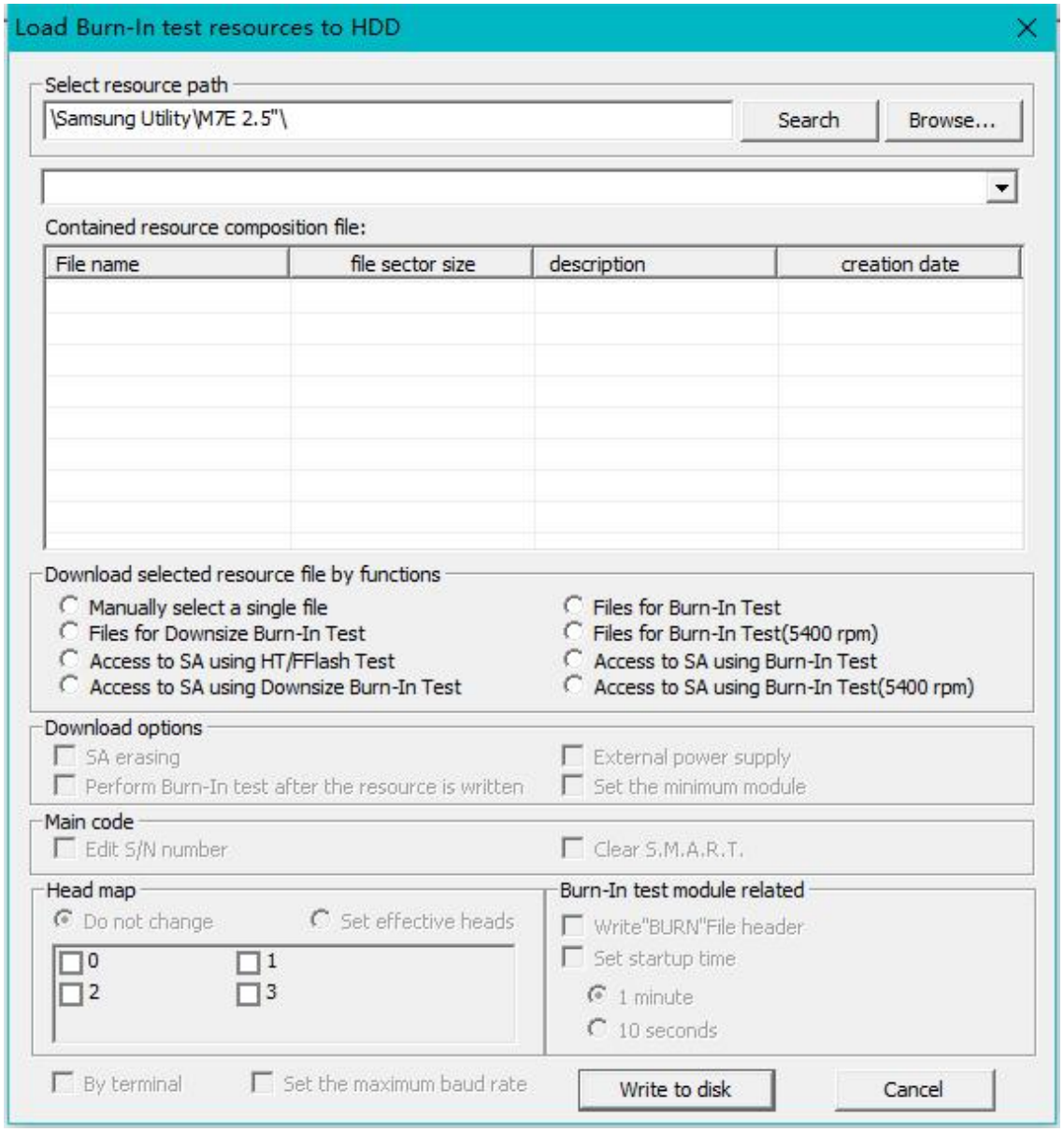
Samsung Burn-in Resource Instruction

Burn-in resource: The default resource takes .pcr as postfix.What we have collected are concentrated below M8E family.If any resource is needed, please consult tech support with a photo of disk label.

