



Merit LILIN Application Note CMX1036 RAID Setup and Configuration

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This guide is for setting up a CMX 1036 with a RAID 5 configuration for 8 HDDs. The CMX 1036's motherboard has 2 Storage Controllers: a SATA controller and a SAS controller. Each of these controllers only has 4 ports. Because of this, a single RAID volume cannot be setup across all 8 HDDs. The solution is to create two separate RAID volumes. Each of these volumes can be setup for RAID 0, 1, 5, or 10 configurations. We recommend using a RAID 5 configuration for a balance of increased performance and redundancy without sacrificing too much storage. For this example, we will be configuring two RAID 5 volumes.

Before beginning, you must verify that the SATA controller is set to RAID mode and not AHCI

1. Press the "Del" key at startup to enter into the BIOS
2. Under the "Advanced" tab, select "SATA Configuration"
3. Verify that SATA mode is set to RAID mode, then save and exit the BIOS.
(This MUST be done BEFORE you install the Windows 7 OS. If you attempt this after installing your OS, you will receive a blue screen at boot up.)

Now we are ready to install the OS. However, if you attempt the install now, the Windows 7 Setup Wizard will notify you that there are drivers missing for the SATA controller's new RAID configuration. You can either obtain these drivers online or through the disk provided by Supermicro. In this guide we will be using the Supermicro DVD.

4. On a computer with a working OS, browse the Supermicro Drivers & Tools disk. Navigate to Intel > SATA > C600 > Windows > WIN64.
5. Copy the WIN 64 folder onto a flash drive.
6. Insert Windows 7 install disk and follow the on-screen steps. When prompted to install drivers, navigate, navigate to where you installed the WIN64 folder and select it.
7. Once the driver is detected and installed, continue following the on-screen steps to install Windows 7.
8. Once your OS is installed, insert the remaining HDDS and install the Intel Rapid Storage Technology Software. The software should be available on the Supermicro Drivers & Tools disk.
9. Run the software, verify that it detects your hard drives, then select "Create Volume..."

You should see 2 Storage Controllers:

- Intel C600 Series Chipset SATA RAID Controller
- Intel C600 Series Chipset SAS RAID Controller



10. Select the Intel C600 Series Chipset SATA RAID Controller, then select RAID 5 under “select volume type”. Once both are selected, hit “Next”
11. Name the volume appropriately (ex: CMX ARRAY 1) and select the 4 HDDs that will be RAIDed.
(Do NOT select the HDD that contains the OS)
12. Hit next and then create the volume
13. Repeat steps 9-12 for the Intel C600 Series Chipset SAS RAID Controller.

Now, there should be two RAID 5 Volumes on your system. However, these volumes still need to be formatted and configured through Windows’ disk management before they can be used.

14. Hit the “Windows Key” and “R” at the same time.
15. Type “diskmgmt.msc” in the Run dialog box.
16. Right click one of the new volumes that were created from before and select “New Simple Volume”.
17. Follow the on-screen steps and name the volume appropriately. The process will begin formatting the volume automatically.
18. Repeat steps 16-17 for the other volume.