AG20-M BIOS Restore/Upgrade Instructions

Agilent Technologies M9036A PXIe Embedded Controller

Introduction

The following instructions describe how to restore or upgrade to BIOS version AG20-M in your M9036A PXIe Embedded Controller. Use AG20-M BIOS in the M9036A controller if it will manage three or more chassis. AG20-M is supported only on the Windows 7 64-bit or WES 7 64-bit operating system. For more information on using multiple chassis, refer to the *Agilent Multiple PXIe and AXIe Chassis Configuration* tool. This tool is available on the M9036A Product information CD as well as on line at: www.agilent.com/find/pxie-multichassis.

Note: *Additional operating system resources are consumed with this AG20-M (multiple chassis) BIOS, which is why it is supported on 64-bit (Windows 7 or WES 7) operating systems only. Use the AG19 or AG20 BIOS (no "-M" suffix) when using a 32-bit Windows operating system, or if your system contains only one or two Agilent PXIe/AXIe chassis.*

To determine which BIOS is currently installed:

1. Turn chassis power off and then on again.
2. At startup, press the **Delete** key when the Agilent Splash screen appears. This opens the BIOS menu displaying the installed version of BIOS.

The following instructions explain how to upgrade the Agilent M9036A BIOS.

AG20-M BIOS Features

The AG20-M BIOS contains the corrections and improvements of the AG20 BIOS plus these improvements:

- Device Boot-order is no longer corrupted in response to occasional SSD boot failures.
- Sets the default SSD SATA mode from IDE to AHCI for improved disk performance and to correct issues related to multiple chassis operation.
- Corrects an issue where the PCIe Spread Spectrum Clock (SSC) was enabled by default. The BIOS now sets SSC as disabled and correctly reports this in the BIOS setup.
- Repairs an issue where some non-compliant PXIe chassis can cause the M9036A's Express Card Adapter to improperly initialize connected subordinate chassis.
- The BIOS Splash screen now contains selections to *Enter Setup* or *Enter Boot Menu*.
- Fixes the BIOS "holdoff timer" behavior to holdoff final PCI enumeration until after de-assertion of PCI reset.
- Configures BIOS to enumerate systems with up to four Agilent PXIe/AXIe chassis.

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Installation Process Overview

The following instructions contain detailed steps on how to restore or upgrade the Agilent M9036A BIOS. The process contains these four stages:

1. **Important:** When upgrading the BIOS from Agilent AG19 or previous version, you must install *Microsoft Fix it 50470* before updating to AG20-M. See page 2 for detailed information. This is not an issue when using M9036s that already have AG20 BIOS or AG20-M BIOS (or later).
2. Download the AG20-M BIOS files from Agilent.com.
3. Obtain the AMI BIOS utility from their website.
4. Update the M9036A BIOS and reboot.

Install *Microsoft Fix it 50470*

Agilent BIOS AG19 used the SATA mode of IDE, while later BIOS versions use the SATA mode of AHCI. Transitioning between different versions of BIOS requires first installing *Microsoft Fix it 50470* to allow your M9036 to operate with either SATA mode. Failure to do this can cause your M9036 to no longer be able to boot Windows (a recoverable situation, see instructions below).

To run *Microsoft Fix it 50470*:

1. Exit all Windows-based programs on the Agilent M9036A
2. Connect the Agilent M9036A to the internet
3. Go to http://support.microsoft.com/kb/922976
4. Follow the instructions on the screen to install and run the *Microsoft Fix it 50470*.

Note: *If you are not able to connect the M9036A to the internet, you can download and save the utility to a flash drive or a CD (external USB) and then run it on the M9036A.*

If you fail to run *Microsoft Fix it 50470*, your M9036A may fail to boot Windows on subsequent system boots. If this happens, perform the following:

To keep your existing disk image[1]:

1. Boot to BIOS setup. Press the **Delete** key at the Agilent splash screen.
2. Go to the Advanced Tab, then SATA Configuration. Reconfigure the SATA mode from AHCI to IDE mode.
3. Save and exit the BIOS setup.
4. Reboot to Windows.
5. Install *Microsoft Fix it 50470*.
6. Reboot to BIOS setup (again).
7. Go to the Advanced Tab, then SATA Configuration. Reconfigure SATA mode from IDE to AHCI mode.
8. Save and exit the BIOS setup.
9. Reboot to Windows. This should correct the problem.

