



ALCOR MICRO CORP.

v 4.18

DieSortingTool User Manual

Prepared by: Alcor – SZ

Date: 2019.01.16_v4.18



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1. Environment

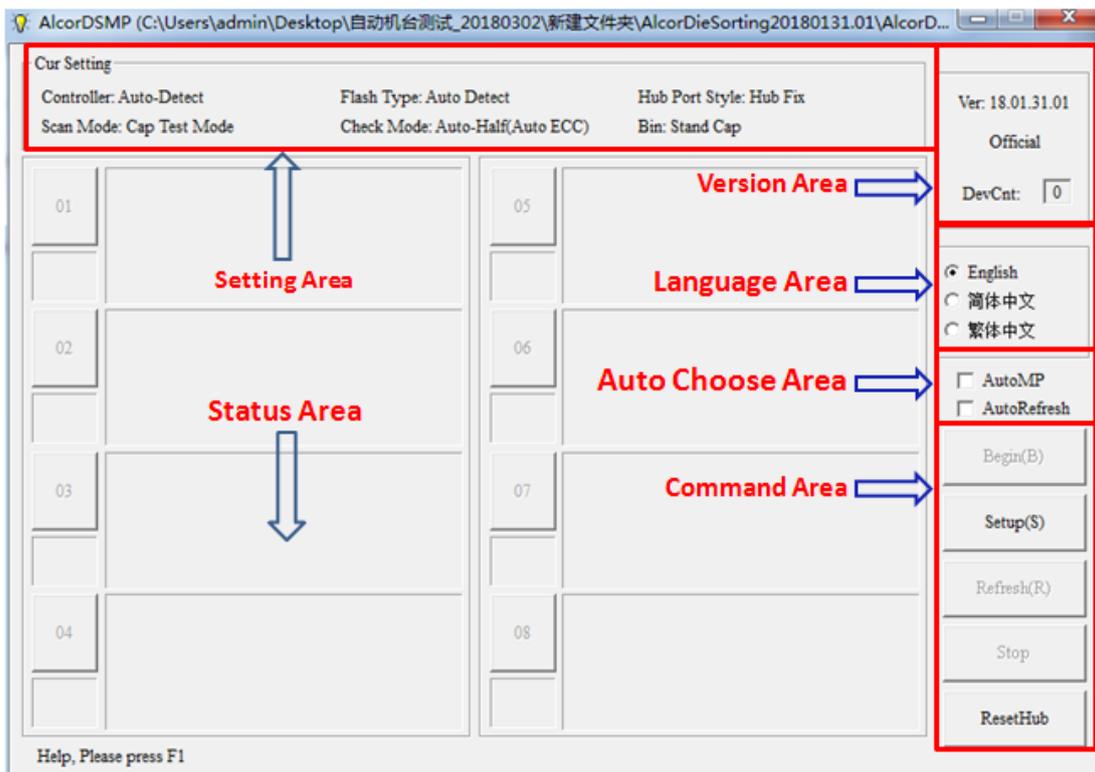
The tool runs on Windows XP, Windows 7 and so on, and it needn't install.

2. Features

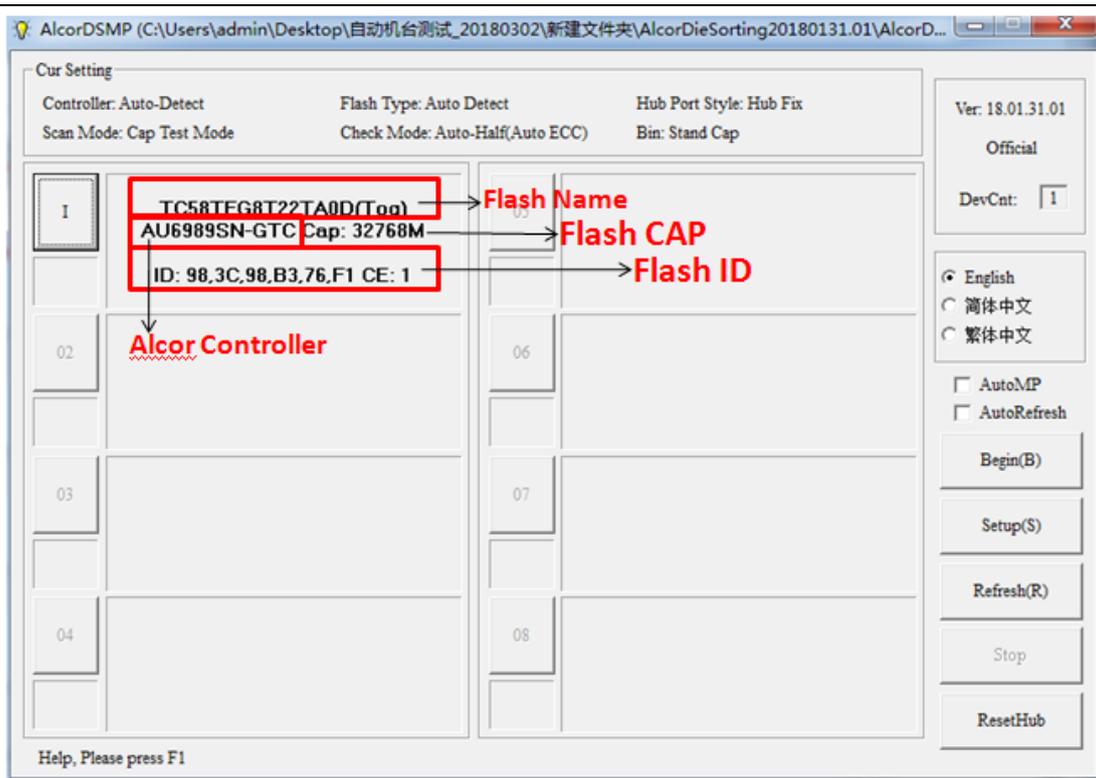
- 1) Judge Flash whether has capacity or not quickly.
- 2) Check the Flash's capacity quickly, but it only used for analyzing the status of Flash, not used for open card.

