

AN-X Technical Note



Updating AN-X to Version 3 Software

Hardware changes to recent AN-X modules have made it necessary to release new versions of the boot code, kernels and application firmware, which are identified by version numbers of 3 and above.

The new software also runs on older AN-X modules. Since the new software contains other enhancements, especially for remote upgrades of AN-X modules, we recommend that all AN-X modules be upgraded to the new software.

Future releases of AN-X firmware will require the version 3 boot code and kernels.

This technical note describes how to identify the software versions on an AN-X and how to upgrade to version 3 software.

IMPORTANT! It is important that you follow the procedures in this technical note and upgrade all components. Otherwise the AN-X could be left in an unstable or unusable state.

The firmware that runs on an AN-X is made up of several components.

Component	Description
Boot code	Low level code that starts the AN-X File: zImage.prod.BootUpdate.v3.01.0007.qtf
Configuration kernel	Operating system that runs during updates File: zImage.cfg.v3.01.0001.qtf
Production kernel	Operating system that runs during normal operation File: zImage.prod.v3.01.0001.qtf
Application firmware	Firmware for a specific application, for example, the Modicon S908 master firmware on the AN-X-MOD-MAS File: anxmodmas.v3.1.1.bin

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Before you begin...

Updating firmware on the AN-X clears any configuration on the AN-X. Save all the current configuration files so that you can restore them after you upgrade the firmware.

Make sure you have all required files (boot code update, configuration and production kernels, and application firmware) before you begin.

Remote Upgrades

The following procedures can be used to upgrade remote AN-X modules over the internet, with the following differences.

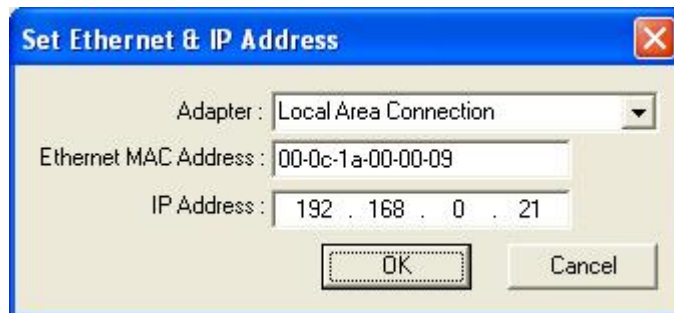
1. The AN-X must use a static IP address
2. When you select the AN-X in AnxInit, enter 00-00-00-00-00-00 for the MAC address, not the MAC address of the AN-X. This tells AnxInit that it's a remote AN-X

Download times can be significantly longer for a remote AN-X

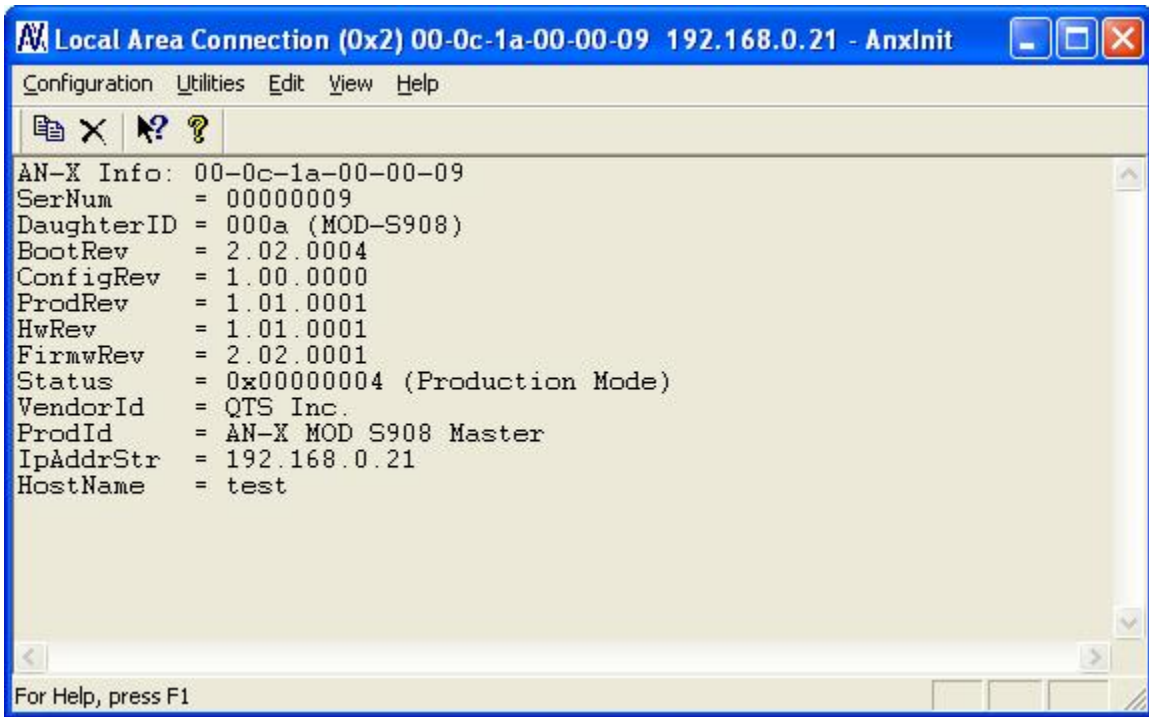
Refer to the Technical note *AN-X-RemoteAccess* for detailed information on remote access to the AN-X.

