

TN-000108
Rev 1.0

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MMC ver. 1.5.2 firmware upgrades

This document outlines the procedure to upgrade MMC firmware to revision 1.5.2.
To avoid damage to your product, you MUST apply upgrade exactly as described.

All SANBlaze Technology AMC and RTM products include an MMC (module management controller) consisting of small a CPU and support logic. The MMC provides module control and monitoring functions. At manufacturing time, the MMC is loaded with a firmware image that is a derivative of Pigeon Point System's (PPS) 1.5.x source code.
(Note: Actel purchased PPS in 2008)

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I. Firmware image request

To reduce the risk of permanently disabling the product, only trained personnel should attempt firmware upgrades. In general, users should not upgrade firmware unless there is a specific functional problem with a product. Upgrade images are supplied by request only, and are not available for download on SANBlaze website. Please contact your SANBlaze sales person for more information.

II. Preparation

To upgrade the MMC, you will need (1) new firmware code files and (2) a firmware upgrade tool. The SANBlaze Technology 1.5.2 firmware distribution consists of two code files:

Table 1: MMC Firmware files.

File name	Description
hpm1boot.img	At power-on, the CPU inside the MMC begins fetching code from flash device called the “boot-loader”. The boot-loader code loads the proper firmware image for runtime operations.
hpm1fw.img	This is the firmware image loaded by the boot-loader, and used to operate the MMC.

While OEMs may provide their own proprietary upgrade tool, SANBlaze advocates using an open source tool derivative called **IPMItool**. The IPMItool program provides a simple command-line interface with ability to apply firmware upgrades, read the sensor data repository (SDR), display System Event Log (SEL) and Field Replaceable Unit (FRU) inventory information, and perform remote power control.

III. Upgrade procedure

Please follow the upgrade steps presented below exactly as shown. Failure to follow these steps could make the MMC non-functional. The command syntax is shown for IPMItool. Please consult your OEM documentation if using a different tool.

SYNOPSIS

The minimum information to complete a firmware upgrade is documented here.

```
$ ipmitool [-I|-H|-T|-B|-t|-b] hpm upgrade <firmware_file>  
$ ipmitool [-I|-H|-T|-B|-t|-b] hpm activate
```

Option	Description
-I <interface>	Selects IPMI interface to use. Supported interfaces that are compiled in are

	visible in the usage help output. Use lan to designate Ethernet.
-H <address>	Remote server address, can be IP address or hostname. This option is required for <i>lan</i> interfaces.
-T <address>	If updating an AMC, use to specify the address and Bus ID of the carrier that holds the AMC. These entries are not needed when updating the carrier alone.
-B <bus id>	
-t <address>	IPMB-L address of the target MMC or Carrier
-b <bus id>	Bus ID of the target MMC or Carrier (use 0 for a carrier, 7 for an AMC/RTM)

IV. Command Syntax Example

EXAMPLE . The following example shows the command sequence for firmware upgrade of an AMC installed on a carrier:

Step	Description/Syntax
1	Upload new boot loader firmware in the flash device, where <i>hpm1boot.img</i> is the image. \$ ipmitool -I lan -H 192.168.0.2 -T 0x82 -B 0 -t 0x74 -b 7 hpm upgrade hpm1boot.img
2	Dynamically activate the new boot loader image. \$ ipmitool -I lan -H 192.168.0.2 -T 0x82 -B 0 -t 0x74 -b 7 hpm activate
3	Upload new firmware in the flash device, where <i>hpm1fw.img</i> is the image. \$ ipmitool -I lan -H 192.168.0.2 -T 0x82 -B 0 -t 0x74 -b 7 hpm upgrade hpm1fw.img
4	Dynamically activate the new firmware image. \$ ipmitool -I lan -H 192.168.0.2 -T 0x82 -B 0 -t 0x74 -b 7 hpm activate