Feature path: Tests—>Work With SA—>Write Burn-In Test Resource，picture as below：

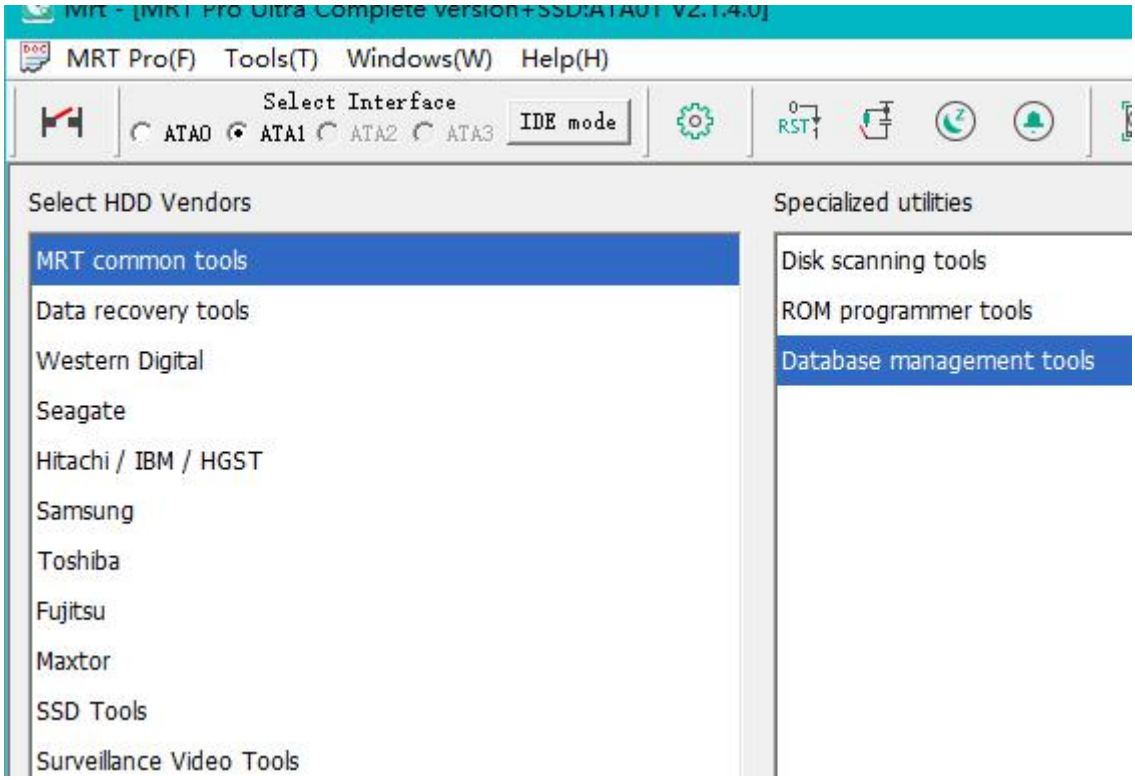


Step1：

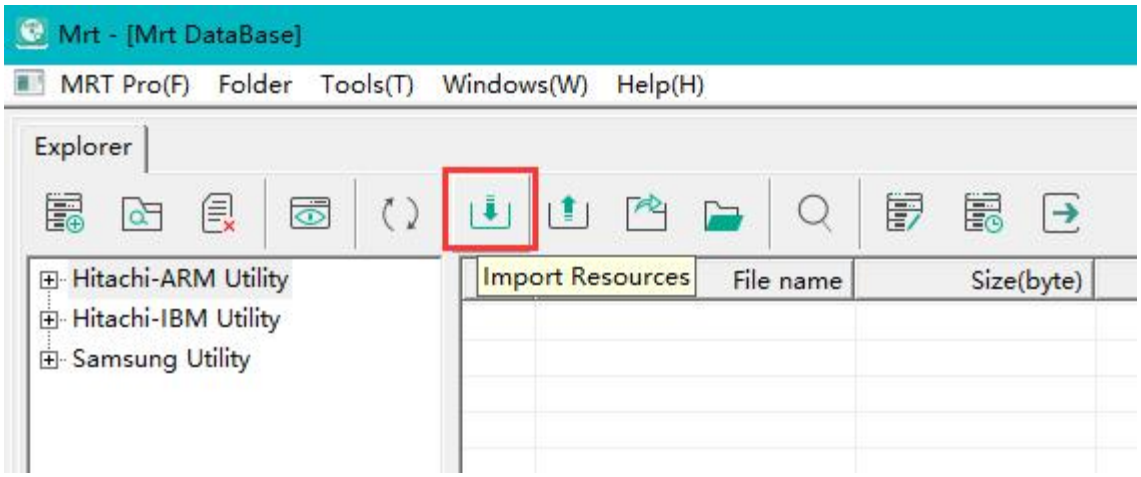
Burn-in resource should be imported into database in advance.