3. Quick Start

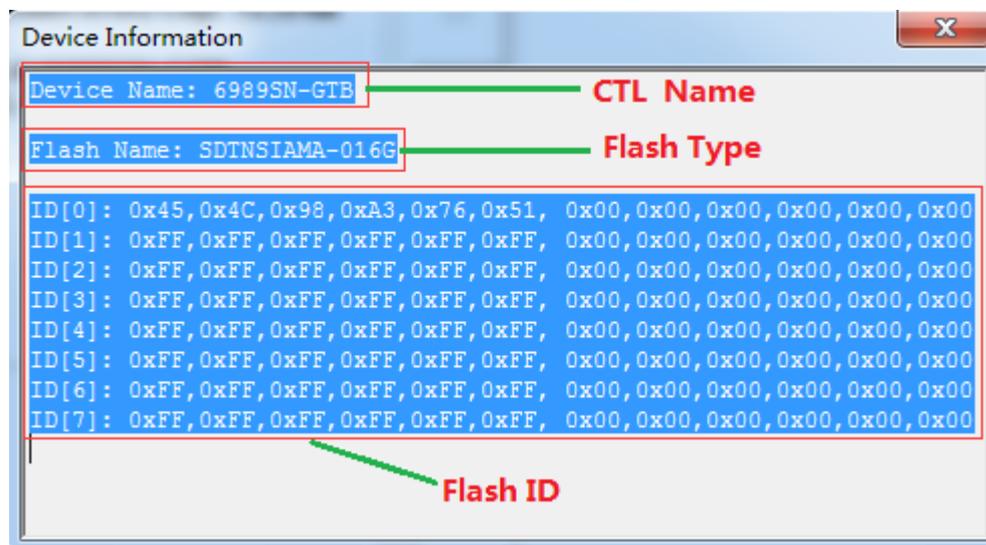
First, carry out the file AlcorDSMP.exe to startup the DieSorting program, default language is system language; also you can select other language manually.



- **Second**, plug in PenDrive (at most support eight), the DieSorting tool will identify the Flash Name/capacity/ID/CE number automatically, and show device count:

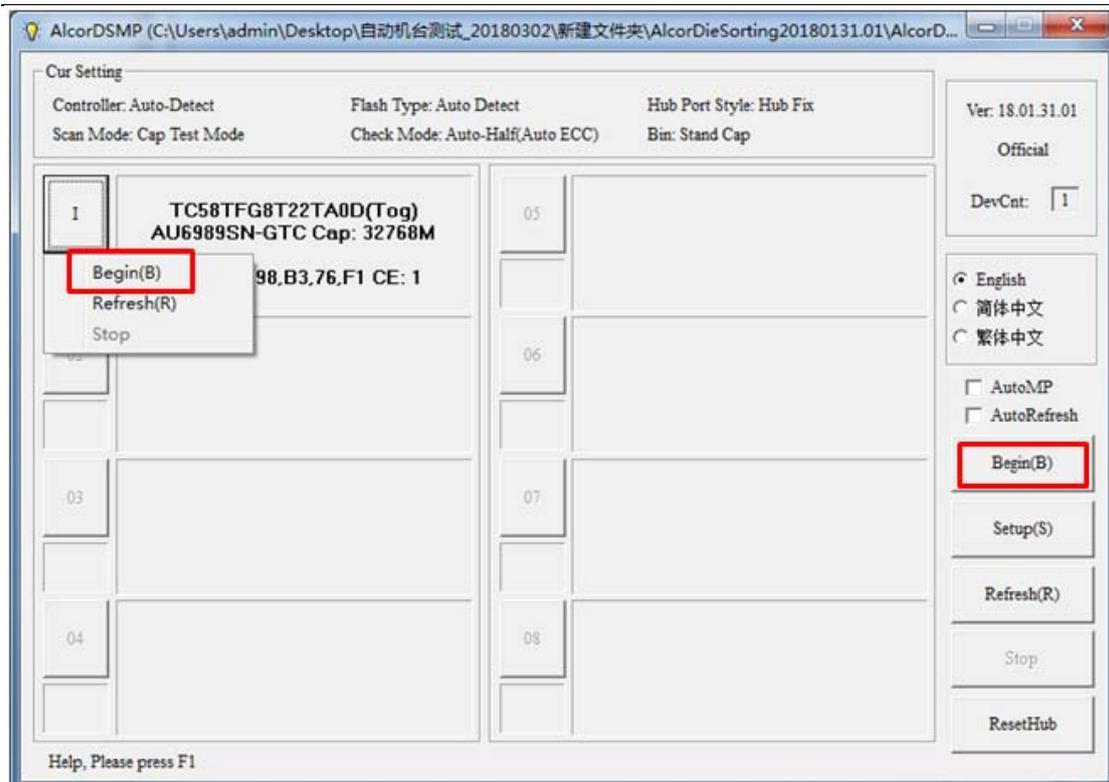


Thirdly, double click on the Flash Name Area, it will show device information such as Device Name, Flash Name and Flash ID:

