
ORNAND TRueFFS User Manual

General Description and Name

This scheme is similar to Multiple Partition BBMs schemes but it has its own Bad Block table and Partition Table located on the first two pages of the last two good blocks of the device.

- Partition Table variables are included in the image file, are adjusted based on the number of bad blocks found in each device, and are written to (n-1)th good block.
- The Bad Block table is included in the image file, and is written into the last good block of the device.
- Partition # 0 has only one block of data and has to fit in block 0 or device is bad.
- Partition # 1 has two blocks of data and has to fit within blocks 1 thru 7 using skip method.
- Partitions # 2 thru n-1 are extendible partitions and when bad blocks are found, the end of the partition extends, making the next partition to start at later blocks.
- Partition # n (MAX 16 blocks) contains Partition Table and Bad Block table and has to fit within the last 16 blocks. Skip -1 is used when bad blocks are encountered within this partition. Unused blocks in this partition are reassigned to partition # n-1.

Spare Area

The spare area in this scheme is programmed with the customer's image file, and it contains data that over-writes the device BB marker area.

Relevant User Options

The following special features on the special features tab apply to this scheme. The default values might work in some cases but please make sure to set the right value according to your system.

Please note only the below special feature items are related to this scheme and ignore any others. If any of below items doesn't exist, please check whether the right version has been installed or contact Data I/O for support by submitting Device Support Request through this address: <http://www.dataio.com/support/dsr.asp>

Bad Block Handling Type: “ORNAND TrueFFS 6.5.2”

Spare Area: “Enabled”.

- Please refer to “Description of common NAND Special Features.pdf”.
- The image always contains spare area information that is programmed into the device spare area. The device Bad Block marker area always gets over-written.

Check BB marker in data file: “Disabled”

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- This setting is required since image file contains information that will write over the Bad Block marker area.

Bad block detection: “BBM then BB marker”

- The algorithm scans the last 15 blocks of the device searching for bad Block table Signature “BBTABLE” within the first two pages and uses this table. If it does not find any bad block table, it will search for standard NAND bad block marker area.
- NOTE – When devices that have Bad Block table within them are mixed with “fresh” devices, the fresh devices will be rejected during programming operation.

Debug Messages in Eventlog: “On/Off/More”

- The level of debugging information printed in the eventlog.txt file. “On” is recommended while “More” allows erasing the last block that contains previously programmed Bad Block table.

User Checksum Implications

- If this scheme, the TaskLink checksum will be different from the device checksum because the partition tables and bad block tables are modified during program operations.

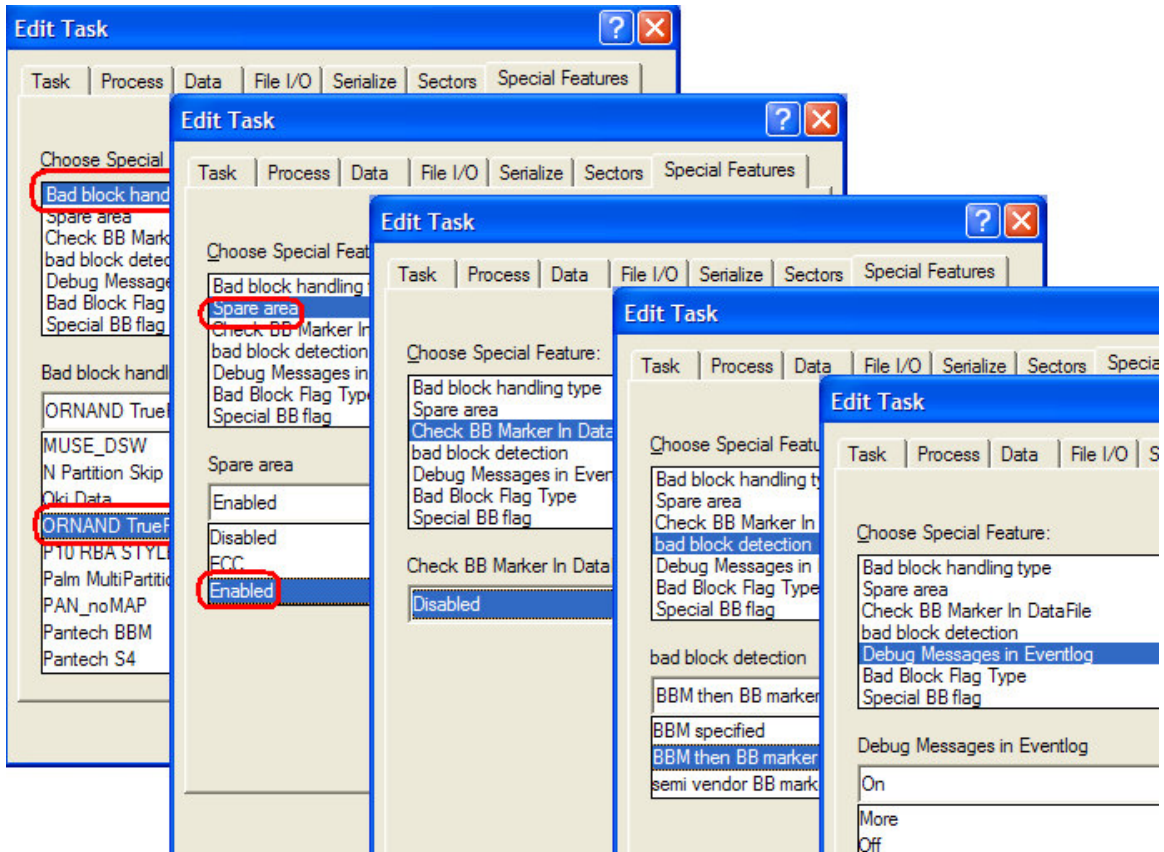
Image Preparation

- The image data file must contain initial values and signatures symbols for the Bad Block table and the Partition tables in the last two blocks. If any of these two tables is missing, the programming job will be aborted.

Special Notes

- If any other bad Block management or Skip Bad Blocks is used with the devices that are programmed with this BBM, they will fail because of “too many bad blocks”. For this reason, any device preprogrammed with this BBM should be first erased with this BBM before using any other BBM.
- To Erase a device programmed with this BBM:
 - Set all the special features as listed above
 - Provide an image file that has valid Bad Block table (like one that was used during programming)
 - Enable Erase flag for all the sectors in TaskLink
 - Disable Program flag for all the sectors EXCEPT the last sector

TaskLink Setting



Revision History

- V1.0, 06/10/2009

Appendix

- You can get the file "Description of common NAND special features.pdf" from <http://ftp.dataio.com/FCNotes/BBM/>