

# 软件：WD PRO TOOL 正式版 3.2

此版本为原版未加密正式版 并非 3.0 的（破）（解）。

支持 L 板和 ROYL 板（目前所有版本）

独家中英文对照说明 图片文档，一看就明白

**WDR 功能演示视频**

常用的功能：

读写模块操作

读写 FLASH 操作

编辑磁头地图

查看 SMART

清除 SMART

启动校准

停止校准

清除 LOG

修复 LOG

查看校准记录

查看缺陷记录

P 表操作

G 表操作

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## SA 表操作

磁道缺陷

清除 P 表

清除 G 表

清除 T 表

扫描并把磁道加入 P 表

扫描并把磁道加入 G 表

快速擦除

磁头读写测试

选择工作目录

超级内格，清译码，重建译码

## ARCO

适合新手入门，修复一般坏道（500 以内）效果非常好，对于固件没有损坏的盘，直接清除 SMART—〉扫描并把磁道加入 G 表—〉超级内格—〉复位，断电 上电，MHDD 检测，如果还有坏道，重复以上直到完好。

修复坏道比较严重的：检测硬盘固件 和磁头 确定全好 备份固件（如果自检失败或者操作不当至少我们可以正常回到硬盘最初状态 这步很重要的）清除 SMART 缺陷 G 表(P 表不能轻易清哈) 自检日志模块 开 SF 8 小时后 SF 完毕 进入 DC 状态， 复位，断电 上电 查看 P 有相应记录。检测固件也都正常。很多盘在 SF 完毕后固件有可能变坏这跟电路板和电源有一定的关系 MHDD 检测修复后的硬盘正常 没有坏道。

对于更严重的，通刷固件再 SF 砍头等。

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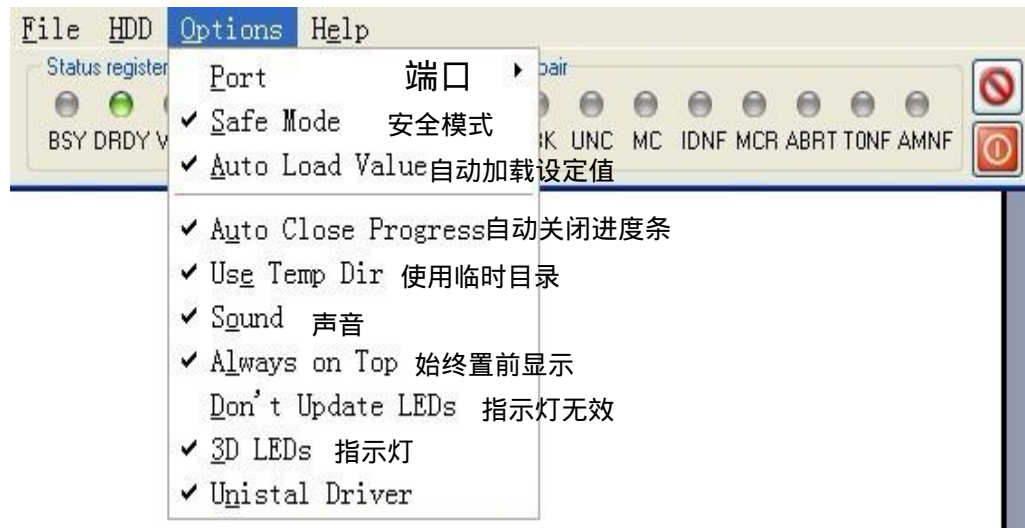
对于不认盘的，检测固件并修复。

## 1、主菜单



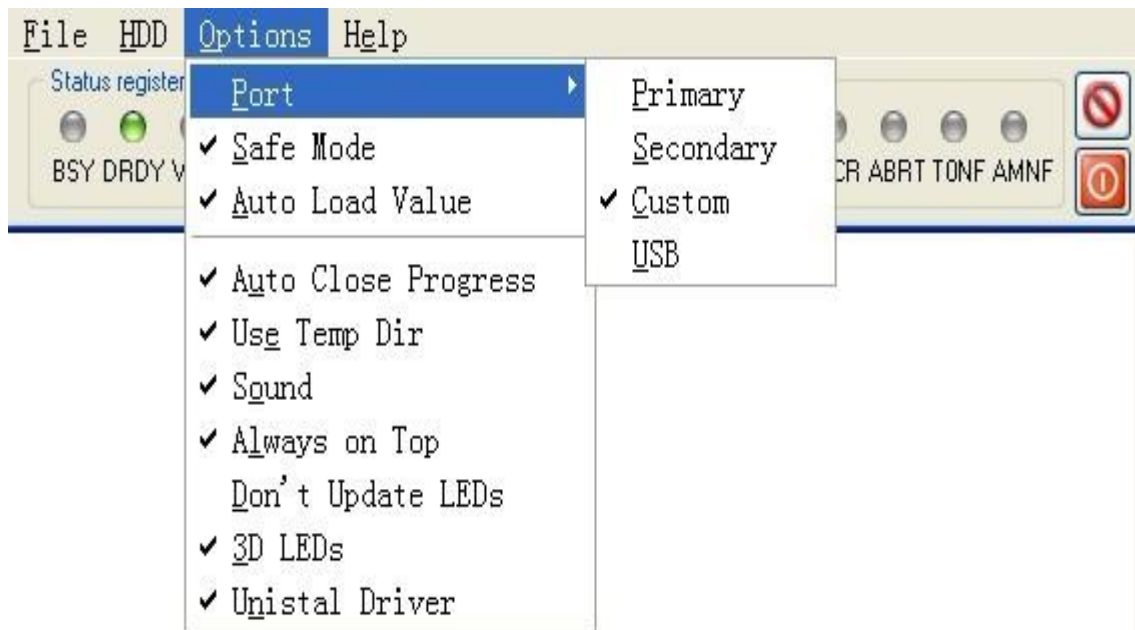
## 2、选项卡





### 3、端口设置：





#### 4、硬盘家族选择:





WD-MARVELL

识别硬盘

smart表

超级复位

ROM操作

模块操作

轨道操作

编辑许可证

清smart

写测试轨道

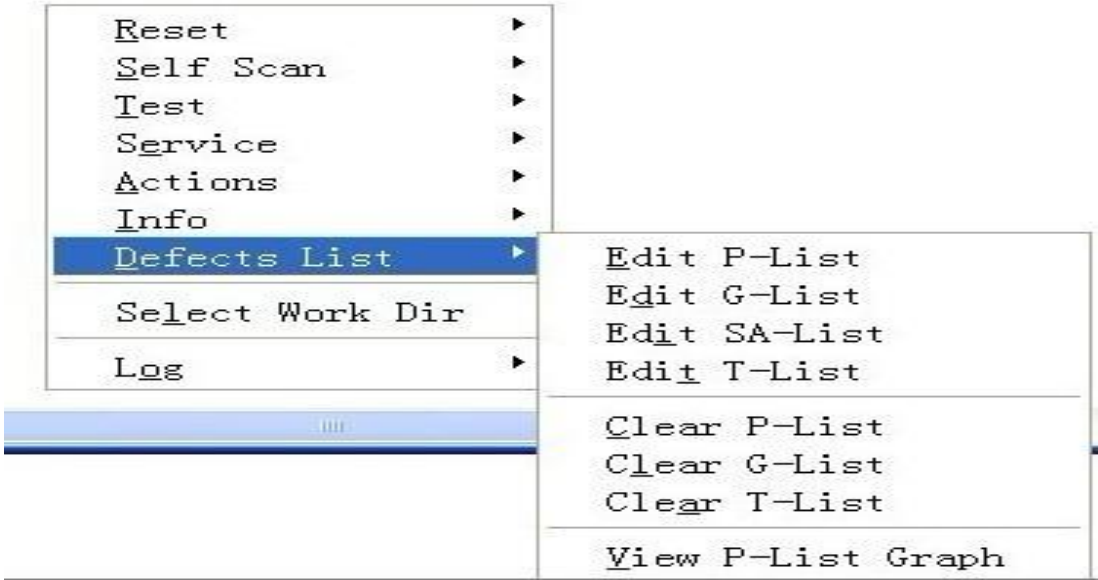
扫描坏道

格式化装置

快速启动sf

查看sf日志

## 5:坏道表操作



## 6、固件区操作





7、硬盘信息参数



8、自校准备菜单

复位 (S)