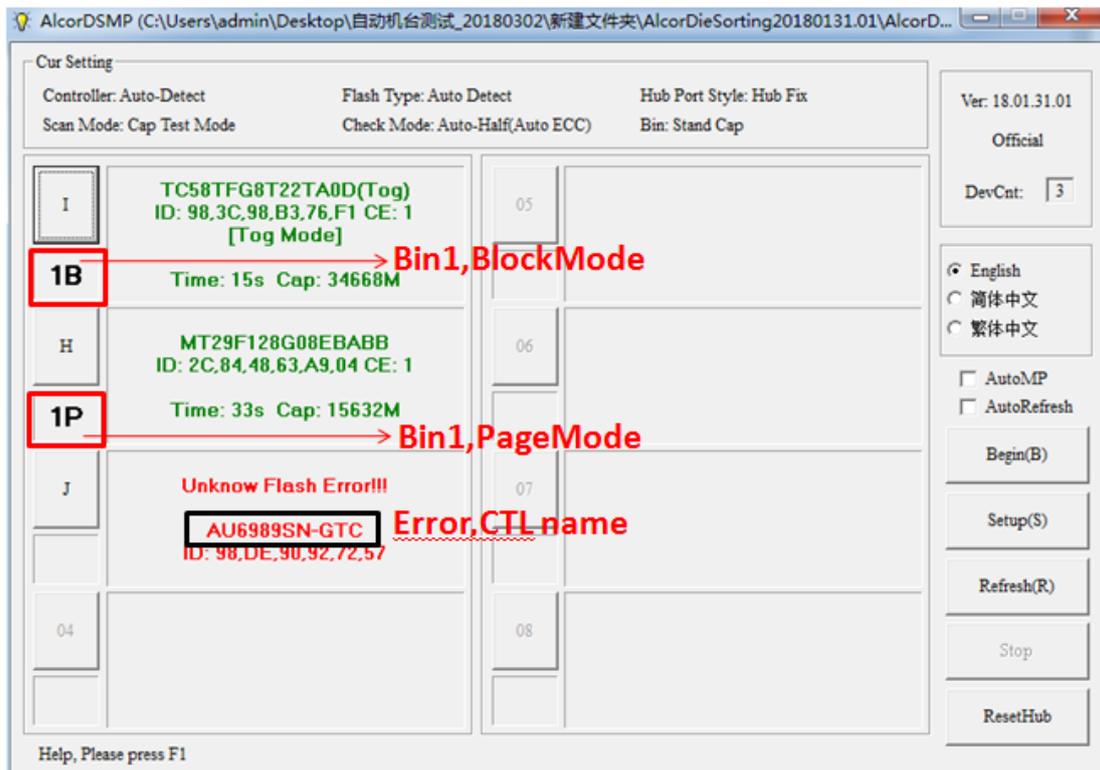


Fourth, click **“Start”** to start analyzing all PenDrive, if you want to stop it please click **“Stop”**.

Hint - You can operate any single PenDrive. Just click on the drive letter on the UI. You can choose “Start” to run the chosen PenDrive, or choose “Stop” to end the chosen PenDrive.

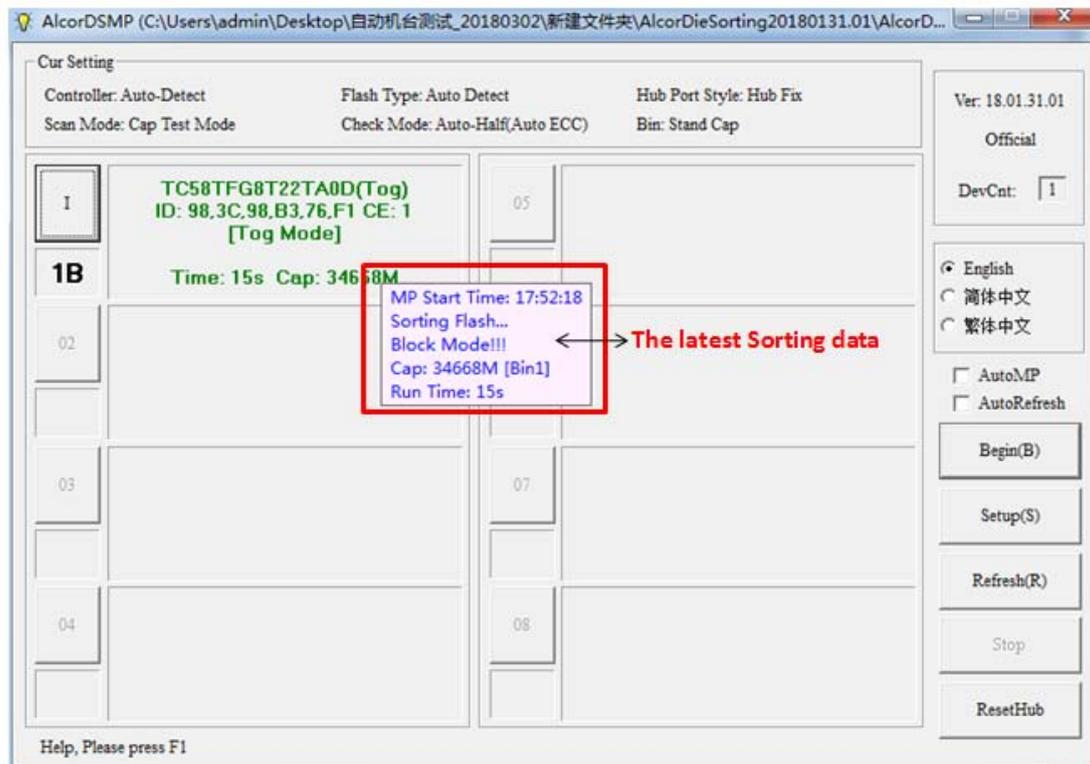


Fifth, after sorting, show the detail information as follows: Flash model, ID, CE, completion time, capacity, the Bin level capacity, and the Flash Complete model.





Sixth, after sorting, if move mouse to the Flash Status Area, it will turn up a tip, that showing the result of last time sorting of this port.



If the Controller doesn't support this type of Flash, it will prompt "**Ctrl No Support Error!!!**"

4. Setting

4.1 Password

Password setting can prevent unauthorized person from changing data.

Running the DieSorting program, click "**Setup**" and pop-up a password window, input the password (the default password is NULL) and click "**OK**", then you can change the setting.



The screenshot shows a dialog box titled "PassWord" with a close button (X) in the top right corner. It contains a checkbox labeled "Change Password" which is currently unchecked. Below this are three text input fields: "Password", "New Pwd", and "Check Pwd", all of which are empty. At the bottom, there is another checkbox labeled "Remember Password" which is also unchecked. Two buttons, "OK" and "Cancel", are located at the bottom of the dialog. The "OK" button is highlighted with a red rectangular box.