[1] You may also use the Windows 7 or WES 7 disk recovery. This will completely erase your disk clean, but will fix this problem.

Install the AG20-M BIOS

Notes: *In order to restore or upgrade the BIOS, you must be logged in on the Agilent M9036A controller as a single user with Administrator privileges. If you are not, you must logout and then login again as a single user to an account with Administrator privileges. Set the User Account Control to the default position.*

You will need to download the AFUWIN (amiflash.zip) utility from American Megatrends, Inc. Instructions are provided later in this guide for locating, downloading and using the AFUWIN utility.

I. Access and save the Agilent AG20-M BIOS files to your M9036A

1. On the M9036A, create a folder at the root level of the C: drive for saving the new AG20-M BIOS files.

2. Access and save the Agilent AG20-M BIOS files to the folder created in Step 1 above. You can get the Agilent AG20-M BIOS files from either the M9036A Software and Product Information CD or from the M9036A website (www.agilent.com/find/M9036A).

    a. If you use the M9036A Software and Product Information CD, connect an external USB CD/DVD drive to the M9036A. From the startup screen, click **Update/Restore AG20-M BIOS** button and click **AG20-M BIOS Files and Installation Instructions.** Go on to Step 3 below.

    b. If you choose to connect to the M9036A website (this website will always have the latest BIOS and driver files), select ***Visit Technical Support***, then the ***Drivers, Firmware and Software*** tab. Scroll down and look for the M9036A BIOS link.

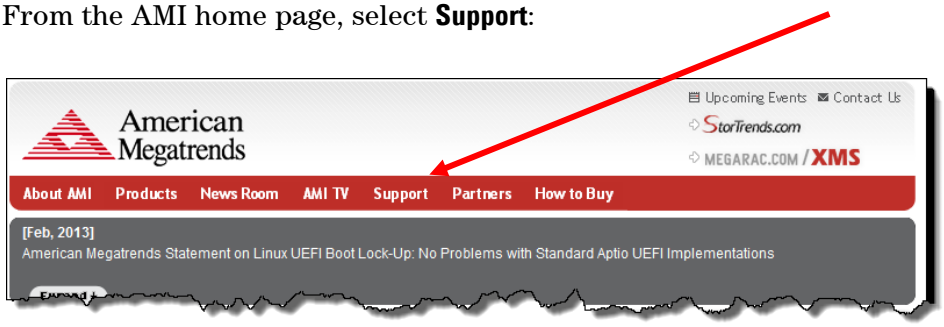
3. Save the *AG20MWIN.zip* file to your hard disk and unzip it to a temporary folder. Copy the following unzipped files to the folder you created in Step 1:

AG20-M BIOS Files:
AG20-M.ROM
FLASHROM.CMD
HISTORY.TXT
README.TXT

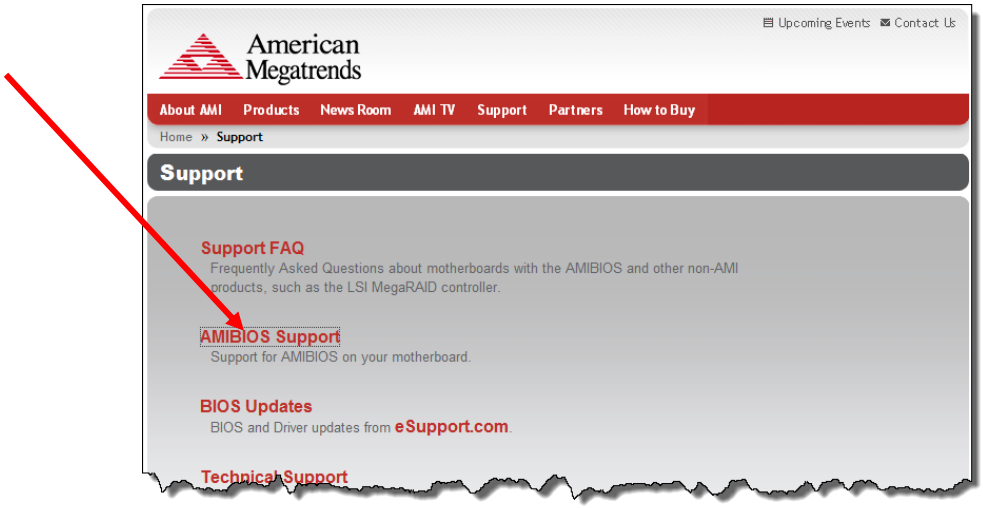
II. Access and run the AFUWIN utility from American Megatrends Inc.