Identifying the Current Firmware Versions

1. Run AnxInit.
2. Select *Utilities/Select An AN-X* The *Set Ethernet & IP Address* dialog appears.



3. Set the MAC Address and IP address of the AN-X and click OK
4. Select *Utilities/AN-X Info*.



5. Confirm that the AN-X is in Production mode. The Status should be 0x000004.
6. Read the version numbers. In the example shown:

AnxInit	Firmware component	Version
BootRev	Boot code	2.02.0004
ConfigRev	Configuration kernel	1.00.0000
ProdRev	Production kernel	1.01.0001
FirmwRev	Application firmware	2.02.0001

Note: For configuration kernel version 1.01.0001, AnxInit always displays 1.00.0000

Check the Current Versions

Updates to the AN-X software are available from the Quest Technical Solutions website, www.qtsusa.com and on the current AN-X distribution CD.

On the website, select the *Downloads* tab and click on the link to the AN-X Distribution CD ReadMe. The readme file contains a list of all the AN-X components and their version numbers. For example,

Component	Description	Version
SetUpAnxUtil.msi	AN-X Windows Installation file. Installs Windows applications, documentation and support files for the AN-X	v3.0

	product line	
AnxInit.exe	AN-X Configuration Utility	v3.1.3
zImage.cfg.v3.01.0001.qtf	AN-X Embedded OS Kernel - Configuration Mode	v3.1.1
zImage.prod.v3.01.0001.qtf	AN-X Embedded OS Kernel - Production Mode	v3.1.1
zImage.prod.BootUpdate.v3.01.0007.qtf	AN-X Boot Kernel update utility	v3.1.7
anxamxdc.v3.1.1.bin	AN-X-DCSNet Firmware	v3.1.1
qtsamxvdd.msi	Rockwell Virtual Device driver that allows AutoMax prog s/w to use AN-X-DCSNet	v3.1.0.5
anxamxcapt.v3.1.1.bin	AN-X-AMXCAPT Firmware	v3.1.1
AnxAmxCapt.exe	AN-X-AMXCAPT capture client for Windows host computer	v1.4.1
QtsAmxCaptDll.dll	AN-X-AMXCAPT DLL for VB access to raw captured data	v0.1.1
anxdcslg.v3.1.1.bin	AN-X-AMXLOG Firmware	v3.1.1
anxdcslg_win32.v1.0.0.20.zip	Windows service for data collection from an AN-X-AMXLOG device	v1.0.0.20
anxamxrrio.v3.1.1.bin	AN-X-AMXRIO Firmware	v3.1.1
AmxRioTagExport.exe	AN-X-AMXRIO RSLogix tag export utility for Windows	v1.2.1
anxdhp.v3.1.2.bin	AN-X-DHP Firmware	v3.1.2
AnxAbCapt.v3.1.1.bin	AN-X-ABCAPT Firmware	v3.1.1
AnxAbCapt.exe	AN-X-ABCAPT capture client for Windows host computer	v1.4.2
anxpbs.v3.1.1.bin	AN-X-PBSLV Firmware	v3.1.1
anxpbcapt.v3.1.1.bin	AN-X-PBCAPT Firmware	v3.1.1
AnxPbCapt.exe	AN-X-PBCAPT capture client for Windows host computer	v1.4.1
anxmodmas.v3.1.1.bin	AN-X-MOD-MAS Firmware	v3.1.1
anxmodmon.v3.1.1.bin	AN-X-MOD-MON Firmware	v3.1.1
anxgeni.v3.1.2.bin	AN-X-GENI Firmware	v3.1.2