If you want to change password, select “**Change Password**”, input new password and confirm it, then click “**OK**”.



The screenshot shows the same "PassWord" dialog box. The "Change Password" checkbox is now checked and is highlighted with a red rectangular box. The "Password" field is empty and also highlighted with a red box. The "New Pwd" and "Check Pwd" fields are filled with asterisks (*****), and both are highlighted with red boxes. The "Remember Password" checkbox remains unchecked. The "OK" and "Cancel" buttons are visible at the bottom.

Tip: If you forget the password, you can find it in the **AlcorMP.ini**, the value of PWD is the password



4.2 Mode

Setup

Mode | Bin Setting | Other

Device Type

Controller: Auto-Detect | Driving: default

Flash Type: Toshiba TC58NVG4T2ETA00 | UnAuto Detect

Flash Num: 1 | Channel: Single Ch | RW Cycle Time: default

Test Mode

Traffic-Light Mode

Cap Test Mode | Method: Auto-Half | ECC: Auto ECC

Open/short Mode

Advanced

Default Set

Import | Export | OK | Cancel

Controller: If want to simulate how the other controller operates this Flash, can select the controller needed.

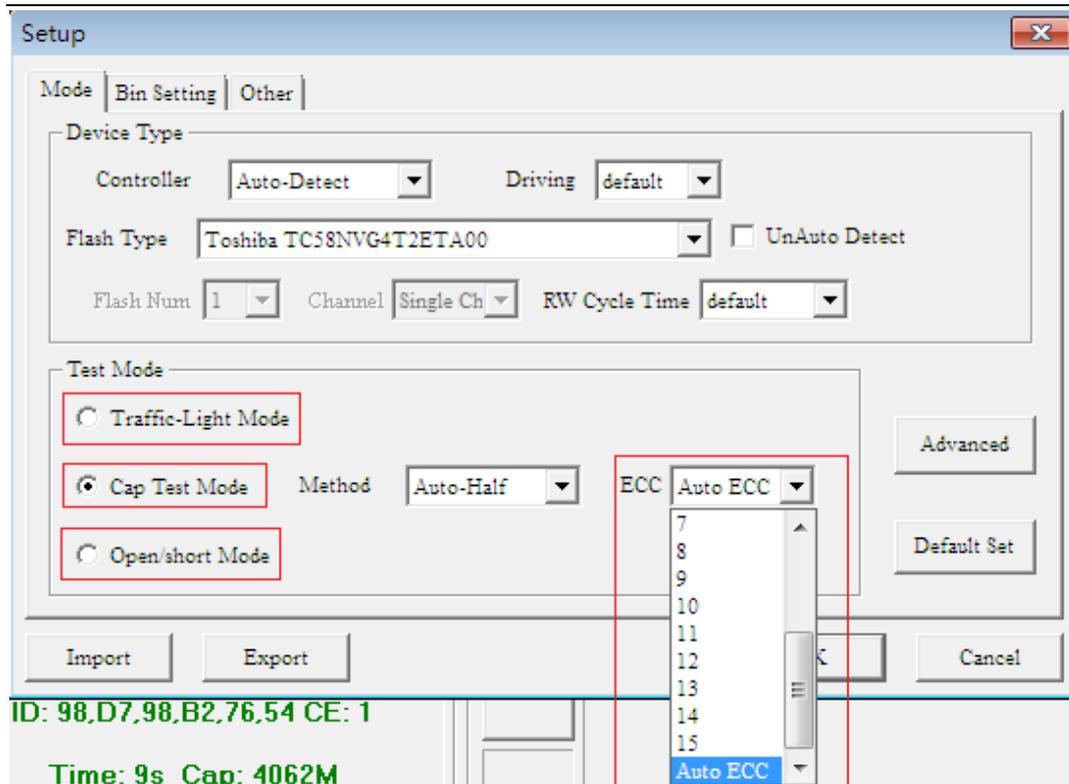
Flash Type: Show the flash type of the PenDrive which plug-in, it also can be set manually with “**UnAuto Detect**” option.

UnAuto Detect: Disable auto check the flash type and other configure information function. With this option, you could select one flash item in “**Flash Type**” list box. The MP will run it as if the flash is the chosen flash type.

CE Count: Show the CE count of the current flash detected, it also can be set manually

Channel: Detect the Mass Production mode of current Flash is single or dual, and it also can be set manually.

RW Cycle Time: Select the timing used to operate with the flash in the PenDrive. Default value is timing with best performance. It also can be set manually.

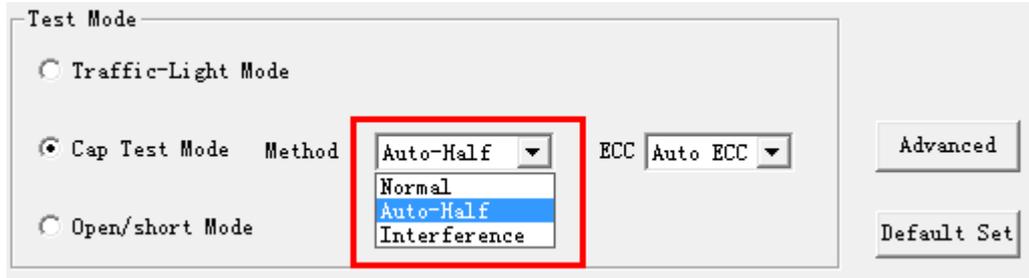


Traffic-Light Mode: Just judge whether the Flash has capacity or not, if has, it will show **PASS** and complete time, else show ErrorCode. Because Traffic-Light Mode doesn't calculate capacity, it needs much less time. (The yield rate of this mode is consistent with Fast Test mode, but need less time without capacity.) It is used for customers who just want to know the Flash whether has capacity or not with much less time.

