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This firmware file supports Intel (R) RAID controllers using SAS software stack (SRCSAS18E, SRCSAS144E and SR0MBSAS18E), please verify that this driver has been tested with the RAID card you have chosen to use by checking the drivers web page for your controller at <http://support.intel.com>.

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Attention!  
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You must set Factory Default setting after the firmware upgrade. To do so:

1. Reboot the system and login to the RAID BIOS Console. 2. Select the controller and select 'Adapter Properties' ->'Next'
3. Set the 'Set Factory Defaults' setting to 'Yes' and submit the change.
4. Reboot the system (the default settings are applied).
5. Re-configure to the desired settings in RAID BIOS Console or RAID Web Console2.

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Contents on the package  
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The following files are included in this zip:

Name	Description
ir3_FW_v1.03.00-0211_readme.txt	This file
CmdTool2.exe v1.00.26	Firmware update utility for DOS
dos4gw.exe	DOS required utility
sasfw211.rom	Firmware binary
update.bat	DOS firmware update batch file
Web License.rtf	License Agreement
linux\CmdTool2-1.00.26-0.i386.rpm	Firmware update utility for Linux
v1.00.26	
windows\cmdtool2.exe	Firmware update utility for Windows
v1.00.26	

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Installation instructions:  
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DOS

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1. Download and extract the CmdTool2.exe, dos4gw.exe and update.bat files to a local drive.
2. Download and extract the firmware binary file to a local drive.
3. Boot the target system to DOS.
4. Change directory to the local drive and directory containing the flash update files and the firmware image file.
5. Type "update" or "cmdtool2 -adpflash -f sasfw211.rom -aall"
6. Wait for the flash to complete. Do NOT reboot the system during the update.

Windows and Linux

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The firmware update may be run from within Windows or Linux using the appropriate versions of CmdTool2.

In Windows, unzip the utility into the same directory as the rom file by typing

```
"cmdtool2 -adpflash -f sasfw211.rom -aall".
```

The Linux CmdTool2 by running the rpm and then calling the utility from /opt/MegaRAID/CmdTool2 as

```
". /CmdTool2 -AdpFlash -f sasfw211.rom -aall"
```

Common to All OS:

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Multiple controllers installed in the same system can be updated one after the other by following the onscreen prompts.

IMPORTANT NOTE: After the firmware upgrade, reboot the system and login to RAID BIOS Console. Select the controller and select 'Adapter Properties' -> 'Next'. Set the 'Set Factory Defaults' setting to 'Yes' and submit the change. Reboot the system and re-configure to your desired settings in RAID BIOS Console or RAID Web Console2.