自动校准 (T)

测试 (U)

固件区 (V)

动作 (W)

信息 (X)

缺陷表操作 (Y)

选择工作目录 (Z)

Log

启动校准 (Y)

停止 (X)

清除LOG (L)

修复LOG (Q)

查看校准记录 (Y)

查看缺陷记录 (Z)

Reset

Self Scan

Test

Service

Actions

Info

Defects List

Select Work Dir

Log

SS Start 启动自校准

Script Edit 编辑自校流程

SS Stop 停止自校准

Mi Calibrator 调校准器

SS Clear Logs 清除自校准LOG日志

SS Repair Logs 修复自校准LOG日志

View IBI Common Log 查看校准记录

View SS Defecs Chart 查看校准缺陷记录

clear 清屏

copy 拷贝

select all 选择全部

save to file 保存到文件夹

9:硬盘坏道扫描加表

复位 (S)

自动校准 (T)

测试 (U)

固件区 (V)

动作 (W)

信息 (X)

缺陷表操作 (Y)

选择工作目录 (Z)

Log

扫描 (X) Ctrl+L

自动将磁道加入P表 (P)

自动将坏道加入G表 (G)

快速擦除 (Y)

磁头读写测试 (Z)



## 10: 复位

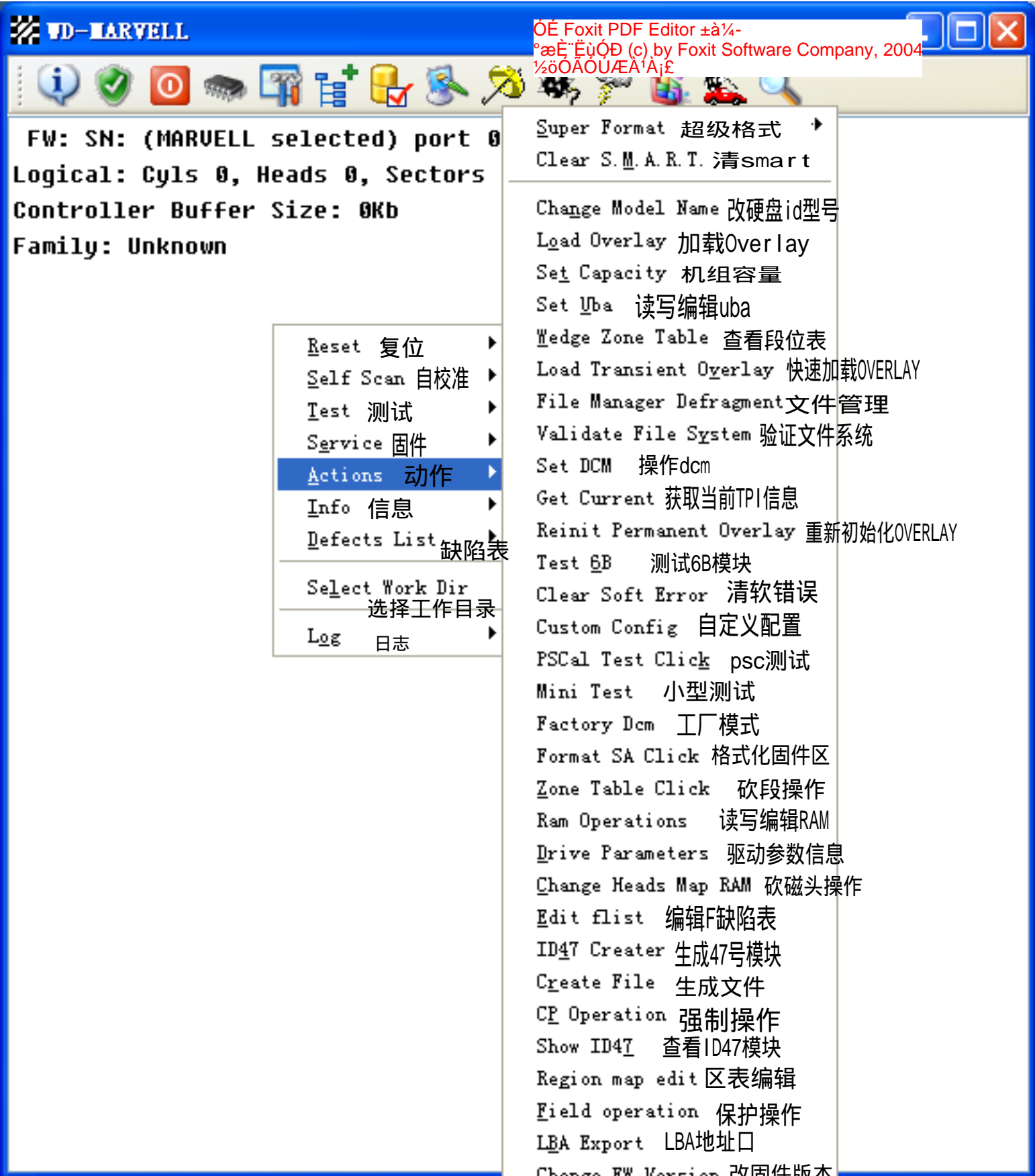


Reset	Reset 复位	Ctrl+Alt+R
Self Scan	ATA Soft Reset	Ctrl+A ATA软复位
Test	Mi Super2	Ctrl+A 调校准器2
Service	Mi Super3	Ctrl+A 调校准器3
Actions	ATA Recalibrate	Ctrl+Alt+I ATA重新校准
Info	Servo Spin Up	Ctrl+Alt+U 伺服旋转向上
Defects List	Servo Actuator Init	Ctrl+Alt+U 伺服驱动器初始化
Select Work Dir	Servo Spin Down	Ctrl+Alt+Z 伺服旋转向下
Log	Servo Test	Ctrl+Alt+Z 伺服测试
	Set DMA 100 Mode	设内存存取100模块
	Set DMA 66 Mode	设内存存取66模块
	Set DMA 33 Mode	设内存存取33模块

## 11: 扫描格式化进度

Progress 0:00:03		X	
当前进度	0.0%		
LBA	0 (0)		
当前柱面	0 (0)		
当前磁头	0		
段位	0		
伺服	8:0		
硬盘状态	0000, 0000, 0000, 00001083, 00000000		
硬盘状态	SUCCESS		
当前状态	00 A0 (SPUNDOwN) or(STANDBY if TEMP_OLD_PM_SWITC		
流程	ID:0 TST:0		
含义			
Drive Temp	128	Coil Temp	0
Junction Temp	128	Flex Temp	39 / 39