In this example, the current versions are 3.1.7 for the boot code, 3.1.1 for the configuration kernel, 3.1.1 for the production kernel, and 3.1.1 for the application firmware for the Modicon master, AN-X-MOD-MAS. Compare the current versions with those on your AN-X.

The web page contains links to the various files to download.

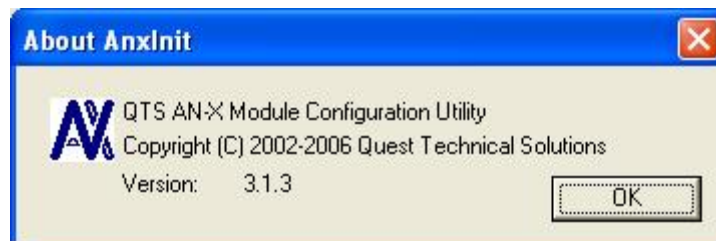
Updating Firmware

Use the following steps to upgrade the AN-X

AnxInit

Obtain version 3 or above of AnxInit, either from the QTS website or from the AN-X distribution CD, and use it when you are upgrading the AN-X module.

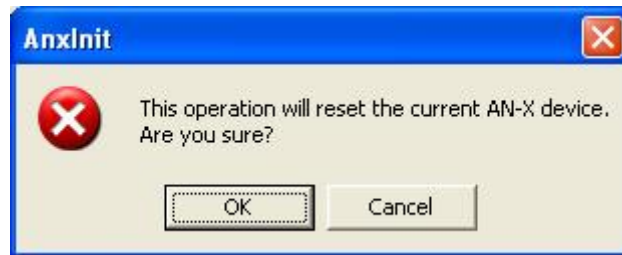
To identify the version, run AnxInit and select Help/About AnxInit...



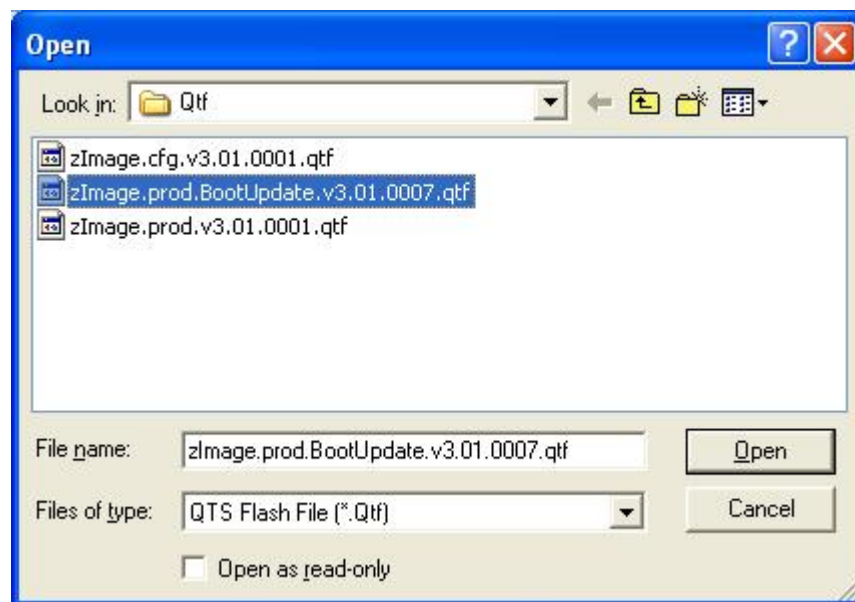
Boot Code

This procedure temporarily replaces the production kernel on the AN-X with a special version of the production kernel that updates the boot code. We will later replace this special version with the standard production kernel.