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Fixes/Updates -0119 to -211

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## 1. 03.00-0164

1. Added Displaying controller properties in the debug log
2. Fixed multiple SMART poll event logging for the same device every 5 minutes
3. Fixed Multiple Imports required to import foreign cfgs with different timestamp
4. Fixed DDF loss issue on system reboot with physical disks from a failed array
5. Fixed Patrol Read does not resume from point of interruption after a reboot
6. Fixed grammar and improper messages when trying to start Full Initialization
7. Fixed the terabyte size with the new size scheme
8. Fixed clicking stop in List View makes any Operation show stop, even though the operation is still going
9. Implemented New VD recovery behaviors on SAS Cable pull/replace
10. Fixed Linux driver time out when run heavy I/O test
11. Implemented support SES, SAFTE and SGPIO simultaneously
12. Issue boot message for Multi-bit ECC error and severe Single-bit ECC errors
13. Fixed that medium error found during rebuild, WriteLong was sent to wrong drive in separate LD
14. Fixed Spanned VD removed from configuration if reboot while entire span is missing
15. Fixed Log Sense info Only if error not handled
16. Filtered some "Unknown additional sense code" Ack/Nack Timeout msg out from eventLog
17. Added enclosure affinity support
18. Filtered operations of PD based on its state as per definitions in the defect
19. Implemented VD ID enumeration
20. Added Auto clearing of size edit box when creating VD
21. Added refresh the screen when some state change
22. Fixed the wrong text in help
23. Fixed size auto append when you type numbers into the size box during VD creation
24. Provided interface to get Boot Blk version in RaidLib
25. Updated the source code based on MegaAPI changes
26. Fixed creating a VD on a disk-group w/ a rebuilt member leads to VD missing on POST
27. Fixed Rebuild drive started with a wrong drive.
28. Fixed DATA exception when Log is full
29. Fixed failed to import complete missing span
30. Fixed FW did not change the state to fully charged after fast charging in Relearn cycle
31. Updated MPT Header files for new MPT FW
32. Fixed wrong pd progress info on the debugger
33. Fixed Fw return wrong bbu battery type
34. Fixed BSOD issue in memory alloc routine for diag with WT & online flash
35. Fixed Disconnect-Reconnect Cable to port1/channel1 Fails Array
36. Fixed R10 multi-span import fails after removing entire single span
37. Fixed Chip reset cause MPT FW to hold Encl. SEP in rst indefinitely
38. Fixed destructive operations the button default state to be cancel
39. Added option for dedicated HSP in VD creation dialog
40. Fixed DATA ABORT Exception during foreign config import
41. Fixed Options are grayed out issue even if no operations are being performed
42. Fixed Device Speed Information iss not Ready issue in MR\_PD\_INFO Structure
42. Fixed VD Migration results in 'DATA ABORT Exception'
43. Fixed confusing sentence structure in the Controller Bios Help Section
44. Implemented Storage Settings defaults to OK instead of Ignore
45. Fixed detection of Flash present for 10 ms delay

46. Fixed Importing a failed span in Raid50 array foreign configuration causes rebuilding
47. Fixed Attempt to import Foreign Configuration (PD formerly part of an R1 array) fails with improper error message.
48. Fixed Dedicated hotspare of the VD after import becomes a Global hotspare
49. Fixed drive identify LED blinks time <= 2 minutes always when a drive is selected.
50. Fixed FW initialization takes 10 sec delay on some boots
51. Fixed After drive fail and reboot Sector 0x00 is corrupted after rebuild.
52. Fixed Foreign import of degraded R1 not possible
53. Fixed FW hang issue when turn on/off Enclosure
54. Fixed Memory/Battery Problem message which displayed at every boot.
55. Fixed could not set Hot Spare issue under RAID BIOS Console.
56. Fixed Max. capacity against R50 VD displayed as 'OMB' issue.
57. Fixed RBC fails to clear existing config while confirming it when using 'New Config' wizard.
58. Added BGI status to VD when BGI is going on.
59. Fixed Using control tab caused system hang.
60. Fixed Fast Init option available issue when Slow init is in progress
61. Fixed RBC does not show operation in progress
62. Fixed RBC extremely slow issue
63. Fixed inconsistent RBC text color
64. Fixed FW hang issue when Click on Missing drive in Ctrl-R
65. Implemented Handle Gas Gauge and charger connection cut
66. Fixed DDF import issue: F/W overwrites the pd and import it
67. Implemented Support SGPIO+SES+DirectAttach+SAFTE
68. Added to erase flash log during next boot, if the system is rebooted while flash log is being erased.
69. Fixed Patrol read does not start with SATA disk issue
70. Fixed FW generates a "PD is not a certified drive" even without Vendor Specific Inquiry
71. Added more debug info for terminated commands and task management commands
72. Fixed On Ld deletion of a reconstructing Ld, the cache policy changed issue
73. Fixed regard Pd as unconfig\_good issue which does not spin up and the size is zero
74. Fixed patrol read function which is called with wrong number of parameters
75. Fixed without battery, Write policy changed to WB after CE/RLM for all VD's
76. Added a timeout to serial input to avoid system hang
77. Implemented Reset retry counter on each DISM state change
78. Fixed Rebuild should start on degrade LD after reconstruction.
79. Fixed detection of Flash present for 10 ms delay
80. Adjusted FW to change MaxDisk count
81. Fixed FW hang after receiving Sense 02, 04 or 0B at Recovery data read on RAID 1
82. Fixed FW did not have a check when user try to create a span with different # of disk devices
83. Fixed FW generated "inaccessible drive" event but didn't degrade the VD
84. Fixed Drive failure during migration causes ID mismatch
85. Fixed Auto Migration during power failure going from Raid -1 to Raid 5 does not allow system to boot to OS
86. Fixed FW does not clear retry counter for spin-up timeouts
87. Fixed No FW events when gas-gauge and battery cells disconnected.
88. Fixed W2K3 system boots very slowly during reconstruction.
89. Fixed battery reconditioning errors
90. Fixed BGI/CC operations during I/O loads take too long (wks) to complete
91. Fixed PR fails to correct medium errors on SATA drive
92. Fixed VD number listed as 255 in Foreign View page
93. Fixed system hangs up or BSOD happens when only one HDD has failed during heavy loading
94. Fixed no "Bad Block reassigned" event generated issue
95. Fixed firmware incorrectly removed a drive but left the HDD status LED green.
96. Fixed Disk shown as READY when it is FOREIGN
97. Fixed VD Creation" and "Dedicated Hot Spare Assign" operation together leads to error
98. Fixed FW generated event with drive not mapped to an enclosure

