

Introduction

NIR Technology Systems has found an issue with some of the new computer boards that we have received from the manufacturer. We have found that NIR Technology's products that use a PC104 board can be susceptible to losing its loaded BIOS, consequently running off the manufacturer default setting forcing the NIR Analyser to not be able to boot up into the Main screen. To fix this problem NIR Technology has worked with the computer board manufacturer to create its own custom BIOS. The custom BIOS will allow the instrument to continue to function normally even if the CMOS settings are lost. For a PC104 board to lose its CMOS settings is a rare event, but this modification will mean that even if it happens, it will no longer pose any problem. This Technical Note applies to instruments manufactured in 2011 or earlier.

BIOS Update Procedure when settings have not been lost.

A bootable CF card is available from NIR technology to automate the BIOS update procedure. Insert BIOS update CF into instrument and turn on. Wait for PC104 board to emit five beeps. The BIOS has been updated. Do NOT turn off the instrument before you hear the five beeps.

BIOS Update Procedure when settings have been lost.

- 1) The PC 104 Module may need to be removed from the instrument for this procedure. Connect power, and monitor, keyboard, and USB port adapter cables to the PC104 board. Monitor, USB and Keyboard adapter cables for the PC 104 Module are available from NIR Technology.
- 2) Connect the adapter cables to a monitor, keyboard and a DOS bootable USB stick containing the update files. The update files to include are: awd834.exe, ni-pc104.bin and fl.bat.
- 3) Boot the PC 104 Module and press delete to enter the BIOS settings. Under the Advanced BIOS Features menu change First boot device setting to USB-HDD. Save and exit the bios (F10 then Enter).
- 4) When the USB stick boots DOS, you may run the update program. Type fl at the prompt and press enter. The software will run to update the BIOS. Press N when the software asks to backup current bios. Then press Y to apply BIOS update file. Do NOT power off the PC 104 while the update is being applied.
- 5) After the update is applied, the BIOS version will have changed to Version 2.0. Unplug the USB stick and restart the instrument.

How to Prepare a DOS Bootable USB Stick

- 1) Obtain the files Hpflash1.exe, awd834.exe, ni-pc104.bin, fl.bat, Command.com, msdos.sys, and io.sys from NIR Technology.
- 2) On a Windows PC, install Hp Flash Disk Utility Hpflash1.exe.
- 1) Copy the DOS system files Command.com, msdos.sys, and io.sys to a known folder location. For example C:\Dos files
- 2) Run the Hp flash utility.
- 3) Set Device to the drive letter for the USB stick you wish to prepare.
- 4) Leave File system option on FAT. Tick Quick format and Create DOS Startup Disk.
- 5) Click on the ... to point to the known folder location containing the DOS system files.
- 6) Click Start as shown in the diagram below
- 7) The USB stick is now DOS bootable. Copy the BIOS update files awd834.exe, ni-pc104.bin and fl.bat to the stick.
- 8) The USB stick is now prepared.