Progress 0:00:03		X	
Progress	0.0%		
LBA	180 (384)		
Virtual Cyl	1 (1)		
Virtual Head	0		
Zone	1		
Servo	6C:0		
Drive State	0000, 7601, 0000, 000010A3, 00000000		
Drive State	SUCCESS by - IBI_ERROR_ * G-List is Full		
Curent State	05 00 (ACTIVE) Background VSC Command		
PTM	ID:BA TST:1		
PTM	SPT Read All		
Drive Temp	35	Coil Temp	0
Junction Temp	46	Flex Temp	128 / 35



change serial Number 改变序列号

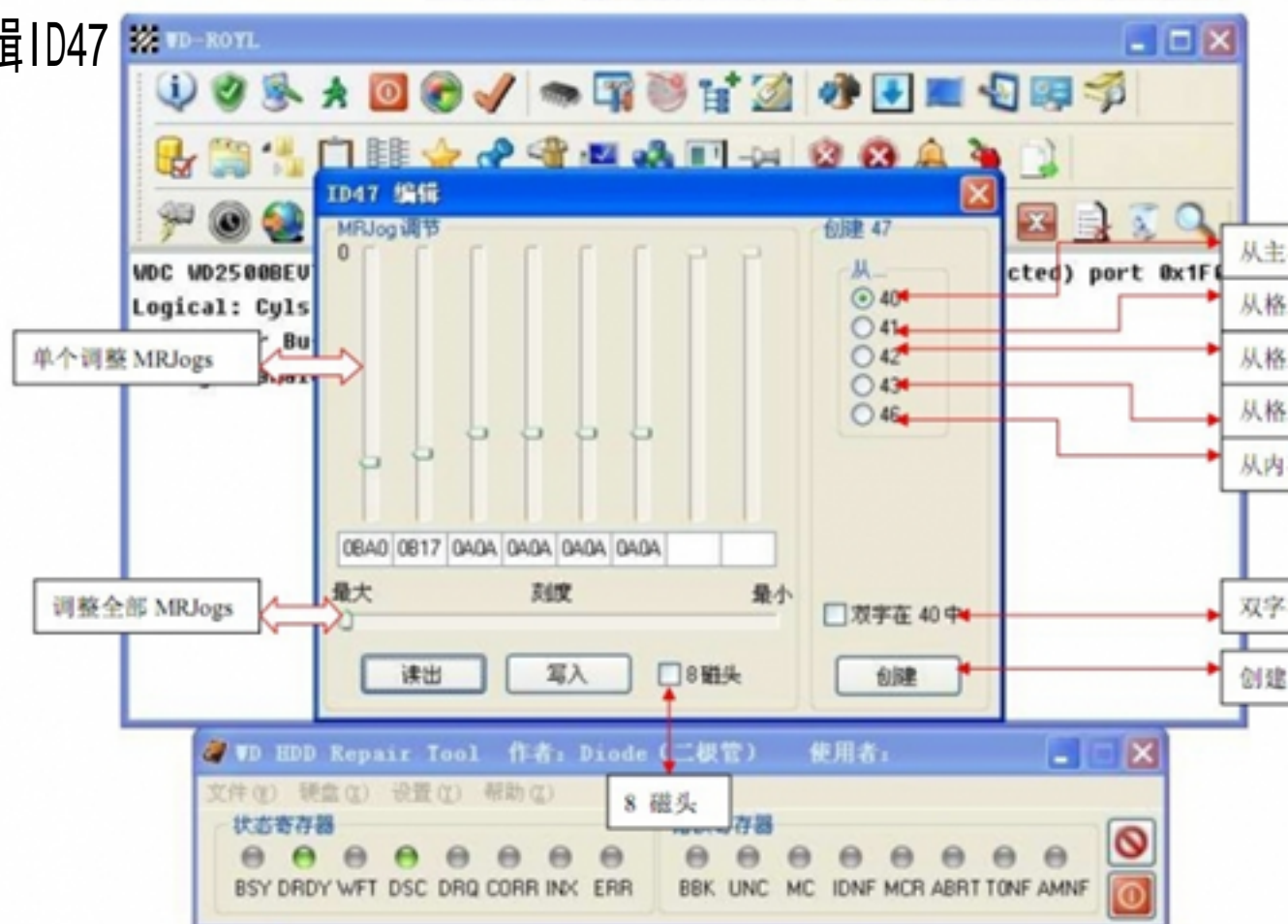
change max LBA 改最大LBA值

clear ATA password 清硬盘密码

Edit config sector 编辑配置部门

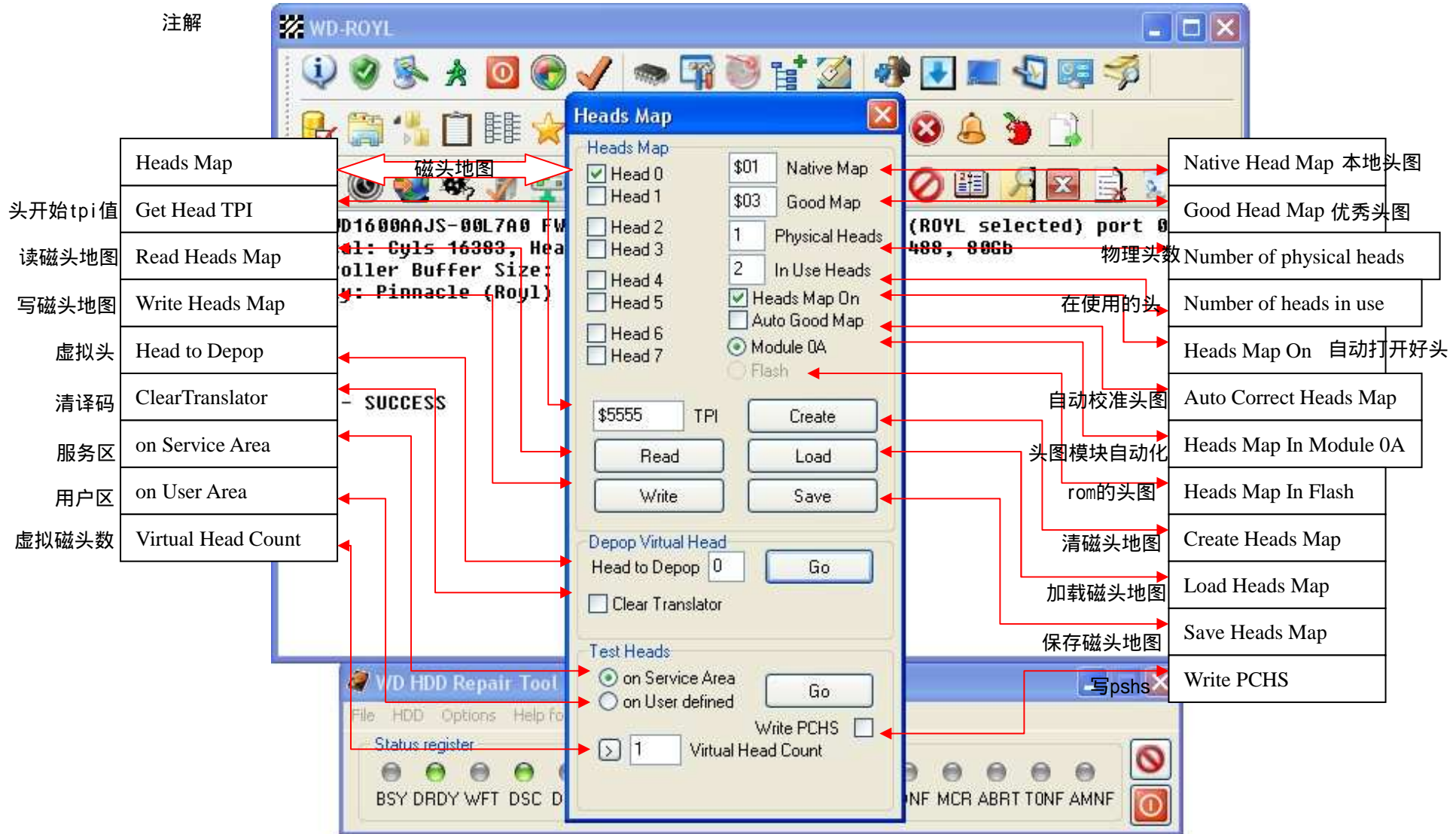


# 编辑ID47



## 磁头地图

注解





WDC WD1600AAJS-00L7A0 FW:05.04A05 SN:WD-WMAT21686048 (ROYL selected) po  
Logical: Cyls 16383, Heads 16, Sectors 63, LBA 156301488, 80Gb  
Controller Buffer Size: 8192Kb  
Family: Pinnacle (Royl)

Get Head Map

获得磁头图

0001 - SUCCESS

Change Heads Map in RAM

Heads number

磁头数

Heads 1

Manual Address

手动地址

Heads Map 0

Manual

Soft Reset

Soft Reset

Recalibrate

SSoft Reset

设置

Set

软复位

重新刻度再校准

超级软复位

WD HDD Repair Tool

Recalibrate

Super Soft Reset

File HDD Options Help for Diode

Status register

BSY DRDY WFT DSC DRQ CORR INX ERR

Repair

BBK UNC MC IDNF MCR ABRT TONF AMNF

轨道操作

注解

- 开始柱面地址
- Start Cyl Adress
- End Cyl Adress
- SPT spt 地址
- Get Value From Zones Table
- Select Heads 选择头
- Read and Save SA Tracks
- Scan SA Tracks
- Use Read Long if Error
- Read Long Alt
- Read for Scan Surface
- Write zeros if error

WDG WD1600AAJS-0

Start Cyl: Cyls 16

Roller Buffer

y: Pinnacle

Start Cyl: \$1

End Cyl: \$AA

SPT: \$51F

From Zones Table

Heads:

- Head 0
- Head 1
- Head 2
- Head 3
- Head 4
- Head 5
- Head 6
- Head 7

Area: Firmware 用户区

Operation:

- Read
- Write
- Scan
- Dump

Setting:

- ☐ Read Long
- ☐ Read Long Alt
- ☐ Scan Read
- ☐ Scan Write
- ☐ Select Files to Write
- ☐ Write Both Copy
- ☐ Erase
- ☐ ListAdd

Repair:

- BSY
- DRDY
- WFT
- DSC
- DRQ
- CORR
- INX
- ERR
- BBK
- UNC
- MC
- IDNF
- MCR
- ABRT
- TONF
- AMNF

从区段表

写SA轨道

查看SA轨道

擦除SA轨道

列表添加

选择文件写入

写两个拷贝

轨道读取和保存

轨道扫描

使用读错误

读长Alt

读扫描表面

使用写错误



) port  
Sector  
b

Super Format 超级格式 ▶

Clear S.M.A.R.T.

Change Model Name

Load Overlay

Set Capacity

Set Uba

Wedge Zone Table

Load Transient Overlay

File Manager Defragment

Validate File System

Set DCM

Get Current

Reinit Permanent Overlay

Test 6B

Clear Soft Error

Custom Config

PSCal Test Click

Mini Test

Factory Dcm

Format SA Click

Zone Table Click

Ram Operations

Drive Parameters

Change Heads Map RAM

Edit flist