## 1.03.00-0190

1. Add retrycount to chip init so that if the chip goes bad, the FW will continue and let the system boot
2. GetAllowedOpsAllLds working only for one LD
3. implement code to preserve VD GUIDS during foreign import
4. Fixed Wrong AENS if LD deleted during rebuild
5. Add support to handle Single bit ECC overflow errors

6. Add Logic to clear the PS (Parameters Savable) bit of the caching setting page before issuing the MODE SELECT.
7. Auto Import happens at reboot even if there was a valid config on the controller due to Nvram Guid cleared.
8. Able to successfully import partial foreign configurations
9. Add support for SCSI-3 cmds for MS HCT Test
10. If interrupt occurs during callback from timer, defer the function callbacks to task time
11. Fixed the firmware rejects full Initialization command after aborting check-consistency request.
12. Fixed if Battery is not present or bad, message even when no I/O operation is done. -"Cache data was lost due to an unexpected power-off or reboot during a write operation, but the adapter has recovered. This could be due to memory problems, bad battery, or you may not have a battery installed."
13. Incorrect error message in Alert logs for Slow initialization
14. Fixed PhyPolarity and PhyPolaritySplit not equal issue.
15. Fixed PD imported into the wrong array location.
16. Fixed Wrong drives imported as a part of VD
17. Fixed Adapter Baseport Error
18. Add initialization keyword to fast & slow in VD property page
19. Fixed RAID BIOS Console fails to display Max size for spanned VD (R10 / R50) on the first configuration attempt
20. Fixed Incorrect version number displayed in RAID BIOS Console
21. fixed VD size change issue
22. Added slot info in the controller screen depending on info to be obtained
23. Fixed refresh issue in PD mgmt screen
24. Fixed F2 hitting montask issue
25. Disabling enclosure affinity based on vendor/dev
26. Fixed montask issue when navigating to fgn view
27. Fixed popup of BGI message and allowing FGI
28. Fixed greater size shown for VD
29. Added initialize sparelist to NULL
30. implemented pd list arrow handler to go out of list
31. Changed bottom help text
32. Fixed the incorrect description in Help Menu Topics
33. Added check if array is free before checking pdlist
34. Added Write Back option when bad bbu
35. Fixed cannot read message on popup in GUI
36. Fixed incorrectly reported size larger than actual VD
37. Fixed Wrong bios configuration title is showing in Controller listing page
38. Fixed rebuild action for RAID5 and RAID1 with the same drive
39. Implemented code to make sure the system has correct set of pds upon partial import
40. Added check for unused span(array) in input config
41. Fixed multiple notification of BBU Learn cycle
42. FW Support to enable FW upgrade of drives via pass-through commands
43. Changed Port count to be equal to num phys
44. Forced Import Foreign Config assigns drive mapping incorrectly
45. Fixed foreign cfg on drives in pdfailhist not detected
46. Fixed rebuild starts on incorrect pd after import of failed array
47. Fixed GHS fails to rebuild on importing a degraded VD until new VD creation
48. Fixed FW fails to check when user try to create a span with different # of disk devices
49. Fixed FW returns two different relearn dates issue after BBU relearn is complete
50. Fixed OMSS fails to report failure message on bad foreign config import
51. Fixed PD's disappear in the physical tab after Import
52. Fixed Rebuild starts on the wrong disk during a foreign config import
53. Fixed Wrong drives imported as a part of VD
54. Updated ASPI driver with Stop/Start BGI -- PR
55. Fixed wrong messagebox display while creating global hot spare
56. Fixed memory leak in RAIDLIB
57. Added check if array is free before checking pdlist
58. Fixed duplicate dedicated hotspare issue
59. Fixed display of -1 for size to blank
60. Fixed the Dedicated HotSpare in unknown state if associated VD is pulled offline
61. Fixed failure of led pattern not blinking for bad-phy in sp.
62. Fixed Read command fails when write verify command fails
63. Updated the Bad BBU boot messages to be 76 character aligned
64. Update new MPT header files
65. Added SBBM table support for SATA drive
66. Fixed Id allowed ops shows wrong ops while Id is degraded and rebuilding
67. Added Handle PCI Abort while Loading Windows
68. Added retry for some iocStat to handle RxBufferRoll
69. Fixed clear complete foreign config does not work