1. Go to the American Megatrends, Inc. (AMI) website: http://ami.com

2. From the AMI home page, select **Support**:

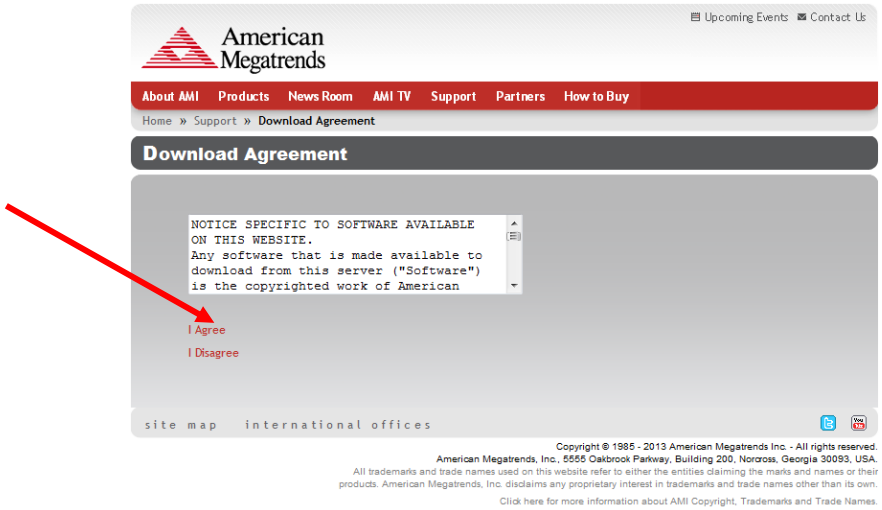


3. This opens the AMI Support web page. Click **AMIBIOS Support**:

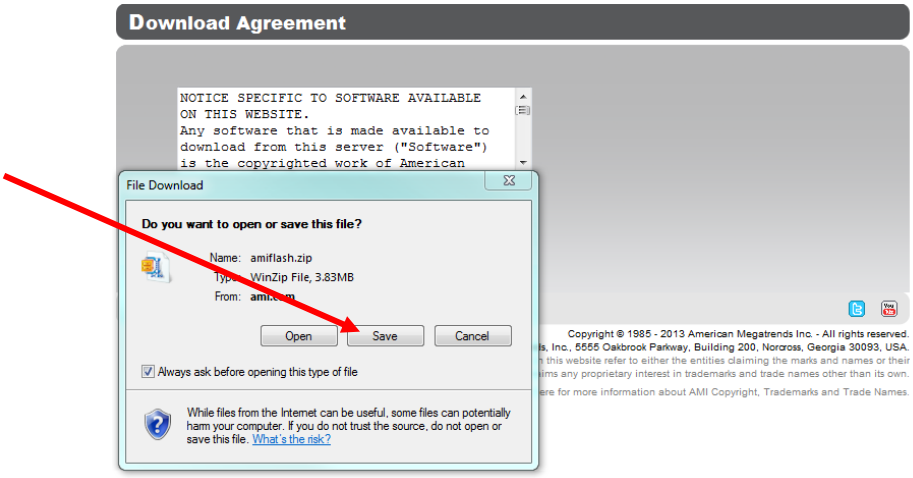


4. This opens the AMIBIOS Support web page. Scroll about half way down the page. Locate and click **AFUWIN v4.xx**:

5. This opens the Download Agreement dialog box. Read through the agreement and, if you agree to the terms, click **I Agree**:

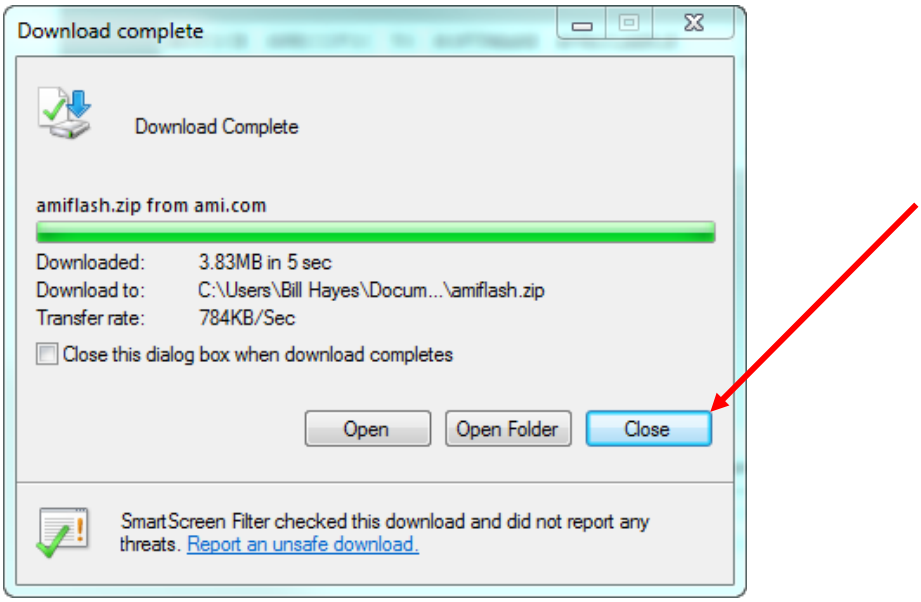


6. This opens the File Download window. Click **Save**.



7. This opens Windows Explorer. Browse to the folder where you want to save the AFUWIN file (*amiflash.zip*). Click **Save**.

8. When the file has completed downloading to the computer, click **Close** to close the download window.



9. Open Windows explorer and navigate to the folder where you saved the *amiflash.zip* file.

10. Double click the *amiflash.zip* file and extract the contents to the folder. This extraction creates one folder named ***amiflash***. There are two subfolders within the amiflash folder: ***AMIBIOS*** and ***Aptio***. The contents of the ***AMIBIOS*** folder are not used in this update and can be ignored.

11. The ***Aptio*** folder also has three subfolders: ***AFUDOS, AFUEFI,*** and ***AFUWIN***. You will use the contents of the ***AFUWIN*** folder to upgrade the M9036A BIOS.

12. In folder ***64***, unzip the *afuwin64.zip* file. This unzips multiple files to a folder named ***afuwin64***. From the folder ***afuwin64***, copy just the *afuwinx64.exe* and *amifldrv64.sys* files and paste them into the folder you created in Section I, Step 1.

