENT for data recovery cases.

D3.4 practice on head replacement of hard disk

- Precaution to be taken before opening hard disk
- Step by step removing parts guidelines
- Donor and patient hard disk to be kept ready on bench
- How to open hard disk

- How to use magnet tools for remove top magnet
- How to remove top magnet
- How to take out head from hard disk
- How to swap head from donour to patient
- How to use head tools to keep distance between heads
- How to split head outside
- Removing head form 2.5 and 3.5 hard disk
- Removing and inserting read, write head of different computer hard disk
- Removing and inserting read write head of different 2.5" hard disk

D3.5 practice on Platter replacement of hard disk

- How to open screw of platter
- How to swap platter from donor to patient
- What care to be taken for platter replacement
- Removing platter of hard disk
- Removing and inserting platter of different computer hard disk
- Removing and inserting platter of different laptop 2.5" hard disk

D3.6 practice on Spindle motor changing of hard disk

- How to unstuck spindle motor of hard disk
- How to remove out spindle motor
- How to replace with donor spindle motor
- Removing and inserting spindle motor of different computer hard disk
- Removing and inserting spindle motor of different 2.5" hard disk

D3.7 Basic idea of data recovery from dead pen drive, memory card, flashcard

- Basic internal structure of pen drive
- Concept of Swapping chip of pen drive
- Basic repairing idea of pen drive
- Bios programmer xeltek super pro idea for reading chip

D3.8 Introduction to Hard Disk Firmware repair instrument list

Introduction to Different firmware repair instrument/software list detail

Ace lab original pc3000

- Ace portable usb
- Ace udma

- Ace

DFL Data Recovery Equipments

- (1) DFL - DDP USB3.0 (Data Dr. Pro Usb3.0)
- (2) DFL - URE USB3.0 (USB Recovery Express)
- (3) DFL - DE USB2.0
- (4) DFL - FRP - STII For Seagate
- (5) DFL - FRP - WDII For Western Digital
- (6) DFL - FRP - HT For Hitachi
- (7) High Speed USB Programmer Pro
- (8) DFL - Data Recovery Start-Up Suite
- (9) DFL - Data Recovery Grow-Up Suite

Salvation data product

- Data compass
- HD doctor for Seagate
- HD doctor for WD
- HD doctor for Maxtor
- HD doctor for Hitachi

Pc3000 pci 2.4/2.5 version

Atola

DflwdII

Firmware repair software without hard ware

- Wdr3, wdr5, wdr6
- Str 3000
- Mrt Maxtor repair
- Samsung repair software

D3. 9Data recovery common problems and solution flow chart

- Hard drive does not get detected
- Hard drive gets detected but data is inaccessible
- Hard disk drive displays no sign of power and/or no sound of the drive "winding up"
- Hard disk drive powers up & then spins constantly with a loud winding sound
- Hard drive powers up and then winds down, non-responsive
- Hard drive unit emits an OCCASIONAL clicking sound

- Hard drive unit emits a CONSTANT clicking sound
- Hard drive unit powers up, but the drive does not mount, and there is no discernible data read/write sound
- Hard drive powers up and a scraping sound is audible
- Hard drive has been exposed to water damage
- Hard drive unit has been exposed to fire