

# Replacing or Upgrading to the Intel RS2BL040 or Intel RS2BL080 RAID Card

## Background

The Intel RS2BL040 and RS2BL080 are 4 and 8 port controllers based on the LSI 2108 first generation 6G SAS chipset, and are Intel's branded version of the LSI 9260-4i and 9260-8i respectively. These cards have shipped in large numbers of Stone servers since 2012 to 2016. Therefore, it is useful to know how to replace failed cards and upgrade the controller firmware. The RS2BL080 is also a suitable replacement for the older SRCASARB and SRCATAWB controllers.

This article gives some more hints and tips specific to the RSB2L0x0 cards in addition to the [Overview of the RAID Card Replacement Process](#).

Click on one of the links below for further instructions.

- [I'm Upgrading to the RS2BL040 or RS2BL040 from an older RAID card](#)
- [I'm Replacing the same card like for like](#)

## I'm Upgrading to the RS2BL040 or RS2BL040 from an older RAID card

If you are upgrading from an older card, you need to follow the process below:

- If the operating system still boots on the older card, upgrade the [RAID driver](#) to the latest version to add support for the RS2BL040 or RS2BL080. For example, the Windows in-box LSI RAID driver supports older SRCASARB cards but not the RS2BL080.
- Where possible or practical, a full system backup should be taken first.
- Once you've upgraded the driver, follow the process below for [I'm Replacing the same card like for like](#).

## I'm Replacing the same card like for like

Follow the process below:

- Remove old card; note the order of the drive cables and other signal cable connections.
- Check the old card for any Feature Keys which need to be moved to the new card.
- Move any RAID card battery to the new card if the old card had a battery unit fitted and the new card has not been supplied with a replacement, so long as the cards are the same model. If they are different models, a new battery will need to be requested.
- Disable Quiet boot in the [BIOS](#).
- Fit the new card but leave the hard drive cables disconnected.
- Flash the latest approved firmware on the new card using the EFI Environment:
  - As of January 2016, the latest official Intel firmware for this card is [12.14.0-0185](#)
  - If your replacement card has a version less than 12.12.0-0104, you may need to flash to version [12.12.0-104](#) first, especially if the flash program reports a bad flash image.
  - Engineers visiting a problematic server should also consider taking another "interim" version of firmware, [12.13.0-0154](#).
  - Finally, there is an updated RAID firmware available over and above what Intel have provided. Version [12.15.0-0239](#) can be downloaded from LSI directly, or an enhanced package which includes the flash tools for DOS, Windows and EFI can be downloaded [here](#). This firmware may solve some instances where excessive "Illegal sense" messages are seen the logs, however this firmware has not been validated by Intel so it should not be used unless a resolution to a specific problem covered by the firmware release notes (included in the package) is required.
- Shut the system down; connect the drive cables.
- Boot the system up and follow the foreign configuration prompt to preview and then import the logical drives.
- Test the system. If a RAID driver installation or upgrade is needed and the system doesn't boot from the RAID (failing with a STOP 0x0000007b blue screen message) then a repair operating system installation may be needed.

**Reminder:** RAID Card firmware updates in the above process should in the EFI environment, as the firmware on the card should be upgraded before you can connect the drives, thus before you can boot Windows, in most situations. If you perform any updates using RAID Web Console from within Windows, do NOT use the option to perform an "online update". This feature enables the RAID firmware update to take immediate effect and is not recommended. The firmware update may be flashed whilst Windows is running, but the system should then be rebooted for it to take effect.

## Firmware Flash Methods and Examples

Server Platform	RAID Card Manufacturer	Environment	Tools, Methods	When to Use
S5000	LSI or Intel	EFI 1.x	Not possible	Cannot Use RAID Flash Tools in EFI 1.x Environment

S5000	LSI	DOS	DOS MegaCLI.EXE (seperate download)	Recommended Method when Windows isn't running. MEGACLI /c0 download file=mrxxx.rom  (flashes adapter 0)
S5000	Intel	DOS	DOS CMDTool2.EXE (included with firmware)	Recommended Method when Windows isn't running.  CmdTool2.exe - adpflash -f mrxxx.rom - aall  (flashes all adapters)
Any	Intel	Windows	RAID Web Console (seperate download)	Recommended method for flashing firmware within Windows. Can be used to flash LSI equivalent firmware onto Intel adapters in extreme situations.  Drivers and RWC should be updated first.
Any	Intel	Windows	Windows CMDTool2.EXE (included with firmware)	CmdTool2.exe - adpflash -f mrxxx.rom - aall  (flashes all adapters; use an Administrative Command Prompt)
S5520 or newer	LSI or Intel	DOS	MegaCLI.EXE or CMDTool2.EXE	Flashing adapters from a DOS bootable pen drive is possible; however flashing from the EFI environment is preferred.
S5520 or newer	Intel	EFI 2.x	EFI CMDTool2.EFI or Update.NSH (included with firmware)	Recommended method for flashing before connecting drives and importing a RAID configuration.  CmdTool2.efi -adpflash -f mrxxx.rom -aall  (flashes all adapters)
S5520 or newer	LSI	EFI 2.x	EFI StorCLI.EFI (seperate download)	Recommended method for flashing before connecting drives and importing a RAID configuration.  StorCLI /c0 download file=mrxxx.rom  (flashes adapter 0)

Applies to:

- Intel RAID Card RS2BL040 (ISRRAI-139)
- Intel RAID Card RS2BL080 (ISRRAI-129) / RS2BL080D (ISRRAI-134)

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