Here is the method:

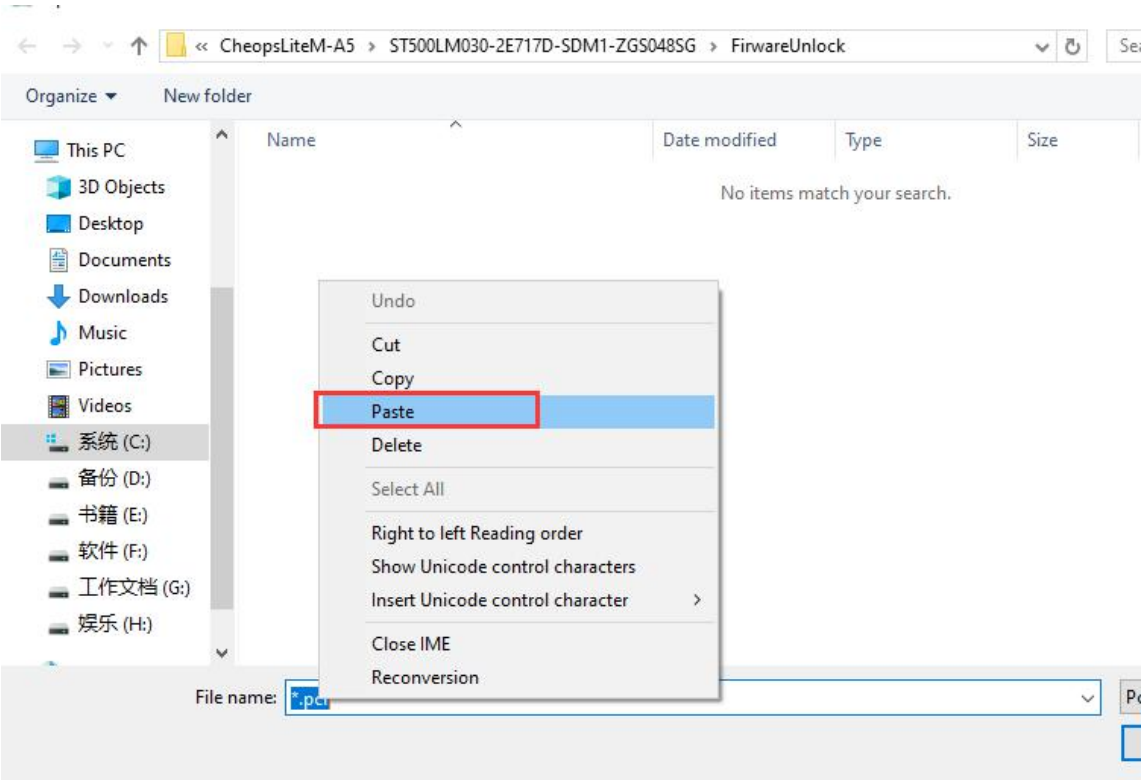
1.Go to MRT main interface，then enter “Database management tools”.”



2.Click “Import Resources”.On the left side burn-in resource already imported will be listed.



3.Now we copy the path of resource with .pcr postfix.Right click and paste the path.



4.Here we take 3393（M7E-S2P）as an example to demonstrate the operations.3393 is the first 4 characters of P/N which can be found on disk label.M7E-S2P is family name which is obvious on the label too.

Attention:This is the most critical condition to match the drive.When either one is different, the resource is forbidden to use.

