



400e Firmware Utility

User Guide

Version 1.0, 02-2013

Table of Contents

TABLE OF CONTENTS	1
SECTION 1: INTRODUCTION	2
SECTION 2: CHECK FIRMWARE INFORMATION	3
SECTION 3: PERFORM FIRMWARE UPGRADE	6
SECTION 4: USING 400E_FIRMWAREUTILITY.EXE WITH BATCH FILE	9
SECTION 5: REVISION HISTORY	12
SECTION 6: CONTACT US.....	13

Section 1: Introduction

This guide explains how to use 400e Firmware Utility to:

1. Retrieve firmware information such as serial number and firmware revision.
2. Perform firmware upgrade.

Section 2: Check Firmware Information

1. Launch Command Prompt from your PC.
 - a. Click the *Start* button.
 - b. Click *All Programs*.
 - c. Click *Accessories*.
 - d. Click *Command Prompt*.

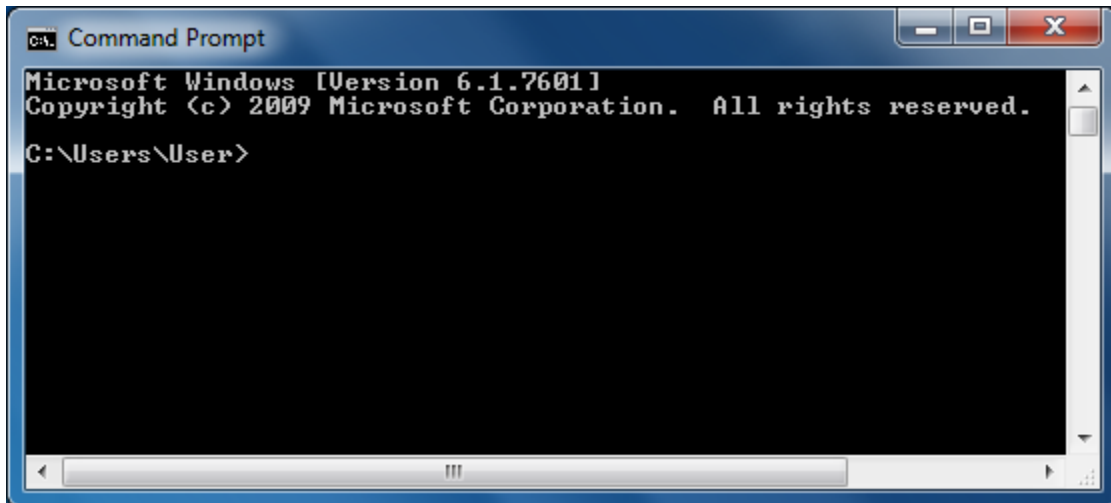


Figure 1: Launch Microsoft Command Prompt Window

2. Browse to C:\Aemulus\common\bin. This is where 400e_FirmwareUtility.exe is placed.

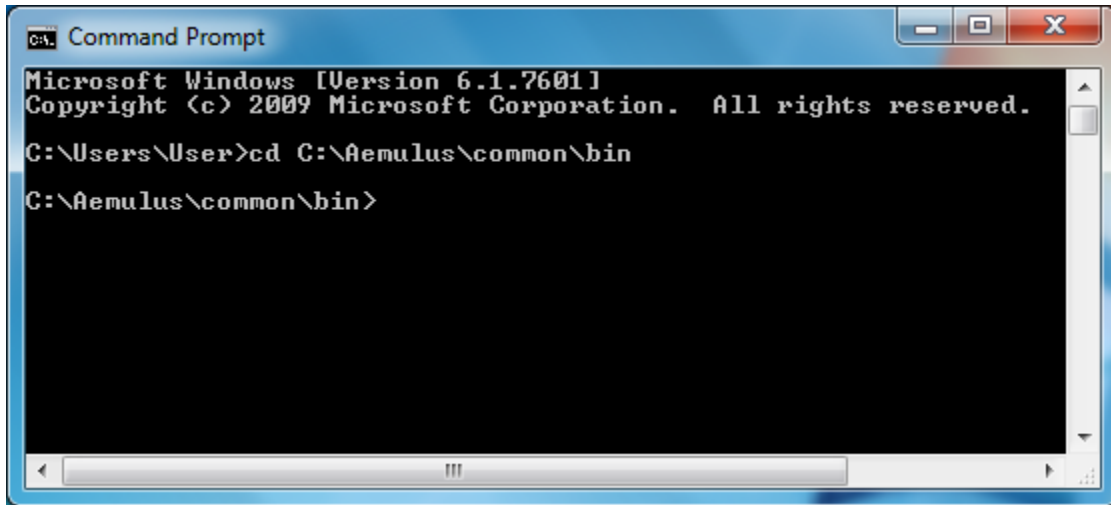


Figure 2: Browse to 400e_FirmwareUtility.exe

Note:

cd<dirname> means enter that <dirname> directory.

