

## **Q. How do I detect if a UDO 30, 04-40-9D error is caused by a media side with the OPC area exhausted.**

Prior failure analysis had shown that an OPC failure was the result of a contaminated objective lens, (see Tech Bulletin UDOTB003B) or a degrading laser. It has been discovered that a disk side that has the OPC area of the disk side exhausted, will also generate a 04-40-9D check condition.

The OPC area of a UDO disk is located at LBA 1246748 to LBA 1262047 of each disk side. There are a calculated 7649 sectors allocated for OPC use minus any sectors with primary defects that are mapped out during manufacture.

The sectors in the OPC area are used each time a piece of media is spun up (not inserted) in the drive and a write is attempted. The drive also performs OPC as the temperature in the drive increases. It may do four OPCs on a cold drive in the first six minutes of operation, before the temperature stabilizes. On WO media the drive will slip (try another sector) two times before declaring a check condition. On RW media the allowable slip is five. On RW media this is not an issue because the sectors can be reused.

When a drive fails OPC on a media side it will issue the check condition shown in the Pg. 39 drive error event log entry below:

```
Paramter Code = 0001 Power On Time: 241 Days 12 Hours 54 Minutes  
Error Event Type 08 Occurrence Count = 01 Time Stamp = 00:50:24:066.392  
ESC=24000E0D LBA/SC1=7FFFFFFF PBA/SC2=7FFFFFFF MediaId/SC3=40964E890B  
Extended Info 04 40 9D 00 00 08 E1
```

Bytes 3, 12 and 13 (04-40-9D) are defined as:

Write Calibration Error (Hardware Error) An error occurred during the write power calibration

Bytes 18-21(24000E0D) are defined as:

OPC\_ERR\_OPC\_FAILED

The check condition above will be returned if the laser is degraded, the objective lens is contaminated or if the OPC area of the media is exhausted.

**To determine if the check condition is a result of the OPC area of the media is exhausted; Pg. 38 of the drive event logs must be examined.**

**The following example shows an OPC being attempted and returning “OPC Unsuccessful”:**

```
#ACAD3886 Step 4: DSP OPC Read Setup
#ACAD3B24 Step 5: Perform DSP Read
#ACAD9197 Step 6: Analyze OPC Results
Dma status: 0000
Dma fifo amount: 0000
Islope = 0000003E    Power = 00000032
Desired Power = 00000000
Opc Unsuccessful
```

This indicates that the OPC failed for a degraded laser or for contamination of the objective lens. The drive lens cleaning cartridge (Tech Bulletin UDOTB003B) should be used in the drive if this entry is seen. If the cleaning disk doesn't resolve the error the drive must be replaced.

The following example shows an OPC sector search being attempted and returning “OPC Failed” when it was unable to find a usable sector.

```
#B43A5939 - Start OPC Sector Search -
BSrch - L: x0013061C T: x00130C16 H: x001341DF
BSrch - L: x00130C17 T: x001326FB H: x001341DF
BSrch - L: x001326FC T: x0013346E H: x001341DF
BSrch - L: x0013346F T: x00133B27 H: x001341DF
BSrch - L: x00133B28 T: x00133E84 H: x001341DF
BSrch - L: x00133E85 T: x00134032 H: x001341DF
BSrch - L: x00134033 T: x00134109 H: x001341DF
BSrch - L: x0013410A T: x00134175 H: x001341DF
BSrch - L: x00134176 T: x001341AB H: x001341DF
BSrch - L: x001341AC T: x001341C6 H: x001341DF
BSrch - L: x001341C7 T: x001341D3 H: x001341DF
BSrch - L: x001341D4 T: x001341DA H: x001341DF
BSrch - L: x001341DB T: x001341DD H: x001341DF
BSrch - L: x001341DE T: x001341DF H: x001341DF
BSrch End - L: x001341E0 T: x001341E0 H: x001341DF
* Can't find OPC Sector. Area Full?.
#B43F9445 - End OPC Sector Search -
#B43F9455 ---- OPC Failed ----
#B43F945D ---- OPC Finished ----
```