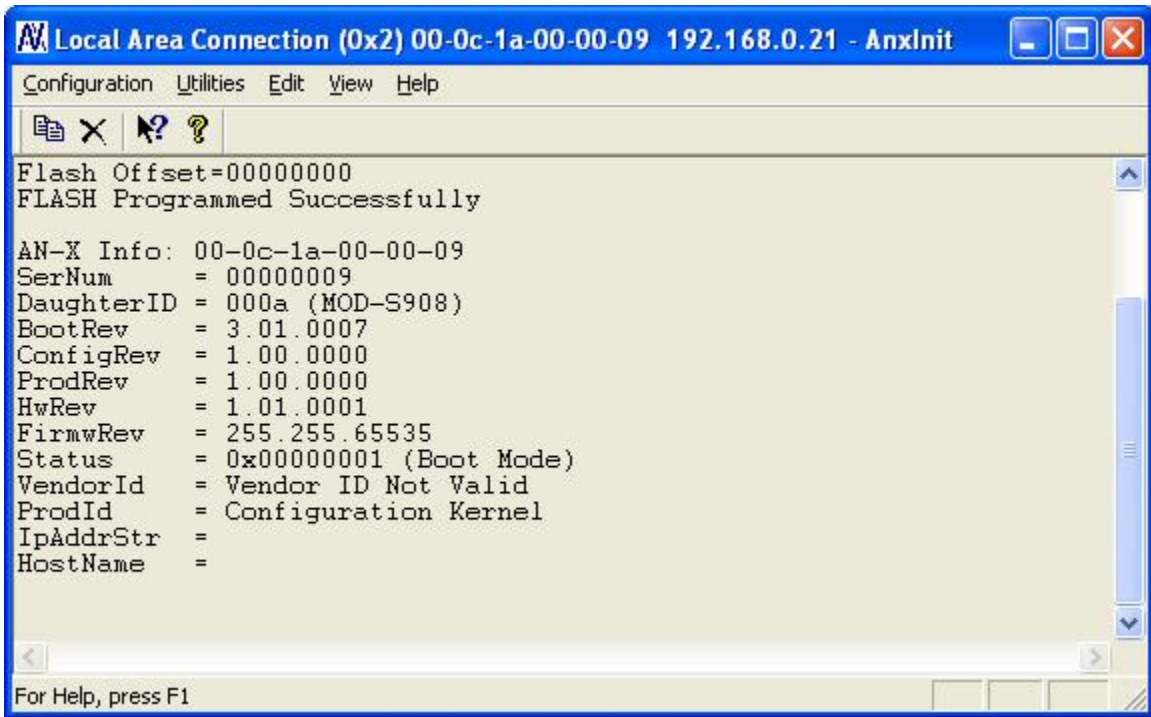
1. Select *Utilities/Update AN-X Flash* and click OK to reset the AN-X



2. Choose the boot code update kernel file and click *Open* to download the file.



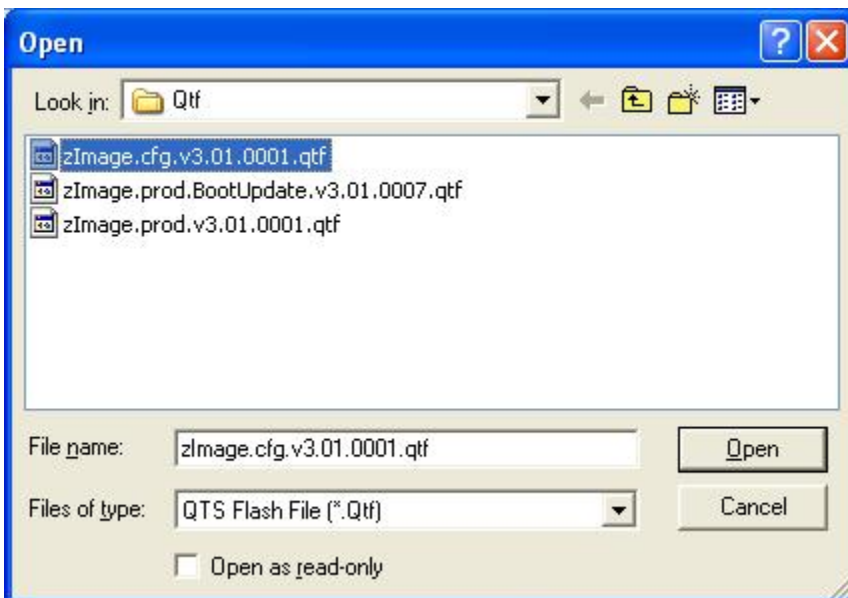
3. Select *Utilities/Restart AN-X*.
4. Wait at least 10 seconds
5. Select *Utilities/AnxInfo* and check that the AN-X boot code is the correct version.