ID47 Creator

Create File

CP Operation

Show ID47

Region map edit

Field operation

LBA Export

Change FW Version

Quick with P-List 快速操作P表

Quick Without Lists 快速操作缺陷表

With P-List 操作P表

With G-List 操作G表

With P-List and G-List 操作G与P表

Without lists 操作缺陷表

Clear G-List 清G表

Merge G to P G表转入P表

ReMerge G to P 合并G到P

Clear Translator 清译码表

Rebuild PList 重建P表

Quick Erase 快速擦除

动作

st

k Dir



07 Do Cal Ident Mags  
08 Write File49  
0F Do Cal 4A  
10 Get File4A  
12 Do Cal Lin  
13 Write File4A  
02 Do Cal 49  
03 Get File49  
05 Do Cal Bias  
06 Do Cal Norm  
07 Do Cal Ident Mags  
08 Write File49  
18 Done OK  
00  
00  
00  
00  
00  
00  
00  
00

自校准操作

Reset

Self Scan自校准

Test

Service

Actions

Info

Defects List

Select Work Dir

Log

SS Start 启动自校准

Script Edit 编辑自校脚本跑SF

SS Stop 停止自校准

Mi Calibrator 操作ARCO校准器

SS Clear Logs 修复LOG日志

SS Repair Logs 查看自校准记录

View IBI Common Log 查看IBI日志

View SS Defecs Chart 查看自校准缺陷图

2012-10-21 1:50:17 PS Cal Test End - SUCCESS by  
2012-10-21 2:05:25 Power On Reset Immediate - SUCCESS by  
2012-10-21 2:05:26 B1 - Simple test - SUCCESS by  
2012-10-21 2:05:26 DC - Test Xmit Blink - Start  
2012-10-21 2:05:50 Power On Reset Immediate - 3016=UNKNOWN ERROR 3  
2012-10-21 2:06:08 All Steps: 22, Current: 1  
2012-10-21 2:06:18 Set SelfScan Step to 3 - OK  
2012-10-21 2:06:20 Set SelfScan Step to 3 - OK  
2012-10-21 2:06:24 Test OK - Start

# 操作ARCO校准器 mi calibrator



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<http://www.chinahdd.cn> China website: <http://forum.chinahdd.cn> Email: [str3000@yahoo.com.cn](mailto:str3000@yahoo.com.cn)  
 MSN: [str3000@live.cn](mailto:str3000@live.cn) Yahoo: [str3000@yahoo.com.cn](mailto:str3000@yahoo.com.cn) Tel: +86-027-87052378 +86-13871397622  
 Author: Diode MSN: [diode0922@live.cn](mailto:diode0922@live.cn) Email: [diode0922@live.cn](mailto:diode0922@live.cn) QQ: 450194478

**显示任务** Show Task

**16进制显示** Show Hex

**Heads DCM** 5 TPI = 0

**Media DCM** 6 TPI = 0

**手动加载代码** Manual Load Code 7 TPI = 0

**手动加载dcm地址** Manual Load DCM 0 Capacity = 11

**备用dcm地址** Alternate DCM Adress 1 Capacity = 0

**从文件选择** Select From File 2 Capacity = 0

**初始化校准代码** Init Calibrator Code 3 Capacity = 0

**加载临时Over lay** Load Transient Overlay 4 Capacity = 0

**加载永久Over lay** Load Permanent Overlay 5 Capacity = 0

**加载arco主要** Load ARCO Main 6 Capacity = 0

**显示进度** Show Progress 7 Capacity = 0

**Calibrator**

DCM: SIBILAPVMKH7CDRRVZKYUM

Task: D - Service Area "Factory Use"