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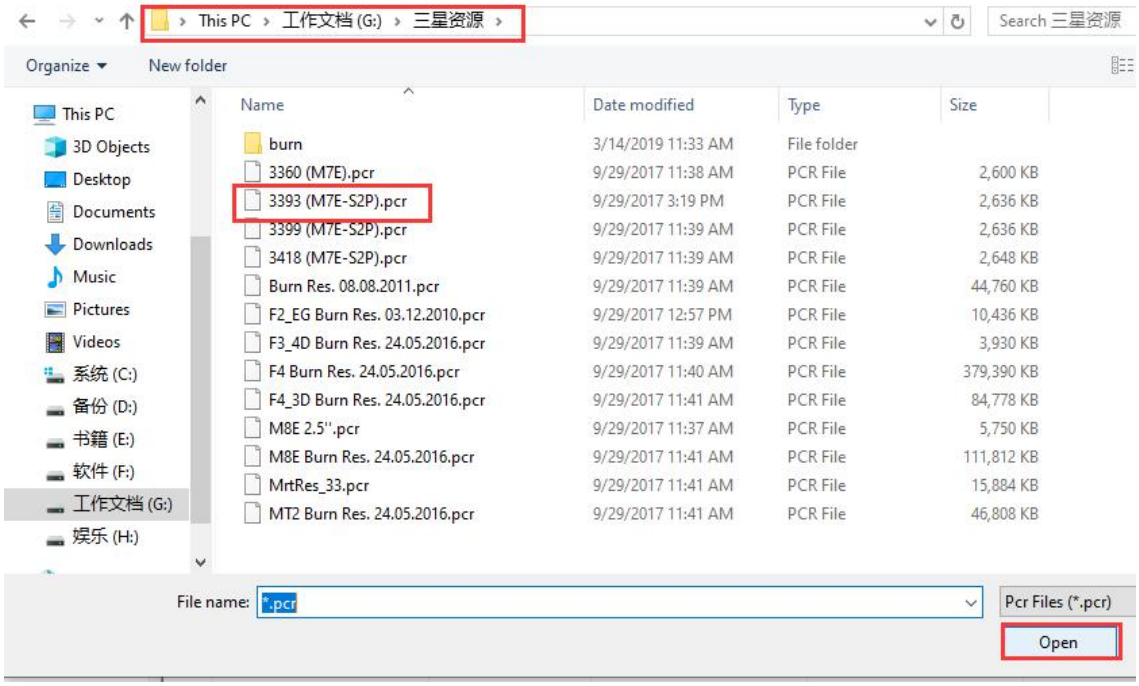
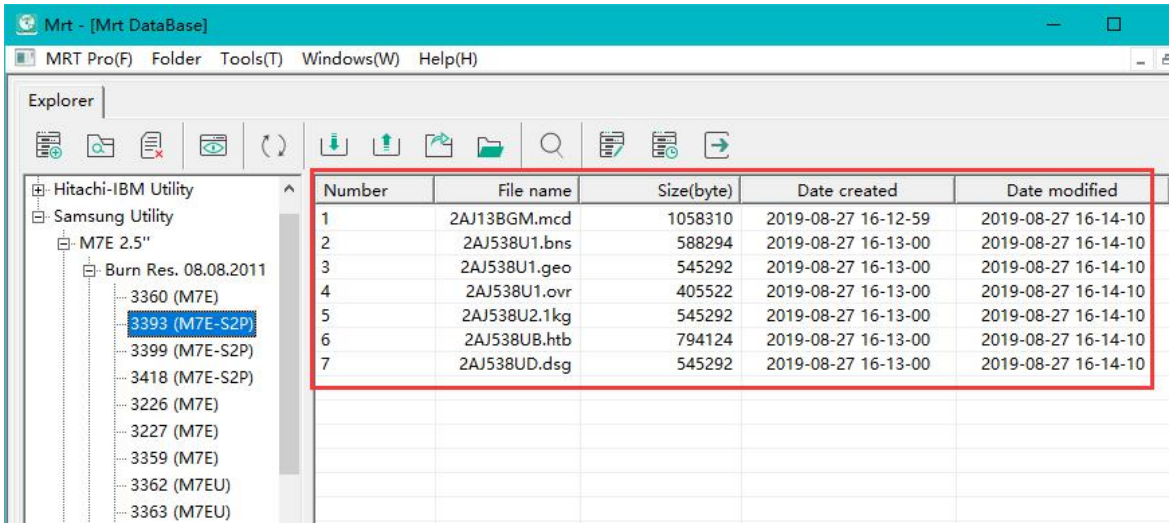


After completion of importing resource,display is as below:



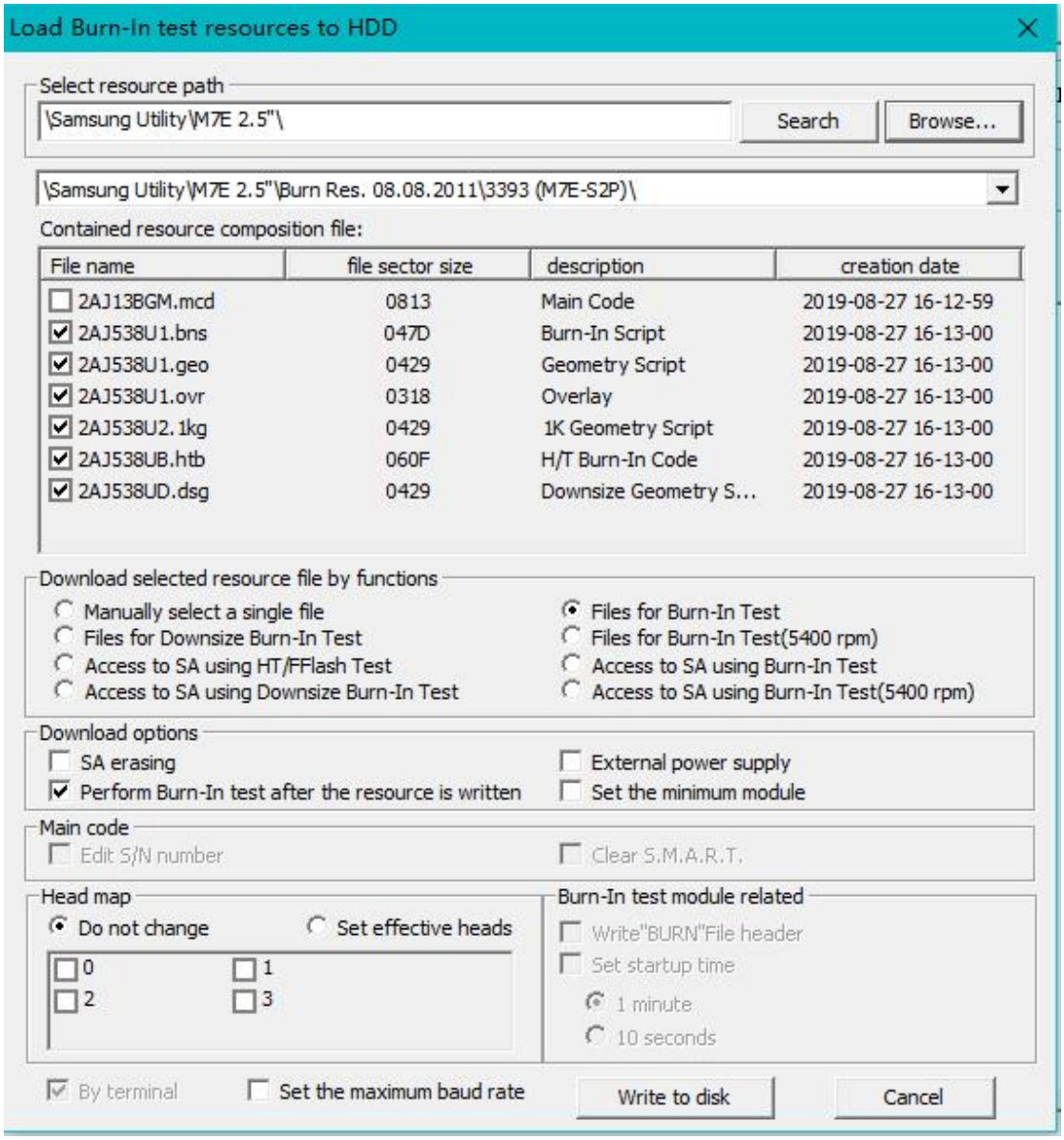
Step2：

Go back to Samsung utility and open the feature of “Write Burn-In Test Resource”.

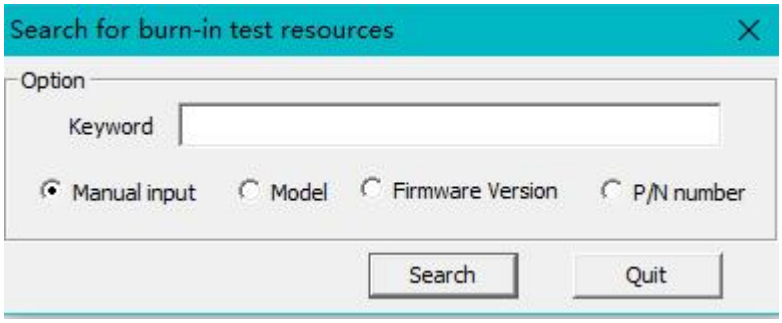
— How to select the resource we need?

— Here are 2 choices :

a. Click“Browse”and we can directly select the destination resource ， picture as below：



b. When there are numerous resources listed, a condition in which manual search will take a long time, we suggest users select the target folder of family name and click “Search”, then there would be a dialog shown as below:



Manual: It will perform ambiguous search when users enter the keywords of the burn resources(used in the condition that drive cannot be identified)。