Kernels

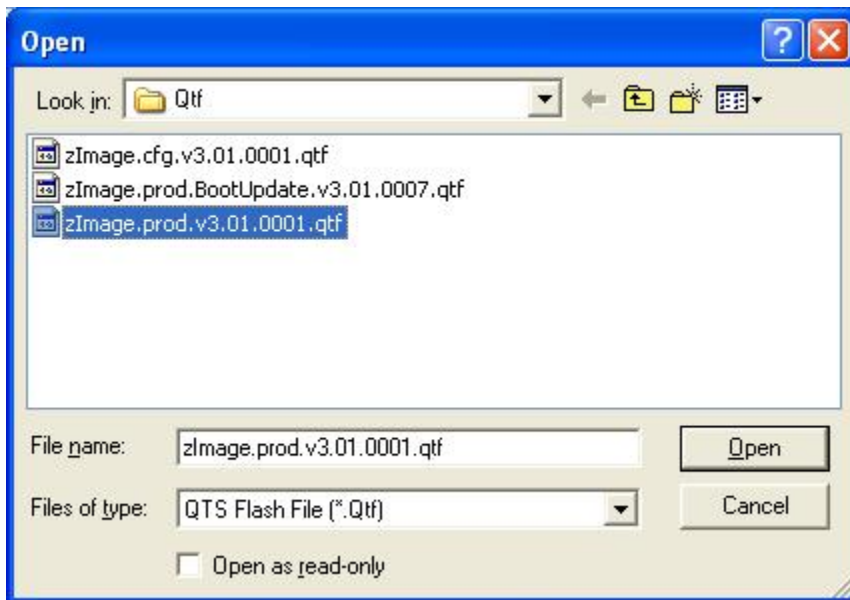
Next update the configuration and production kernels.

6. Select *Utilities/Update AN-X Flash*.
7. Select the configuration kernel file and click Open.



AnxInit downloads the file and displays a message when it is done.

8. Select *Utilities/Update AN-X Flash*.



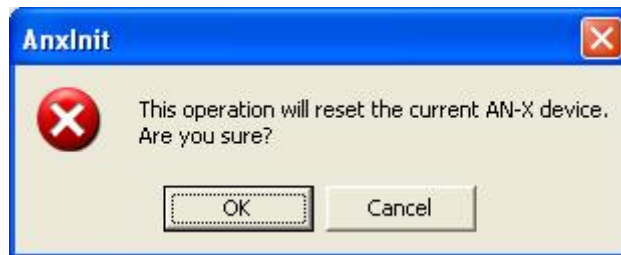
9. Select the production kernel file and click Open.

AnxInit downloads the file and displays a message when it is done.

Application Firmware

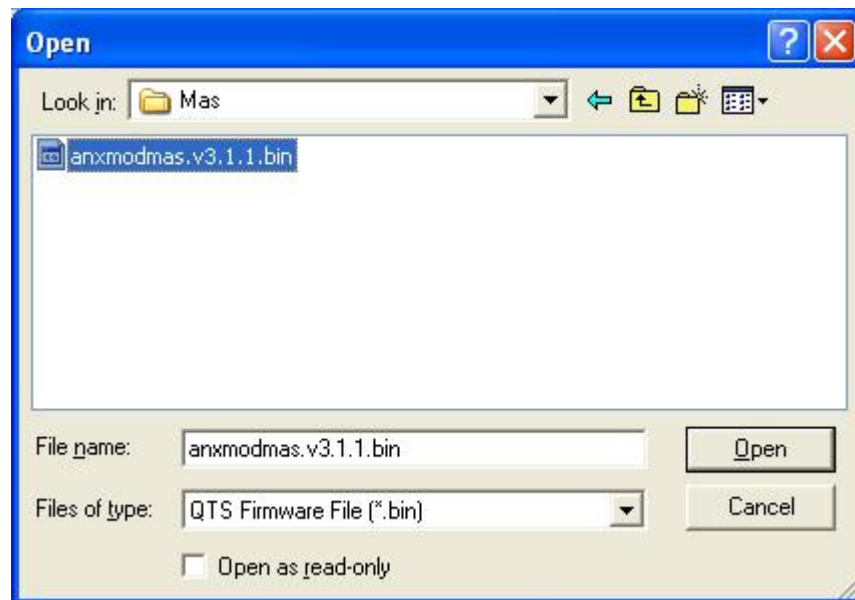
10. To update the application firmware, select *Utilities/Update Firmware* in AnxInit.