Hex: 19 From Main CFG

Heads: 7

Media: K

Calibrator Code: C4

Service Area

Read All

Write All

GO 进行

**Test on Track**

- GOOD

Manual Load Code

Manual Load DCM

Alt DCM Adress

From File

Init Calibrator Code

Load Transient Overlay

Load Permanent Overlay

Load ARCO Main

Show Progress

**WD HDD Repair Tool** Author: Diode Only for

File HDD Options Help for Diode

Status register

BSY DRDY WFT DSC DRQ CORR INX ERR

Repair

BBK UNC MC IDNF MCR ABRT TONF AMNF

Get DCM 获得DCM值

选择arco选项

选择来自xx项的DCM

选择校准代码

读所有模块并保存

写所有模块

Select ARCO Option

Select DCM From

Select ARCO Main

Read All Modules And Save

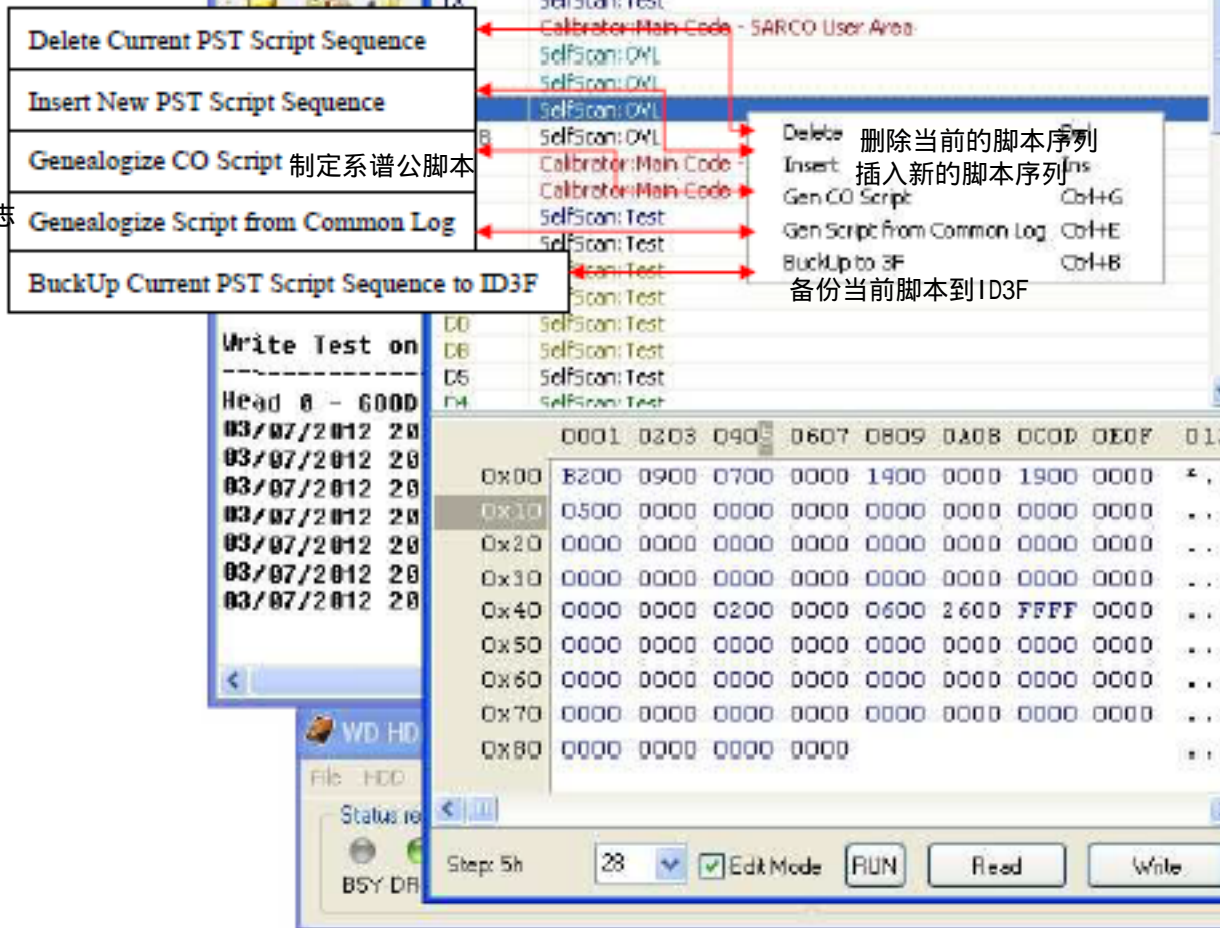
Write All Modules



## 自校准扫描脚本

## 注解

### 制定系谱共同日志



 Self Scan Script

ID	Description
DC	SelfScan:Test
C4	Calibrator:Main Code - SARCO User Area
B1	SelfScan:OML
B2	SelfScan:OML
B2	SelfScan:OML
1008	SelfScan:OML
C1	Calibrator:Main Code -
C4	Calibrator:Main Code - OTC
DC	SelfScan:Test
F7	SelfScan:Test
D8	SelfScan:Test
D1	SelfScan:Test
D0	SelfScan:Test
D8	SelfScan:Test
D5	SelfScan:Test
D4	SelfScan:Test
D4	SelfScan:Test
D4	SelfScan:Test
D3	SelfScan:Test
2	SelfScan:Test
1003	SelfScan:OML
7	SelfScan:Test
DC	SelfScan:Test
B8	SelfScan:OML
C4	Calibrator:Main Code - PBERT
C4	Calibrator:Main Code - t
B9	SelfScan:OML
C4	Calibrator:Main Code - VGA
DC	SelfScan:Test

Self Scan Script (Duble Click Set Start Scan from Current Step)

编辑脚本序列模式

开始扫描新的一步

获得标准脚本序列

设置开始扫描

## 总序列

Alt 39. Qui: 7

## 新的—步

## 编辑脚本序列模式

## 开始扫描新的一步

### 获得标准脚本序列

## 设置开始扫描新的一步

Edit PST Script Sequence Mode

Start Scan from Current Step

### Get PST Script Sequence

**Set Start Scan from Current Step**

07 Do Cal Ident Mags

编辑自校准模块启动

08 Write File49

0F Do Cal 4A

10 Get File4A

12 Do Cal Lin

13 Write File4A 选择起跑流程位置

02 Do Cal 49

03 Get File49

05 Do Cal Bias

06 Do Cal Norm

07 Do Cal Ident Ma

08 Write File49

18 Done OK

00

00

00

00

00

00

00

2012-10-21 1:50:17

2012-10-21 2:05:25

2012-10-21 2:05:26

2012-10-21 2:05:26

2012-10-21 2:05:50

2012-10-21 2:06:08

2012-10-21 2:06:18

2012-10-21 2:06:20

2012-10-21 2:06:24 Test OK Start

## Self Scan Script

ID	Description
DC	Test Xmit Blink
B2	
EEEE	heads read and write parameters /
DC	Test Xmit Blink
D8	
DA	SelfScan: Test
DD	Test Gain Cal
DB	
D5	test cluster
D4	test track defects
D3	the number of processing sector
D2	plus the P-LIST
EEEE	
D6	SelfScan: Test
D7	Test PF Scan