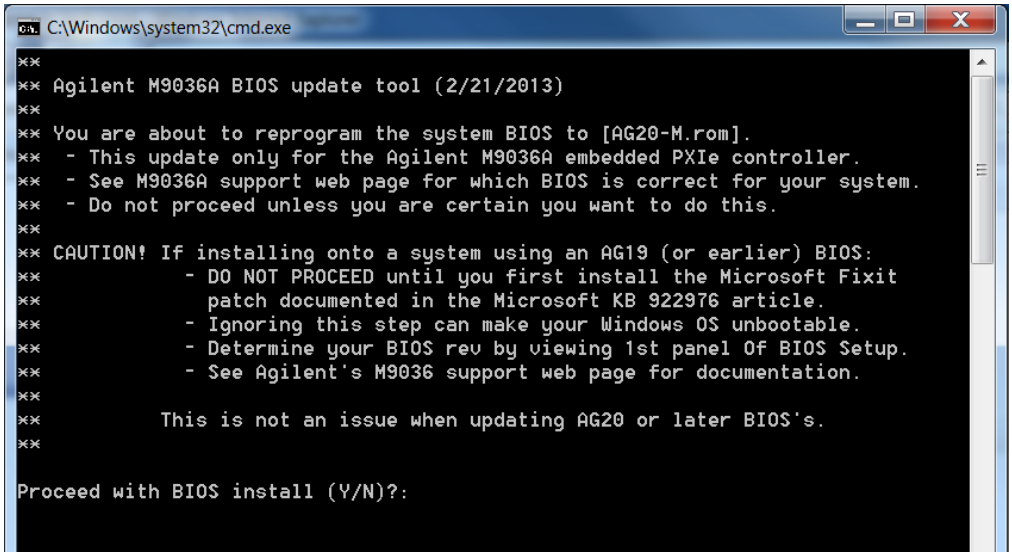
13. At this point, you should have six files in the folder you created in Section I, Step 1:

For a 64-bit system:
AG20-M.ROM
FLASHROM.CMD
HISTORY.TXT
README.TXT
afuwinx64.exe
amifldrv64.sys

III. Update the M9036A BIOS

1. In Windows Explorer, navigate to the folder created in Section I, Step 1.

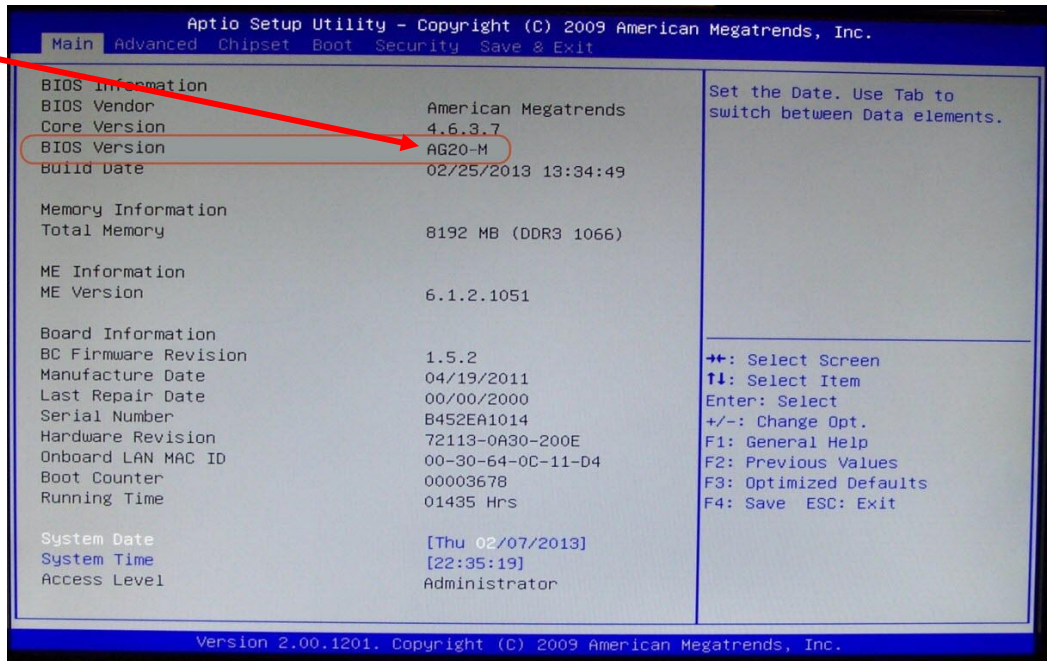
2. To begin the BIOS update procedure, double click on the *FLASHROM.CMD* file. This opens the following screen:



3. Type ***Y*** and press ***Enter***. Do not cycle power until the BIOS has successfully updated.

4. After the utility completes, the BIOS will be updated.

5. Cycle chassis power. At startup, press the Delete key when the Agilent Splash screen appears. This opens the BIOS menu displaying the installed version of BIOS. Verify that AG20-M is the current version. Configure any other settings as needed. Save, and then exit the BIOS Setup screen.



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