3. To check the firmware version, enter the following line:

400e_FirmwareUtility -V <PXI address of the module>

The following results will be returned:

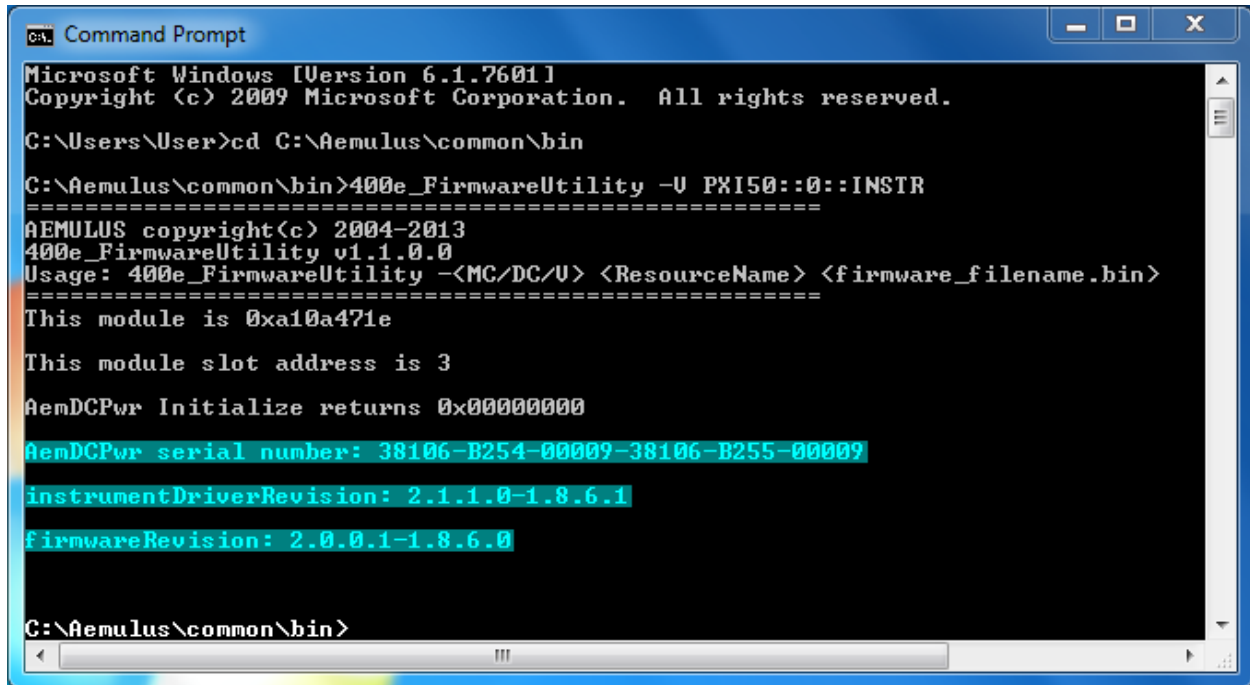
- i. Serial number of the module, in following order:

 <Serial number of master card>—<Serial number of slave card>
- ii. C++ software library of the module, in following order:

 <File revision of AemDCPwr.dll>—<File revision of AM4xx.dll>
- iii. Firmware revision of the module, in following order:

 <Firmware version of master card>—<Firmware version of slave card>

4. The example below shows the firmware information of AM471e, with PXI address PXI50::0::INSTR.



```
C:\Users\User>cd C:\Aemulus\common\bin

C:\Aemulus\common\bin>400e_FirmwareUtility -U PXI50::0::INSTR
=====
AEMULUS copyright(c) 2004-2013
400e_FirmwareUtility v1.1.0.0
Usage: 400e_FirmwareUtility -<MC/DC/U> <ResourceName> <firmware_filename.bin>
=====
This module is 0xa10a471e

This module slot address is 3

AemDCPwr Initialize returns 0x00000000

AemDCPwr serial number: 38106-B254-00009-38106-B255-00009
instrumentDriverRevision: 2.1.1.0-1.8.6.1
firmwareRevision: 2.0.0.1-1.8.6.0

C:\Aemulus\common\bin>
```

Figure 3: Command Prompt Output

Section 3: Perform Firmware Upgrade

NOTE

Do not attempt to terminate the firmware upgrade process. Wait until firmware upgrade is successful, as will be indicated on the command prompt window. Failing to do so may corrupt the operation of the module!

