

DRS Firmware Recovery Operation Process

Seagate Support List

Barracuda series, 11th generation and above. (Diagnostic port should not be locked, otherwise, not supported)

Western Digital Support List

Theoretically support all the commonly seen WD drives in the market.

Note: This does not exclude some few drives with unique firmware structures we may not yet know of. Please let us know if you encounter this kind of situation.

Hitachi Support List

- 2.5" series: DKLA, DYLA, DADA, DTCA, DBCA, DARA, DJSA, DCYA, ATCS, ATDA, ATMC, ATMR, 4240, 4210, 4212, 5410, 5412, 5416, 5425, 5432, 5450, 5480, 7210, 7260, 7220, 7232, 4250, 7250, 5450K
- 3.5" series: DJNA, DPTA, DTLA, AVER, AVVA, AVVN, AVV2, VLAT, PLAT, KLAT, DLAT, VLA3, PLA3, KLA3, DLA3, GLAT, SLA3, GLA3, KLSA, VLSA
- ARM series: 7275, 5475A9, 7210A9, ALA3, 7232A7, 5450A7, 4232, CLA3, 7250A7, 5410A9, DLE6, 5432A7, 5415A9, BLA6

Note: For those series not listed above, and the latest models in the market, we do not guarantee support. Any confusion, please contact our technical support.

<mailto:support@salvationdata.com>

The following items are required before executing the operation: DRS, HDD

Seagate Firmware Recovery

1、 Fix Partial Sector Accessibility for Seagate HDD

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Clear Glist" & "Clear N-Glist" button
6. Click "Recover Translator" button

2、 Fix Busy Error for Seagate HDD

Process:

1. Switch to "Load from Disk" tab, and click "Load from Disk" button
2. Switch to "Other Operations" tab, click "Clear Glist" & "Clear N-Glist" button
3. Click "Translator Regeneration" button

3、 Fix LBA=0 Error for Seagate HDD

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Clear Glist" & "Clear N-Glist" button
6. Click "Translator Regeneration" button

4、 Fix Busy after Ready for Seagate HDD

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, and click "Busy after Ready" button

5、 Level F Recovery for Seagate HDD

Process:

1. Connect HDD to HD Doctor, and power on.
2. Switch to Command mode, check if HDD is at level F.
3. HDD model cannot be identified automatically, manually select the correct disk model
4. Click "Load from HDD" button
5. Switch to the guiding interface, and choose the firmware path
6. Click "confirm" to return, and click "Load APP" to load app into FW zone (modules of the same FW version).
7. Switch to "Sector View", check sector 63 to see if repair is successful

6、 App Recovery for Seagate HDD

Process:

1. Connect HDD to HD Doctor, and power on
2. Enter HD Doctor software
3. Load from HDD
4. Switch to the guiding interface, and choose the firmware path
5. Click "Confirm", then click "APP to RAM"

7、 Fix SMART for Seagate HDD

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Stop SMART Log" button
6. Then click "Clear SMART Log" button

8、 Fix CE LOG Error for Seagate HDD

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Enter COM Mode, Level T, and input "N4E,,22"
6. Press "CTRL+T" to start Calibration for 4E process
7. Manually input "N50,,22+Enter", screen shows AGE=50, which indicates that the HDD is working in normal conditions
8. Press "CTRL+C" to soft reset HDD. If the screen shows "Master", then repair is successful.

9、 Fix Firmware Read-only error for Seagate HDD

Process:

1. Replace magnet head if HDD is physically read-only
2. Clear Glist and reset SMART if HDD is logically read-only
3. Load HDD
4. Enter COM Mode, level T
5. Press "CTRL+R" to load cert module
6. Input "i4,1,22" to clear Glist
7. Input "V4" to check if clearing is completed
8. Input "\1" to enter level 1 mode.
9. Input "F" under level 1 mode to engage force writing mode.
10. Input "N1" to reset SMART

10、 Read/Write under BOOT CODE Mode

Process:

1. Set Baud Rate to 38400
2. Click the "bootcode" switch, wait until the HDD status indicators are off meaning that you have successfully entered boot code mode.