K	<p>TC58NVG5T2ETA00 ID: 98,D7,98,B2,76,54 CE: 1</p> <p>Time: 5s Cap: 4062M</p>	K	<p>TC58NVG5T2ETA00 ID: 98,D7,98,B2,76,54 CE: 1</p> <p>Time: 1s PASS</p>
R	<p>K9ABGD8U0E(Tog) ID: EC,D7,88,BF,90,C6 CE: 1 DDR Mode Abnormal!!!! AU6989SN-GTB Time: 1s</p>	R	<p>K9ABGD8U0E(Tog) ID: EC,D7,88,BF,90,C6 CE: 1 DDR Mode Abnormal!!!! AU6989SN-GTB Time: 1s</p>

Fast Test:

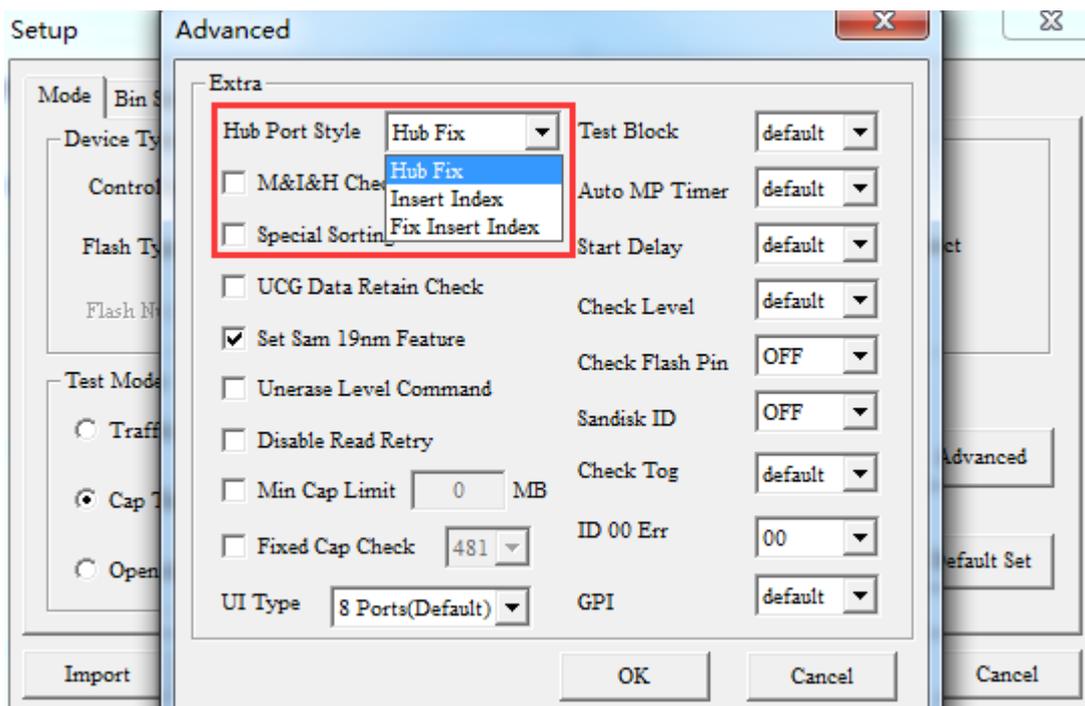
1) There are three methods



- a) **Normal:** A general method to verify the blocks, including write / read / compare. (It is usually used for Bin1A Flash)
 - b) **Auto-Half:** Check and judge whether it need to produce with half capacity scheme or not, suggest to selecting this check method when the flash is known to have half bad pages. It will spend more time (Default setting at the moment, will show capacity and Block/Page Mode).
 - c) **Interference:** Additionally check whether there are all kinds of disturbance or not within Flash. It needs much more time, just apply to special Flash.
- Open/Short Mode:** Check part of Flash Bonding, it is used for checking Flash that has been DieSorting Passed , when sealing Flash, and just need about one second time.

2) **ECC:** Select **Auto ECC (Recommended Default)**, that mean the tool will calculate the best ECC, and it also can be set manually.

3) **Advanced:**

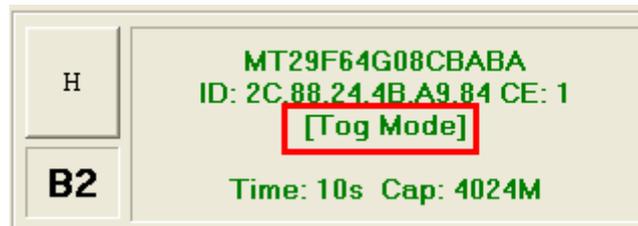




3.1) Hub Port Style

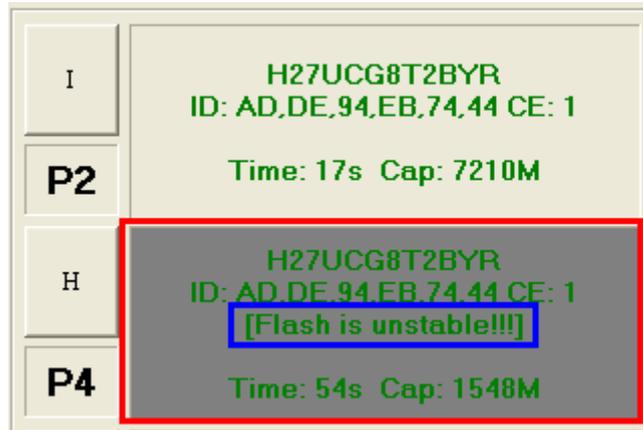
- ① “default” option: Specifying the port order according to the Hub of Alcor only. And the port order has been marked on the test rack.
- ② “Fix Insert Index” option: Displaying the device in the order of insertion, and the order will be fixed after the port being recognized at the first time. The port order will be changed and specified afresh if the DieSorting tool is restarted.
- ③ “Unfix Insert Index” option: Each inserted device will be displayed in the top space.
- ④ “From Profile” option: Importing the port order from the HubProfile.cfg file in the root directory. If the file does not exist in the root directory (or you need to reset the port order), do the following.
 - ◆ Select the “Fix Insert Index” option, click “OK” and then insert devices in a custom order.
 - ◆ Select the “From Profile” option, click “OK” and then the HubProfile.cfg file will be generated in the root directory.