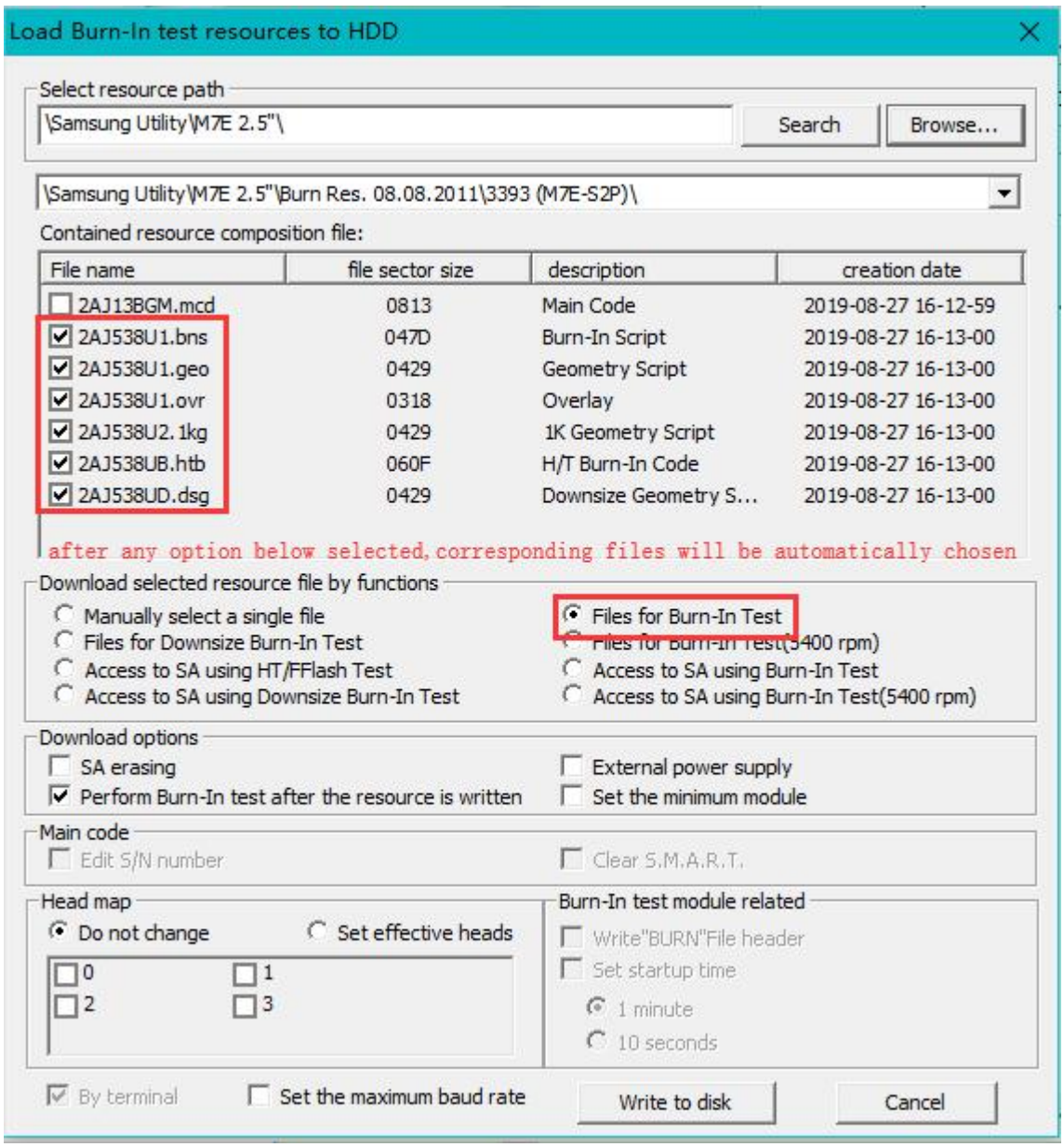
Model: It will auto-load the drive model identified by the software(used for drives that can be identified)。

Firmware version： It will auto-load the drive firmware version identified by the software(used for drives that can be identified)

P/N number： It will auto-load the drive P/N identified by the software(used for drives that can be identified)。

Click “Search” here and select the target file, then the software would auto-load the resources. “File for Burn-In Test”,some resource files and additional options are activated by default,

shown as below：



Resource type instruction：

Main Code

The main portion of the drive firmware; it typically contains Overlays (module BOVLY001 and MOVLY001).

H/T Code

Auxiliary test microprogram used to disable heads, check drive components, perform approximate configuration of adaptive settings and build the service area from scratch. Resources of this type contain no overlays.

Burn Code

The main test microprogram used to test the drive components and generate translator modules, it may contain overlays.

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H/T Burn-In Code

The main test microprogram is used to test the drive components and generate translator modules. Its difference from Burn Code is in the fact that it combines the functions of H/T Code and Burn Code. H/T Burn-In Code of classic drives always contains overlays.In Trinity drives the H/T Burn-In Code does not contain overlays.

FFlash

It is an auxiliary test microprogram.Its difference from H/T Burn-In Code is in the absence of overlays. It is used to disable drive heads,

for partial building of the service area or obtaining access to the service area before the Burn test begins.

Overlay(Burn overlay)

The code portion of the main test microprogram written to disk surface.Burn overlay of classic drives is stored in the OVERLAY module.Trinity drives store it in the BOVLY001 module. Please note that Overlay presence among resources indicates that the image of the main Burn Code or H/T Burn-In Code contains no overlays.

Burn-In Script

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The module containing a script for the main test microprogram with the list of procedures performed during the Burn-In test and their parameters. Burn-In Script in classic drives is stored in the BISPT modules. Trinity drives store it in the BINEWSCR module.

Geometry Script

A set of geometry parameters used by the main test microprogram while generating the zone allocation table. Classic drives have no such resources because their content is integrated in the main test microprogram.The script is stored in the GEO_00 module.