11、 Adapt ROM

Process:

1. Switch to "ROM Data" tab, click "Load" button to open ROM

2. Click "Adapted ROM", and select the target ROM in the list to adapt.

12、 **Fix MCMT**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "System File" tab, and click "Loading" button
6. Click "MCMT Fix" button at the lower right corner after successful loading

13、 **Fix Init Smart Fail**

Process:

1. Connect command cable & power cable
2. Power On
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "System File" tab, and click "Loading" button
6. Click "SMART Fix" button at the lower right corner after successful loading

14、 **Fix SIM Error 1009/3005 (Seagate ST500DM002)**

Process:

1. Connect command cable & power cable
2. Power On
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Translator Regeneration" button

15、 **Fix LED:000000CC**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Enter level T, input command "N1" to clear SMART
5. Input "m0,2,2,,,,,22" repairing command after an error occurred
6. Input "m,6,2,,,,,22" to clear Glist after successful repairing
7. If the parameter is not shown, repeat from step 4 to step 6
8. Input command "V4" & "V40" to verify if the clear up is successful
9. Power off, and then power on after successful clear up.

16、 **Fix .11 Busy**

Process:

1. Connect command cable & power cable
2. Power on

3. Select the proper COM port and setup Baud Rate
4. Enter level T, input command "N1" to clear SMART
5. Input "m0,2,2,,,,,22" repairing command after an error occurred
6. Input "m,6,2,,,,,22" to clear Glist after successful repairing
7. If the parameter is not shown, repeat from step 4 to step 6
8. Input command "V4" & "V40" to verify if the clear up is successful
9. Power off, and then power on after successful clear up

17、 **Fix .12 Busy**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Enter level T, input command "N1" to clear SMART
5. Input "m0,2,2,,,,,22" repairing command after an error occurred
6. Input "m,6,2,,,,,22" to clear Glist after successful repairing
7. If the parameter is not shown, repeat from step 4 to step 6
8. Input command "V4" & "V40" to verify if the clear up is successful
9. Power off, and then power on after successful clear up

18、 **Restore Capacity**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Fix Capacity Error" button
6. If operation failed, then manually input the disk's sector capacity and click "Modify LBA"

19、 **Enhanced Capacity Restoring**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button
5. Switch to "Other Operations" tab, click "Restore Capacity (/F)" button

20、 **Recover HPA**

Process:

1. Connect command cable & power cable
2. Power on
3. Select the proper COM port and setup Baud Rate
4. Switch to "Load from Disk" tab, and click "Load from Disk" button

5. Switch to “Other Operations” tab, click “Recover HPA” button

21、 **Clear SMART**

Process:

- 1.Connect command cable & power cable
- 2.Power on
- 3.Select the proper COM port and setup Baud Rate
- 4.Switch to “Load from Disk” tab, and click “Load from Disk” button
5. Switch to “Other Operations” tab, click “Clear Smart Log” button

22、 **ROM Read/Write/Edit**

Process:

1. Load the disk
2. Enter bootcode mode
3. Click “Read ROM” button to read ROM
4. Click “Write ROM” button to write ROM

Western Digital Firmware Recovery

23、 **Western Digital HDD Unrecognizable**

Process:

1. Jumper wires are required if HDD status is busy
2. Continuously insert 3 jumper wires close to the power supply port
3. Power on, refresh HDD status. If Disk is ready, then load disk
4. Switch to “Load from Disk” tab, and click “Load ATA” button
5. Check and read critical modules of the FW
6. Shift or write back critical modules
7. If data is unreadable in step 6, write all critical modules from the source disk to the donor disk to execute a warm exchange
8. Write all critical modules to the donor disk, then proceed by the following sequence, power off, power on, then motor off
9. Remove the PCB from the donor disk, and assemble it on the source disk with the power on
10. Fix the screws, motor on, then check the data.