AnxInit displays a warning message.



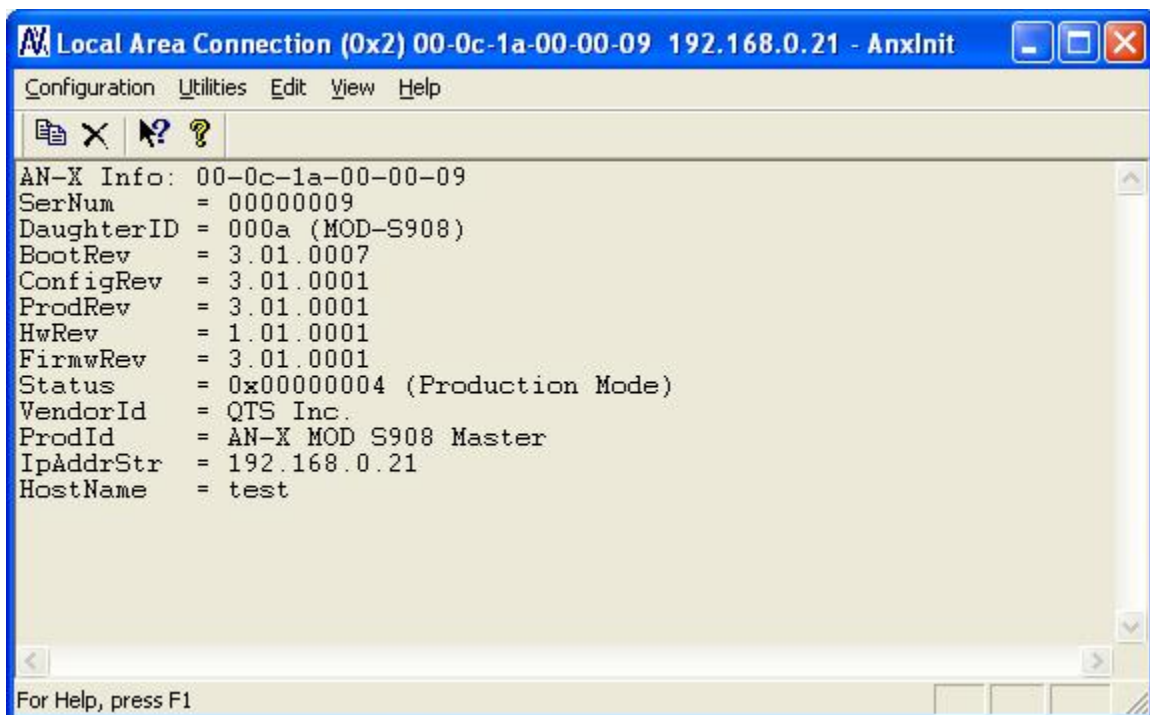
11. Click OK to reset the AN-X.

12. Select the file to download and click Open to download the file.



AnxInit then downloads the file to the AN-X and indicates when it is done.

13. Select *Utilities/AN-X Info* to confirm that the versions are correct



Regaining Control of an AN-X

If something goes wrong during the upgrade, use the following procedure to regain control of the AN-X. This procedure requires that you have access to the AN-X. It does not work for remote AN-X modules.

1. Turn off power to the AN-X and turn power back on.
2. While the AN-X is powering up, it turns on the Ethernet LEDS, turns them off, then turns them back on.
3. Within 3 seconds of when they come on the second time, disconnect the Ethernet cable and keep it disconnected for at least 5 seconds, then reconnect it

The AN-X should now be in boot mode and you should be able to access it using AnxInit.

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