编辑sf模块流程 0001 0203 0405 0607

0x00	C400	0100	4A00	0000
0x10	4500	0000	0000	0000
0x20	0000	0000	0000	0000
0x30	0000	0000	0000	0000
0x40	0000	0000	0200	0000
0x50	0000	0000	0000	0000
0x60	411D	0000	5343	3100
0x70	4200	0000	0000	0000
0x80	0000	0000	0000	0000

## Progress 0:24:04

Progress 0.0%

LBA 0 (0)

Virtual Cyl 10D7F (6899)

Virtual Head 3

Zone B

Servo 8C:0

Drive State C409, 0000, 0

Drive State UNKNOWN E

Current State 06 00 (ACTIVE)

PTM ID:C4 TST:1

PTM heads read and

Drive Temp 128

Junction Temp 128



打勾

起跑

读

写

All: 22, Cur: 65536

☒ Edit Mode

RUN

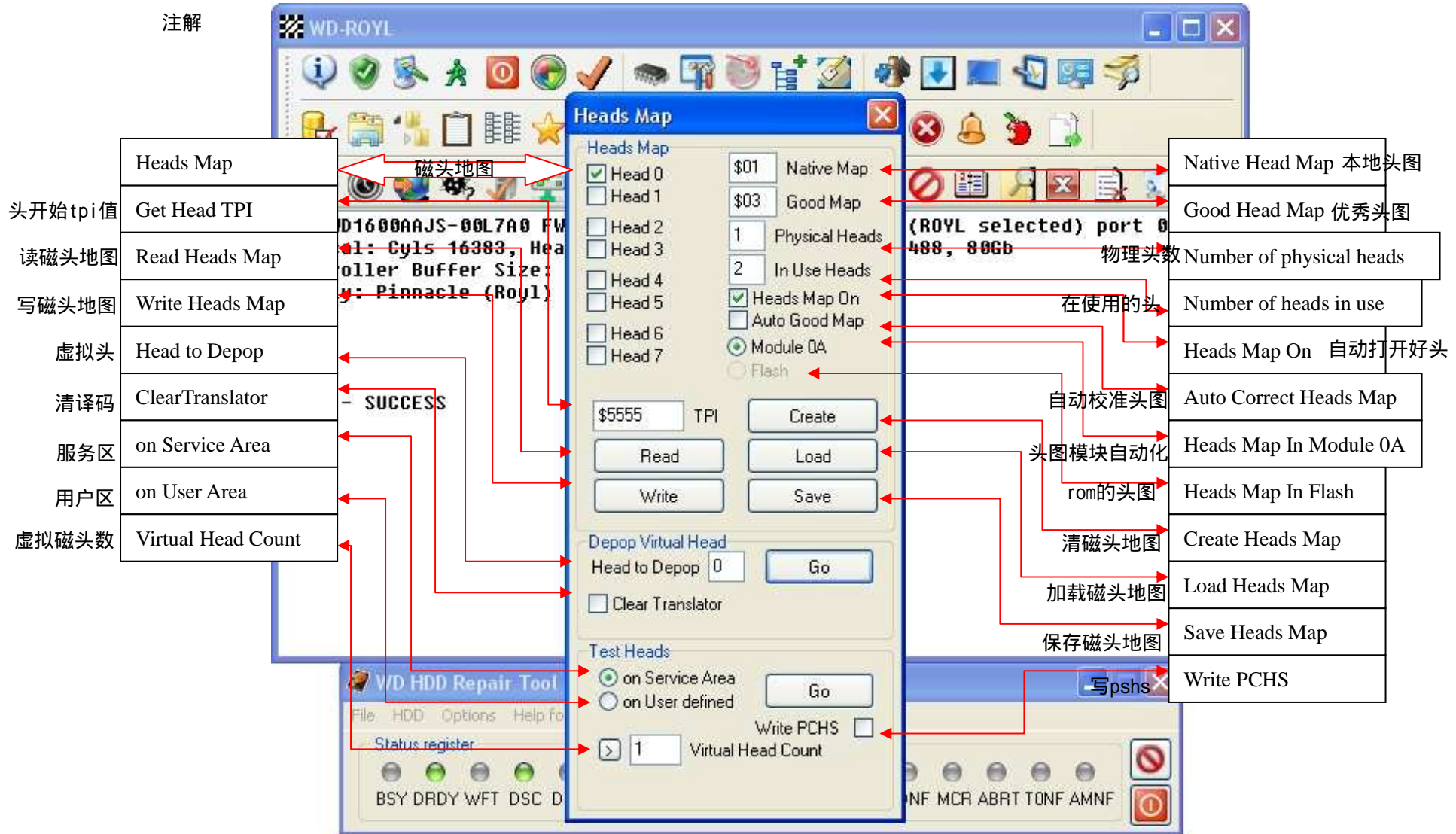
Read