24、 **Western Digital One-Key Data Backup (Tracks, Modules, ROM)**

Process:

1. Load the disk
2. Switch to “Read FW” tab, “select all” then click “Read” button
3. Read ROM to backup ROM
4. Read Track to backup Track

25、 **Shift the Damaged FW for Western Digital HDD**

Process:

1. Connect the HDD, HD Doctor and PC.
2. Start the software and load HDD
3. Enter Firmware Diagnostics—Modify Map Module
4. Set the value of UBA1 & UBA2 to “7314”
5. Reboot the HDD, switch to Low-speed mode and load from disk, then write module No.32 (both Primary and Secondary)
6. Reboot the HDD, switch to High-speed mode and load from disk
7. Check sector data

26、 **Fix HDD Slow for Western Digital**

Process:

1. Connect the power cable
2. Power on
3. Switch to “Load from Disk” tab, and click “Load from Disk” button
4. Switch to “Other Options” tab, and click “Fix HDD Slow” button

27、 **Analyze Track**

Process:

1. Load HDD
2. Switch to “Read Track” tab, select the target tracks and click “Analyze” button

28、 **Adapt ATA**

Process:

1. Connect the power Cable
2. Power on
3. Switch to “Load from Disk” tab, and click “Load from Disk” button
4. Match the ATA version according to the ROM version

29、 **Read-only Error**

Process:

1. Replace Magnet Head

Hitachi Firmware Recovery

30、 **Read/Write/Edit NVRAM for Hitachi HDD**

Process:

1. Enter Disk Diagnostics, load HDD
2. Find “Read NVRAM” in “Other Options” tab, click to read NVRAM.
3. Click “Write NVRAM” to write NVRAM
4. Click “Edit NVRAM” to Edit NVRAM

31、 **A-Zone FW Damage for Hitachi HDD**

Process:

1. Connect the HDD and power on

2. Switch to B-Zone and load HDD
3. Switch to "Read FW" tab, read to backup FW
4. Write FW back to A-Zone

32、 **Translator Damage**

Process:

1. Load HDD
2. Check P-list, make sure it is normal
3. Load P-list from FW zone

33、 **Fix Partial Sector Accessibility for Hitachi HDD**

Process:

1. Load HDD
2. Check P-list, make sure it is normal
3. Load P-list from FW zone

Toshiba Firmware Recovery

34、 **Disk Unidentified**

Process:

1. Load HDD
2. Switch to " Other Options " tab
3. Press "Rebuild G List"

35、 **Sector Data Inaccessible**

Process:

1. Load HDD
2. Switch to " Other Options " tab
3. Press "Rebuild G List"

36、 **Sector Data Disordered**

Process:

1. Load HDD
2. Switch to " Other Options " tab
3. Press "Virtual G List"

Other Operations

37、 **Imaging Normal Disk (Image to Disk)**

Process:

1. Connect the HDD, click "Forensic Imaging Disk Duplication"
2. Click "Quick Imaging", select the target partition and click "Next"
3. Switch to "Image to Disk" tab, and start Imaging

38、 Imaging Normal Disk (Image to file)

Process:

1. Connect the HDD, click "Forensic Imaging Disk Duplication"
2. Click "Quick Imaging", select the target partition and click "Next"
3. Switch to "Image to File" tab, specify a imaging destination
4. Start Imaging

39、 Imaging Disk with Bad Sectors (Whole Disk Imaging)

Process:

1. Connect the HDD, click "Forensic Imaging Disk Duplication"
2. Click "Advanced Imaging", select the disk (with the title same as disk's MDL)
3. Switch to "Image to Disk", and start Imaging

40、 Imaging Disk with Bad Sectors (Partition Imaging)

Process:

1. Connect the HDD, click "Forensic Imaging Disk Duplication"
2. Click "Advanced Imaging", select the target partitions and press "Next"
3. Switch to "Image to File", and specify a image destination
4. Start imaging

41、 Copy DPT Information

Process:

1. Enter "Advanced Imaging"
2. Switch to "Image to Disk", check the "Copy DPT Information" box
3. Select target disk and press "Next"
4. Start imaging

42、 Image Valid Data Only

Process:

1. Connect HDD
2. Enter "Advanced Imaging"
3. Select target partitions
4. Double click "All Data" on the "Image Content" column, change the value to "Valid Data"
5. Start imaging

43、 Generate Recovery Report

Process:

1. Connect the HDD
2. Enter "Advanced Imaging"
3. Select target partitions to image
4. After successful imaging, press the "Report" button in the lower right corner
5. Press the "Export" button and specify a destination to export report.