DownSize

Apart from the above resources, you may encounter resources with the «Downsize» prefix, for example, Downsize Burn Code, Downsize Main Code, Downsize Geometry Script. Downsize code is intended for model downsizing1.Technically the task is accomplished by decreasing SPT within a zone and elimination of tracks with the highest error count. Some drives instead of special DS firmware feature an opportunity to set before the Burn-In test a special “Downsize” flag, which will force creation of a DS model. Sometimes a DS model may be produced by a Burn-In test automatically. That may happen when the test completes with a failure, then the drive restarts and passes the DS test successfully.

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Others

The “5400 rpm” label of some resources intended for testing of Trinity drives indicates that testing a drive with such resources will produce a model with lowered rotational speed of the spindle motor–5400 rpm.

Step 3：

How to choose resource file：

1. Manually select a single file

Manually select a single resource(commonly used for module recovery or input of .mcd file after recalibration).

2. Files for Burn-In Test

Used for recalibration of the entire platter(for refurbishment only).

3. Files for Downsize Burn-In Test

Minimized Burn-In-Test for modules(commonly used for the condition that there are tremendous amount of defects which may lead to overflow of SLIST when adding defects).

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4. Files for Burn-In Test(5400rpm)

Used for Burn-In-Test of Trinity only, a family currently unknown(perhaps related to PCB Ver.) .

5. Access to SA using HT/FFlash Test

The option which would write HT/FFash related resources into the drive is used for the condition that Service Area of the drive has been damaged.Under such circumstance, there is no access to user area, the repair of which should be first to fix the SA modules and subsequently write the Main Code resources into the drive.

6. Access to SA using Burn-In Test

Same as above, the resource to write in is H/T Burn-In-Code.

7. Access to SA using Downsize Burn-In Test

Same as above, the resource to write in is Downsize Burn-In Code.

8. Access to SA using Burn-In Test(5400 rpm)

Same as above, the resource to write in is H/T Burn-In Code (5400 rpm).

Attention: Resource composition files would be automatically activated in accordance with the options selected in the Download Selected Resource File(except “Manually Select A Single File”).

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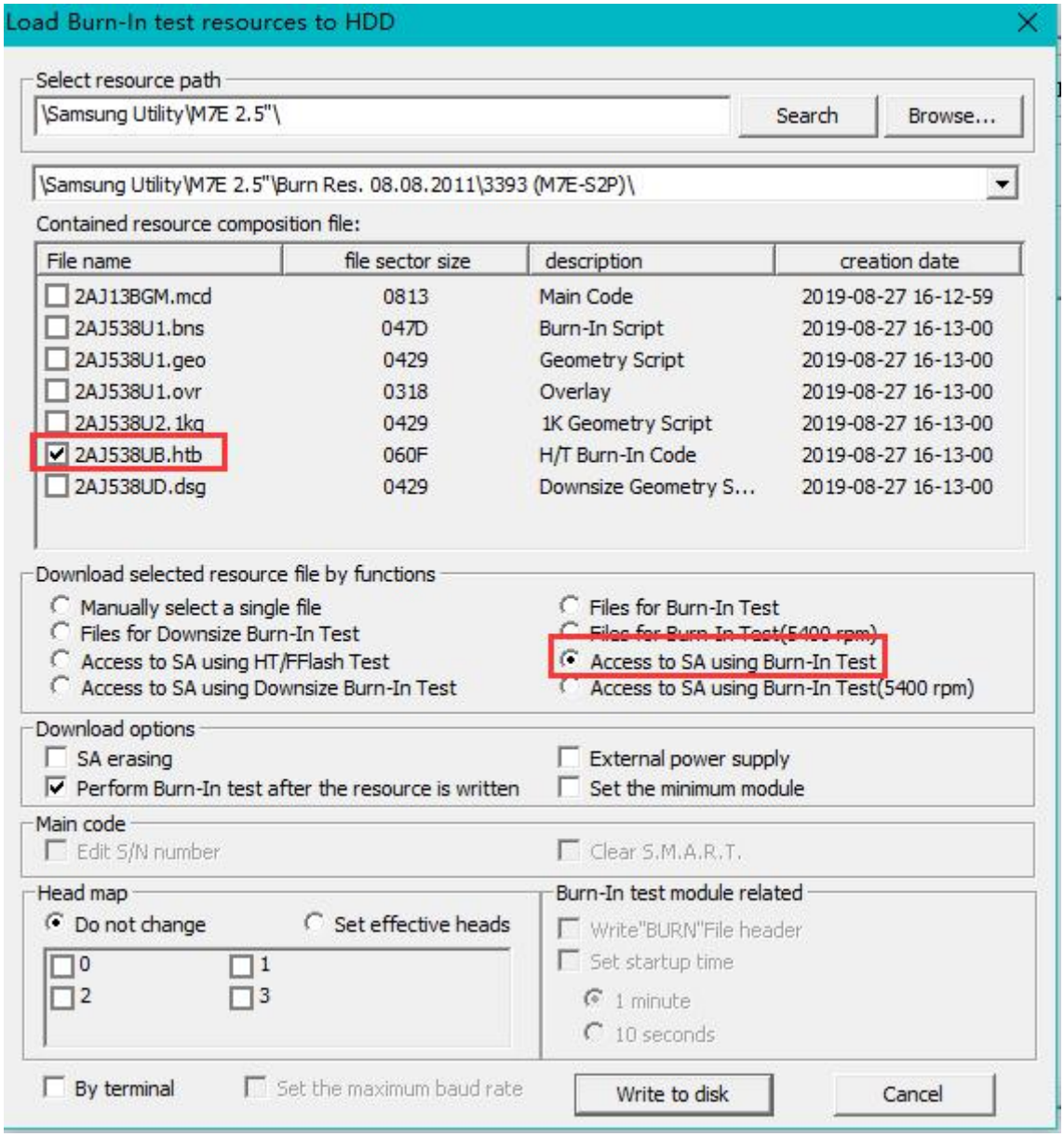
For issues caused by ROM data damage:

