1. Overview

Previous cases have shown that for normal hard drives there are both Quick imaging and Advanced imaging by DRS. However, it is always hard to avoid the hard drives with bad sectors or heads during the data recovery.

Now let us take a look at how DRS image such disks with bad sectors.

2. Operation

[Step 1] Select Advanced imaging

“As we know, for some damaged drives, the space where bad sectors located exactly saves the DPT information, thus possibly resulting in the partition information not being viewed or imaged. But through regulating the imaging scope with sectors by partition customized of DRS, we can easily image the partition data in hard drive with bad sectors.”
[Step 2] Click Create Region to create custom partition.

Input the total sector number needs to be imaged
"DRS will automatically calculate the capacity of custom region after creation."
If necessary, offset and total sectors can be amended by double-click.
Or directly click Delete Region to delete the custom region."
[Step 3] Select Target disk.

Click Start to image after reviewing the settings.
As we previously mentioned in the cases for Valid / Invalid Data Imaging that there are some parameter settings in Advanced imaging mode. Now we introduce some important parameters during imaging.
To set up the correct parameter, we need to know the real bad sectors distribution. So let’s start with how to identify the bad sectors.

[Step 4]

View the bad sectors through Scan Bad Sectors in Physical diagnosis mode.
Bad sectors distribution can be viewed through Bad sectors list after scanning.

“Start setting the parameters once got the idea for bad sectors distribution.”

[Step 5]

If there are a large number of bad sectors in the initial LBA, the image can be started from reverse image which can be selected in Imaging Direction, so the healthy sectors can be prioritized.
“For the sectors failed caused by bad sectors, DRS can automatically re-image.

Or Select manual mode, checking Automatic besides the Sectors Failed at the bottom right of the page, to re-image failed sectors.”
[Step 6] Start imaging.

The imaging accuracy is based on the sector number read attempts per block. If there are more bad sectors of the hard drive, we need to set the smallest sector no per block. Please note that the Sector No Per Block is fixed 8/block.
“As we know, the bad sectors would slow down the imaging speed, but with DRS, we can custom the sector number of skipped bad sector so as to image the healthy blocks firstly, which greatly enhance the imaging speed.”

“If the disk gets stuck in a certain bad sector during imaging, and fails by automatic skip as well, we can manually skip the bad sectors. The sector count of each block depends on the its setting in imaging block accuracy before.”
“The three parameters as sector number read attempts per blocks, manual skip and automatic skip, all can be manually modified in real-time during imaging.”

“To ensure fast imaging speed, DRS would automatically switch to PIO mode while imaging the bad sectors, and switch to UDMA mode while imaging the healthy sectors.”
"Imaging break may happen due to the unstable hard drives."
In such case, we just need to restart DRS hardware, and select the same source disk and the target again. And then we continue the imaging while DRS would automatically record the previous imaging information."
Click Start to continue imaging.

[Step 7]

Finally the imaging for bad sectors is completed. What is more, the imaging time depends on the bad sectors' numbers.