3.2) M&I&H Check DDR: Check ToggleMode, tool will check the current Flash whether support Toggle or not, if yes, it will prompt **[Tog Mode]** after sorting. Just for the Micron, Intel and Hynix Flash.

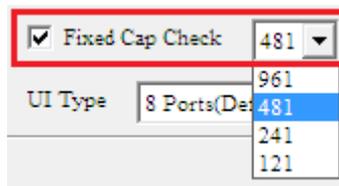


3.3) Special Sorting Class Check: For the special Flash, can Improve accuracy, but need much more time. Just suggest for the special Flash.

3.4) UCG Data Retain Check: Select this option, after sorting, the result will be labeled Gray for UCG 20nm/26nm Flash, and prompts **Flash is unstable!!!**

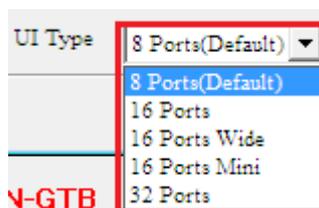


- 3.5) **Set Sam 19nm Feature:** Set the Feature parameter of Samsung 19nm Flash.
- 3.6) **Unerase Level Command:** Check it and set UELC command for Flash, contrary not under.
- 3.7) **Disable Read Retry:** Check it will not do Retry, then do Retry.
- 3.8) **Min Cap Limit:** Set The Flash minimum capacity, Than lower of the Cap Will sending error.
- 3.9) **Fixed Capacity Check:** There are four options as follow,



- 961:** the Flash will check one more time that its capacity between 961MB and 1.5GB
- 481:** the Flash will check one more time that its capacity between 241MB and 1024MB
- 241:** the Flash will check one more time that its capacity between 241MB and 1024MB
- 121:** the Flash will check one more time that its capacity between 121MB and 512MB

3.10) UI Type



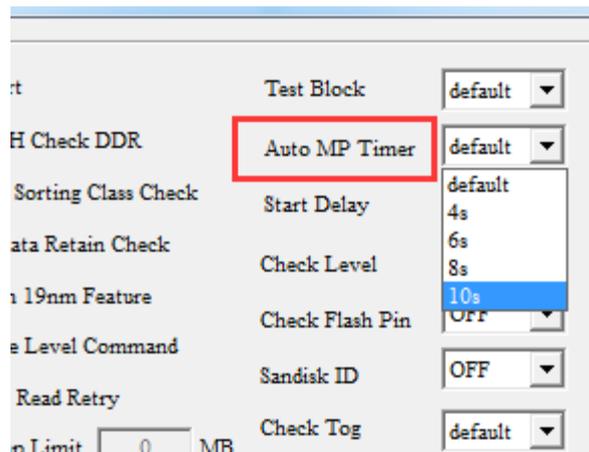
Different chose has others ports,Include 16 ports have the vertical version and



the wide version, wide version of the reduction.

3.11) Test Block: Scan the number of Block per Die, and it also can be set manually.

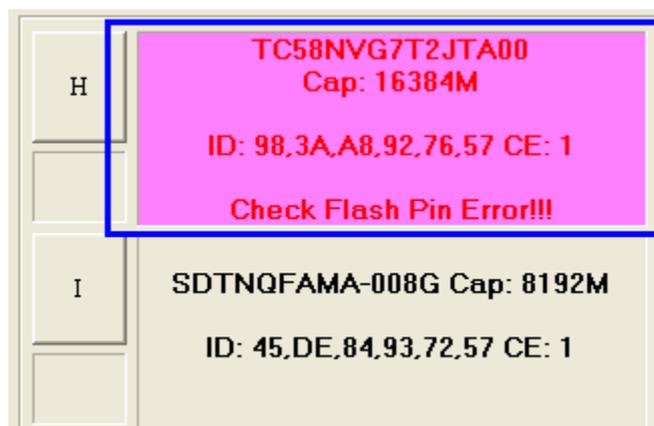
3.12) Auto MP Timer: the Refresh time when select Auto MP. For example, to set the delay time is 10s, then after DieSort complete, the software will automatically 10s after production once again, until the user clicks the stop button.



3.13) Start Delay: Delay some time to start MP.

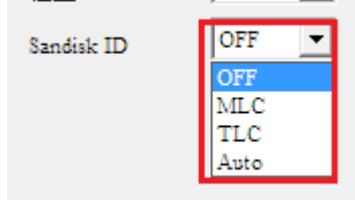
3.14) Check Level: (**Recommended Default**), method 4/8/16/32 just for Alcor RD use it distinguish some differences

3.15) Check Flash Pin: Check Flash Pin whether touch well or not, if not, it will show in pink **【Suggest all kinds of Flash select Normal, except the SanDisk/Toshiba D3/eD3】**



Default Set: Recover the default Setting Mode.

3.16) Sandisk ID:



Face to 1nm and 12nm Flash,

OFF: Turn off this feature.

MLC: Specify MLC to read the die version

TLC: Specify TLC to read the die version

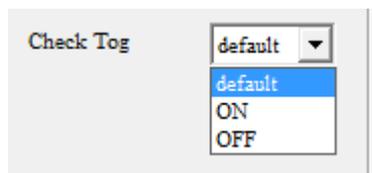
Auto: Automatic identification of MLC or TLC

3.17) Check Toggle:

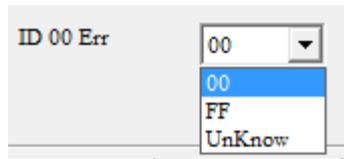
Default: detect the Tog Mode , If support is open the Tog, Whereas closed

ON: detect the Tog Mode, If not support it, and close Tog

OFF: not to detect the Tog Mode, but the Flash must be open it ,so it will be open

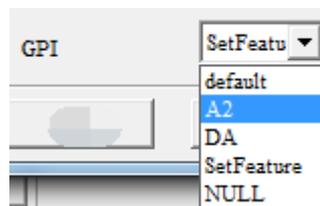


3.18) ID 00 Rrr:



When flash ID number is 00, you can select three patterns. That is, ID00, No Flash Case or Unknow Flash Case;

3.19) GPI



GPI option → default, switch to SLC mode.