Load proper resources according to the family and the first 4 digits of P/N.

What we need to choose is .htb resource file.Here we select “Access to SA using Burn-In-Test “as shown below, or select “Manually select a single file” and then choose “H/T Burn-In Code” in a manual way.



Step 4：

Download options

1. SA erasing: Erase Service Area, formatting the drive before Burn-In test.

2. External power supply：Prompt for whether to use external power supply before Burn-In test.

3. Perform Burn-In test after the resource is written： Whether to perform Burn-In test immediately after the resource is written.

4. Set the minimum module：Set a minimized module flag,used for downsize Burn-In test in the condition that there is no resource file related to the operation of downsize.

Main Code

1. Edit S/N number：Edit S/N after the input of Main Code.
2. Clear S.M.A.R.T.： Whether to clear SMART info by command after the input of Main Code.

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Head map

1. Do not change：Do not change headmap, the list of which is not editable at the moment.

2. Set effective heads： Change headmap, the list of which is editable at the moment.

Burn-In test module related

Suitable for old drives

1. Set header to “Burn” value：Change the head info of .BRN resource to Burn. If .BRN resource is not available, we should change the head information of BI_SCRPT module.

2. Set test start time：Set the starting time of Burn-In test.

Miscellaneous

1. By terminal：Write Burn-In-Test by terminal if HDD remains busy
2. Set the maximum baud rate：Set baud rate for terminal, usually by default.You can choose it if necessary.

Step 5：

Click Write to Disk to start task, and turn to log interface then output task log

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Preliminaries for Burn-In test:

a. For data recovery(repairing modules):Terminal communication must be available;limited amount of bad sectors on SA tracks.Select one of the options related to Access to SA and write the resources into the drive.If there is still no access to user area, we have to deal with the modules. After the fix of the modules, the Main Code resource has to be written into the drive to refresh ROM.

b. For refurbishment: Terminal communication must be available.

Select one of the options unrelated to Access to SA and write the resources into the drive. Wait for the Burn-In-Test to finish.The more the bad sectors on the track, the less the possibility to success. If the test fails due to the huge amount of defects, we can select DownSize to run it again or choose “Set the minimum module” when DownSize resource does not exist.

Notice:The Main Code used for Burn-In test has a strong relation with the ROM info, so the input of Main Code may fail due to compatibility issue. If the Burn-in test is successful, please don’t write back the original ROM.

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Appendix1：

Samsung Burn-in File Contrast Table		
File Number	File Postfix	Resource Description
0	.bcd	Burn Code
1	.bns	Burn-in Script
2	.bns54	Burn-in Script (5400 rpm)
3	.BRN	Burn-in Script
4	.dsb	Downsize Burn Code
5	.dsg	Downsize Geometry Script
6	.dsm	Downsize Main Code
7	.ffl	FFlash
8	.geo	Geometry Script
9	.geo54	Geometry Script (5400 rpm)
10	.htb	H/T Burn-in Code
11	.htb54	H/T Burn-In Code (5400 rpm)
12	.htc	H/T Code
13	.mcd	Main Code
14	.mcd54	Main Code (5400 rpm)
15	.ovr	Overlay
16	.ovr54	Overlay (5400 rpm)
17	1kg	1K Geometry Script
18	-	FB1 Code
19	-	SC Code
20	-	SMT Code
21	-	Unknown Resource
Attention：The resource file of File Number 1 adopts same processing strategy as the one of File Number 3.		

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