70. Disallow Foreign Import of VDs undergoing morphing
71. Added ATA Write Long to BBM
72. Fixed Controller cache of Enclosure status incorrect in SPLIT Mode
73. Fixed during Logical rebuilding, GetLDAllowedOperation shows that LD can "start reconstruction"
74. Fixed Patrol read aborted if there are too many media errors.
75. Fixed ADAPTER cannot access inserted drives issue
76. Fixed import the offline PDs to online issue that makes the failed VD imported incorrectly as optimal
77. Fixed SAS Topology Error
78. Changed driver strength
79. Fixed Controller POST shows an Offline VD as Failed
80. Implemented New BIOS message when conventional memory not zero
81. Update MPT B0 firmware to 00.10.47.00
82. Fixed Data corruption while importing an offline R5 when using external enclosure.
83. Fixed Multiple VDs per array import cause DataCorruption
84. Fixed incorrectly removing spare on removal of LD span
85. Fixed Patrol Read fails to correct medium errors on both SAS and SATA drives
86. Fixed FW hang after multi-spanned VD foreign config is detected and prompt
87. Updated MPT FW - ver 01.18.73.00

## 1.03.00-0201

1. Throttled host cmd to avoid time out in WB with heavy IO
2. Fixed RDM time out for SATA HDD with uncorrectable medium error by fixing NCQ Retry
3. Fixed issue with AEN wait command
4. Integrated SAS 1.0 SRC Abstraction
5. Fixed Hard disk fail issue on running CC on VD that contains double media error.
6. Fixed incorrect battery status information under RAID BIOS Console
7. Fixed RAID BIOS Console displays wrong RAID levels that are not possible
8. Fixed RAID BIOS Console displays possible R10 size even if R10 is not an allowed RAID level.
9. Fixed Replace missing operation for physical drive info screen that disappeared in WebBIOS with 1.03 fw.
10. Fixed Display label for DG/Slot number of missing PD after the all PDs are missing.
11. Fixed Task Management cannot be used to properly abort an I/O that has had an RX DMA error and is already on the completion queue, thus the I/O can complete with good status

## 1.03.00-0211

1. FW writes MFI command status followed by the extended status. Polling doesn't retrieve extended status.
2. Fixed Flashing FW 201 produced spurious import foreign config prompt.

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