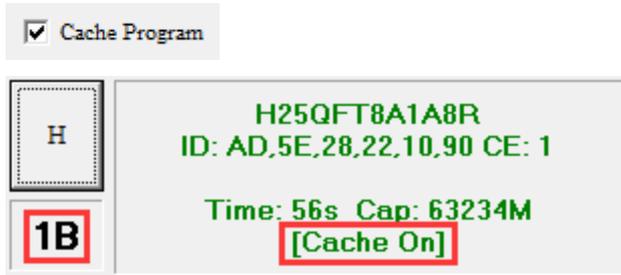
GPI option → A2, A2 CMD switch to SLC mode.

GPI option → DA, DA CMD switch to SLC mode.

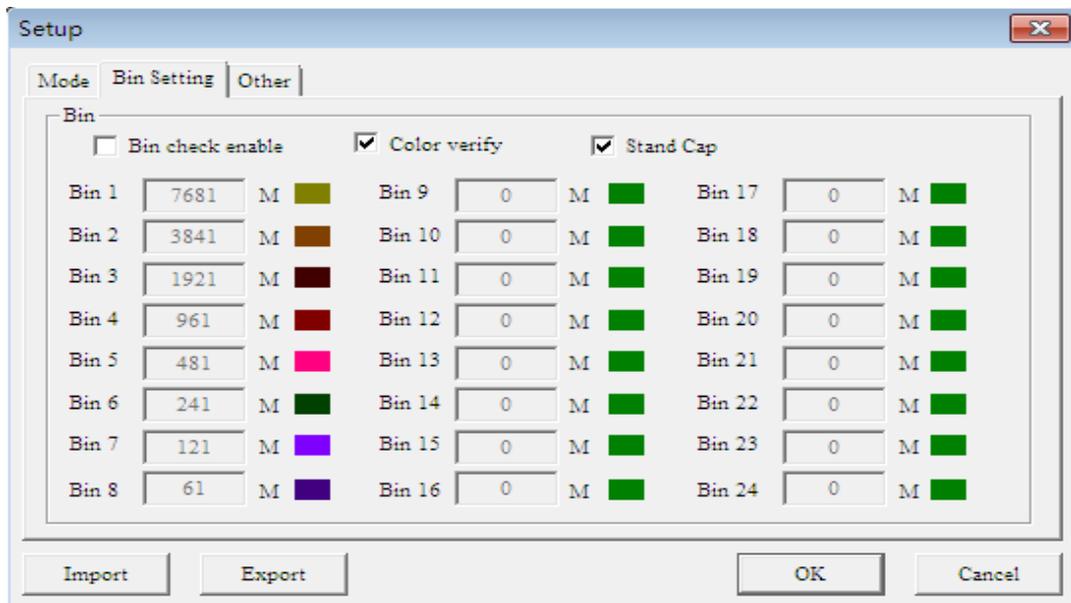
GPI option → SetFeature, SetFeature CMD switch to SLC mode.

3.20) Cache Program

Take 3DV4 as example.



4.3 Bin Setting



Bin check enable : Select it, the result will show Bin Level and complete time instead of capacity.



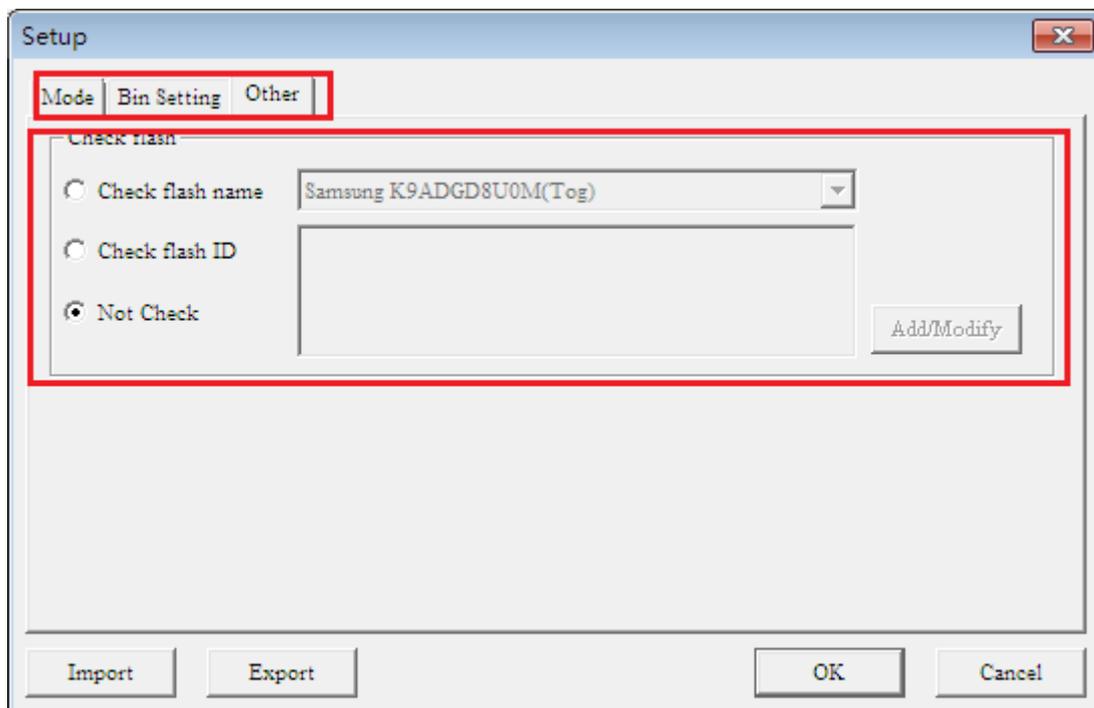
Color Verify : Select this function, the production information will show with the color which you choose.