Write



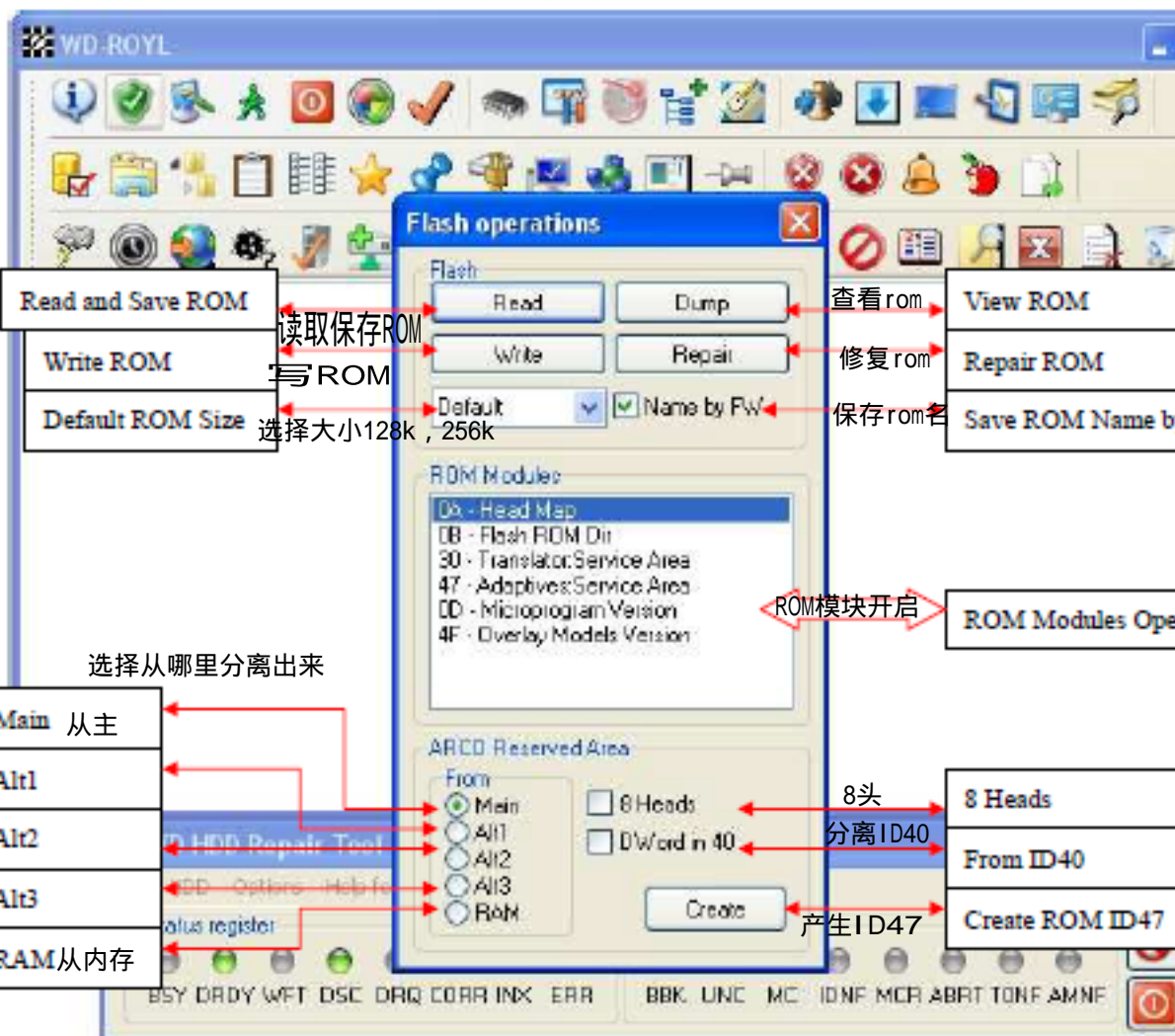
## 磁头地图

注解



# ROM操作

注解

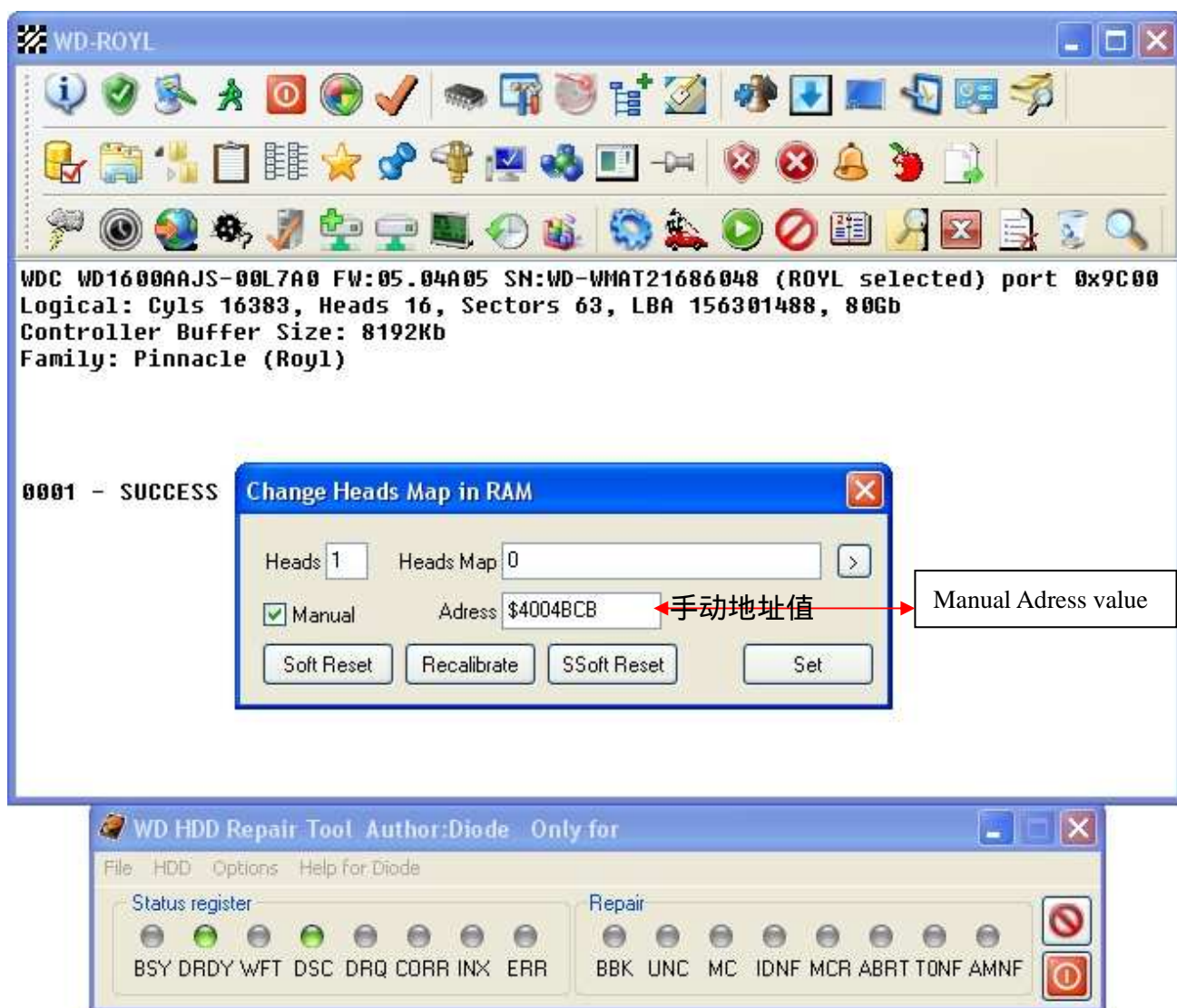


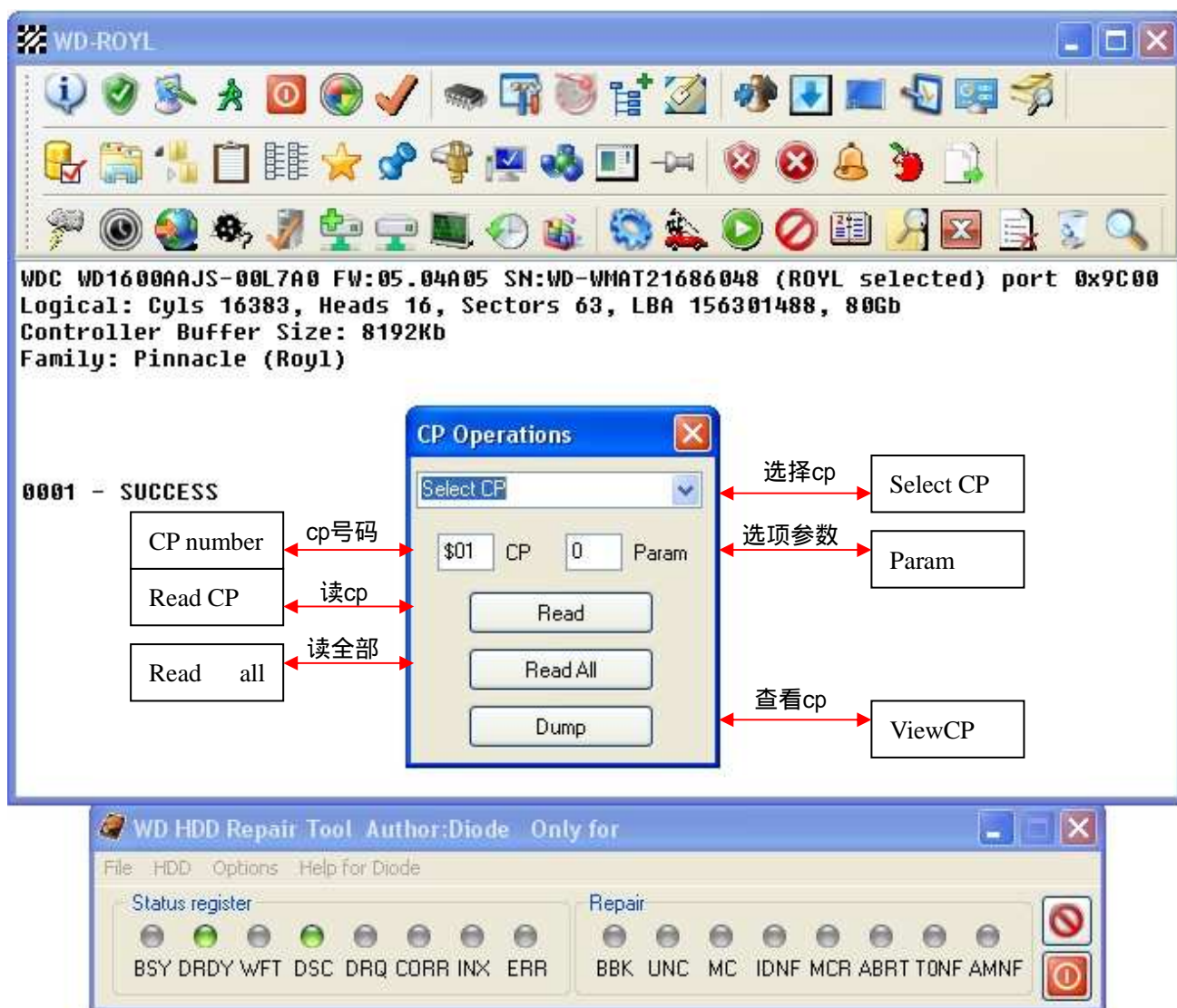


### 注解





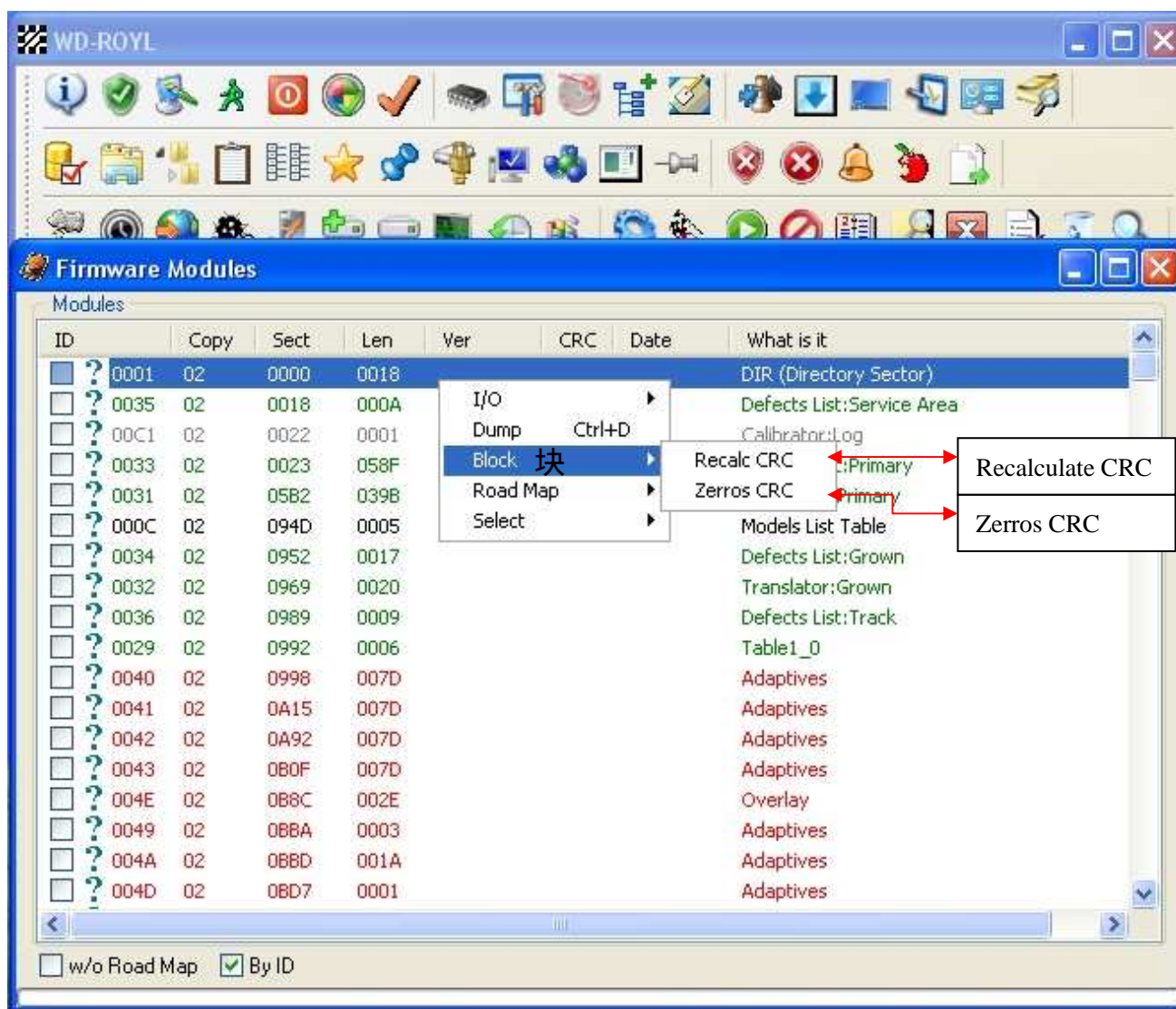




## Modules

## Options Menu





重算校验

矩阵校验



**WD-ROYL**

**Firmware Modules**

Modules

ID	Copy	Sect	Len	Ver	CRC	Date	What is it
0001	02	0000	0018				DIR (Directory Sector)
0035	02	0018	000A				Defects List:Service Area
00C1	02	0022	0001				Calibrator:Log
0033	02	0023	058F				Defects List:Drive...
0031	02	0582	039B				Read from HDD Ctrl+M
000C	02	094D	0005				Load from File Ctrl+L
0034	02	0952	0017				Via Enumeration Ctrl+E
0032	02	0969	0020				Clear Ctrl+C
0036	02	0989	0009				Defects List:Track
0029	02	0992	0006				Table1_0
0040	02	0998	007D				Adaptives
0041	02	0A15	007D				Adaptives
0042	02	0A92	007D				Adaptives
0043	02	0B0F	007D				Adaptives
004E	02	0B8C	002E				Overlay
0049	02	0BBA	0003				Adaptives
004A	02	0BBD	001A				Adaptives
004D	02	0BD7	0001				Adaptives

☐ w/o Road Map ☒ By ID

**Context Menu:**

- I/O
- Dump Ctrl+D
- Block 块
- Road Map 路径图
- Select 选择

**Annotations:**

- 读硬盘目录表 → Read Dir from HDD
- 加载形成文件目录 → Load Dir from File
- 通过详表 → Via Enumeration
- 清除路径 → Clear Road Map