(Tip: When you select **Color Verify** and **Check flash ID** at the same time, it will ignore **Check flash ID**.)



Stand Cap: With the Flash theory capacity as the standard. For example, the UI is the BinLevel for an 8GB Flash, if the capacity of Flash is 16GB, the BinLevel as follows: Bin1—15361, Bin2—7681MB, Bin3—3841, Bin4—1921, Bin5—961, decline in turn. User can define single standard without selecting it.

4.4 Other

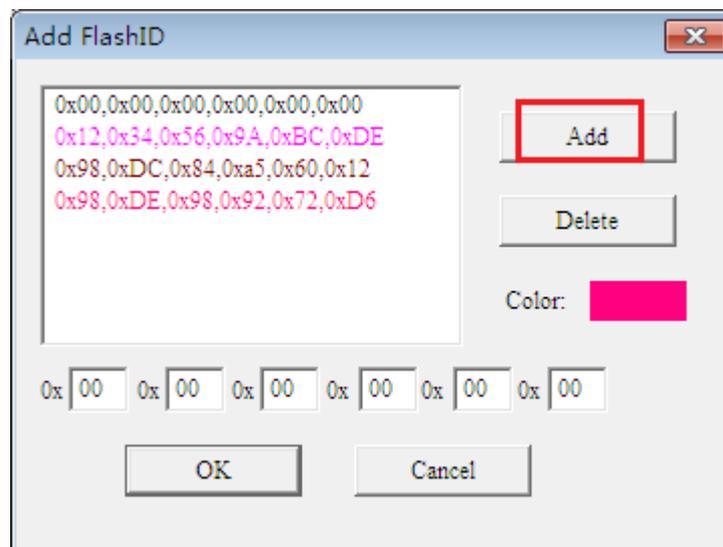


Check flash name: Select the Flash type manually, the default font color is black, if DieSorting program find the Flash is not the right Flash type (Flash ID included), it will show “**Not Appointed Flash Error!!!**”.

H	<p>K9ADGD8U0M(Tog) Cap: 16384M</p> <p>ID: EC,1A,A8,DE,88,C5 CE: 1</p>
L	<p>Not Appointed Flash Error!!!</p> <p>ID: 45,DE,84,93,72,57</p>

Check flash ID: When select this opinion, click **“Add/Modify”**, you can set the font color of the information manually through the ID. For example, if setting the ID (0x98, 0xDE, 0x98, 0x92, 0x72, 0x57) to Blue, when the sorting tool identify Flash ID “0x98, 0xDE, 0x98, 0x92, 0x72, 0x57”, it will show the Flash information in blue font. And if the Flash ID identified is not consistent with ID designated, it will show **“Not Appointed Flash Error!!!”**. When set the Flash ID , it can set six color at most .

J	<p>TC58NVG6T2JTA00 Cap: 8192M</p> <p>ID: 98,DE,98,92,72,57 CE: 1</p>
N	<p>Not Appointed Flash Error!!!</p> <p>ID: 45,DE,94,93,76,57</p>



Add FlashID

0x00,0x00,0x00,0x00,0x00,0x00
0x12,0x34,0x56,0x9A,0xBC,0xDE
0x98,0xDC,0x84,0xa5,0x60,0x12
0x98,0xDE,0x98,0x92,0x72,0xD6

Add

Delete

Color:

0x 00 0x 00 0x 00 0x 00 0x 00 0x 00

OK Cancel



No Check: Do not check flash type. It will identify the Flash's attribute automatically.

4.5 Import and Export Configuration

Import: Import the existing configuration files. Click "**Import**" and load the path of the configuration file.

Export: Export the configuration and save it.

5. ErrorCode

"User Stop!!!"	(Manually stop)
"Too Many Bad Block Error!!!"	(The quality of Flash is too bad or should give it to Alcor RD for analyzing)
"Ready Busy Pin Error!!!"	(Check Flash or banding issue)
"Flash Operate Error!!!"	(Check Flash or banding issue)
"Flash Time Out Error!!!"	(Check Flash or banding issue)
"MP Unknow Error!!!"	(Verify tool version)
"MP No Support Error!!!"	(Verify tool version)
"Get Device Info Error!!!"	(Perhaps banding issue)
"R/W Bus Error!!!"	(Perhaps banding issue)
"No Device Found Error!!!"	(Flash has been moved when operated or bad contact)
"Undefine Device Mode Error!!!"	(Verify the Controller and tool version with Alcor RD)
"Miss Bin File Error!!!"	(Check file integrity)
"Check Otp Error!!!"	(Perhaps banding issue)
"No Flash Error!!!"	(No Flash or check banding issue)
"Get Flash ID Error!!!"	(Perhaps banding issue)
"Unknow Flash Error!!!"	(Unknow Flash or ID Error or check banding issue)
"Not Appointed Flash Error!!!"	(Not accordant Flash type that user appointed)
"Device Unknow Error!!!"	(Verify controller)
"Ctl No Support ECC Mode Error!!!"	(Compare Flash Support List)
"Ctl No Support Error!!!"	(Verify tool version or compare Flash Support List)
"Unknow Error!!!"	(Verify tool version with Alcor RD)



Version No.	Notes	Release Date
Ver: 4.11	Add to "Check Tog" function.	2016.08.31
Ver: 4.12	Add to "Hub Port Style" function.	2017.05.03
Ver: 4.13	Add to " ID 00 Rrr" function.	2017.05.27
Ver: 4.14	Add to " GPI" option function.	2017.08.04
Ver: 4.15	Add to " Cache Program" option function.	2017.11.28
Ver:4.16 [DSv2018.01.31.01]	Add to "Reset Hub"function.	2018.03.02
Ver:4.17 [Special ver.]	Improve Win10 "Hub Port Style" function.	2018.11.27
Ver:4.18	Improve "Hub Port Style" function.	2019.01.16