1. Place the firmware file (*.bin) at C:\Aemulus\common\bin directory.
2. Launch Command Prompt from your PC
 - a. Click the *Start* button
 - b. Click *All Programs*
 - c. Click *Accessories*
 - d. Click *Command Prompt*

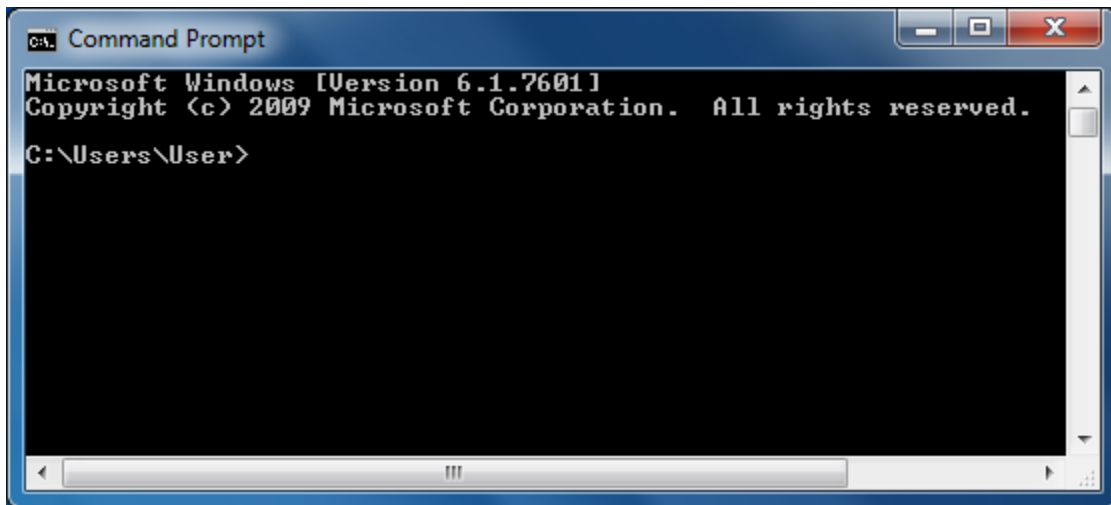


Figure 4: Launch Microsoft Command Prompt Window

3. Browse to C:\Aemulus\common\bin. This is where 400e_FirmwareUtility.exe is placed.

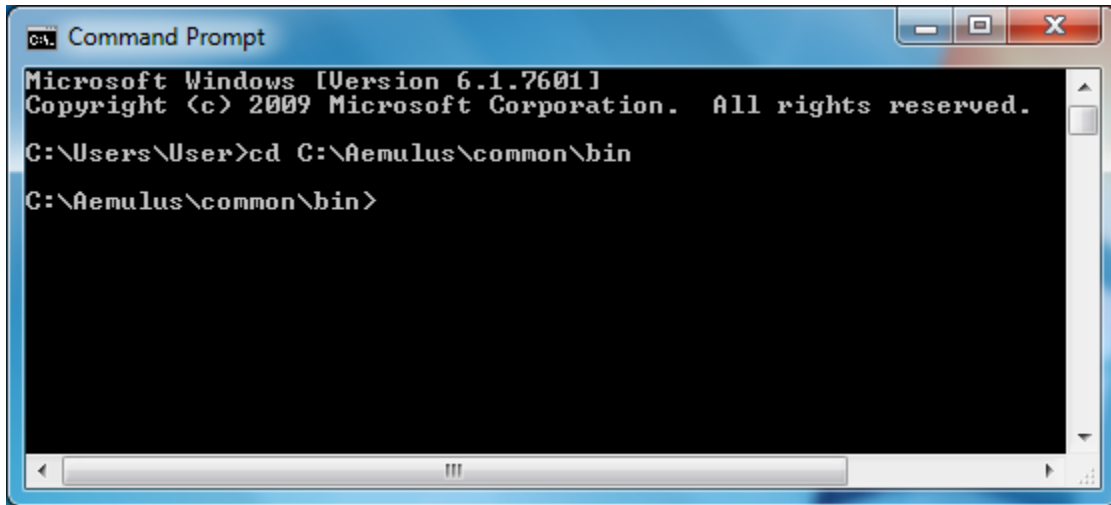


Figure 5: Browse to 400e_FirmwareUtility.exe

Note:

cd<dirname> means enter that <dirname> directory.

5. To perform firmware upgrade, enter the following line:

For master card:

400e_FirmwareUtility -MC <PXI address of the module> <Firmware file>

For slave card:

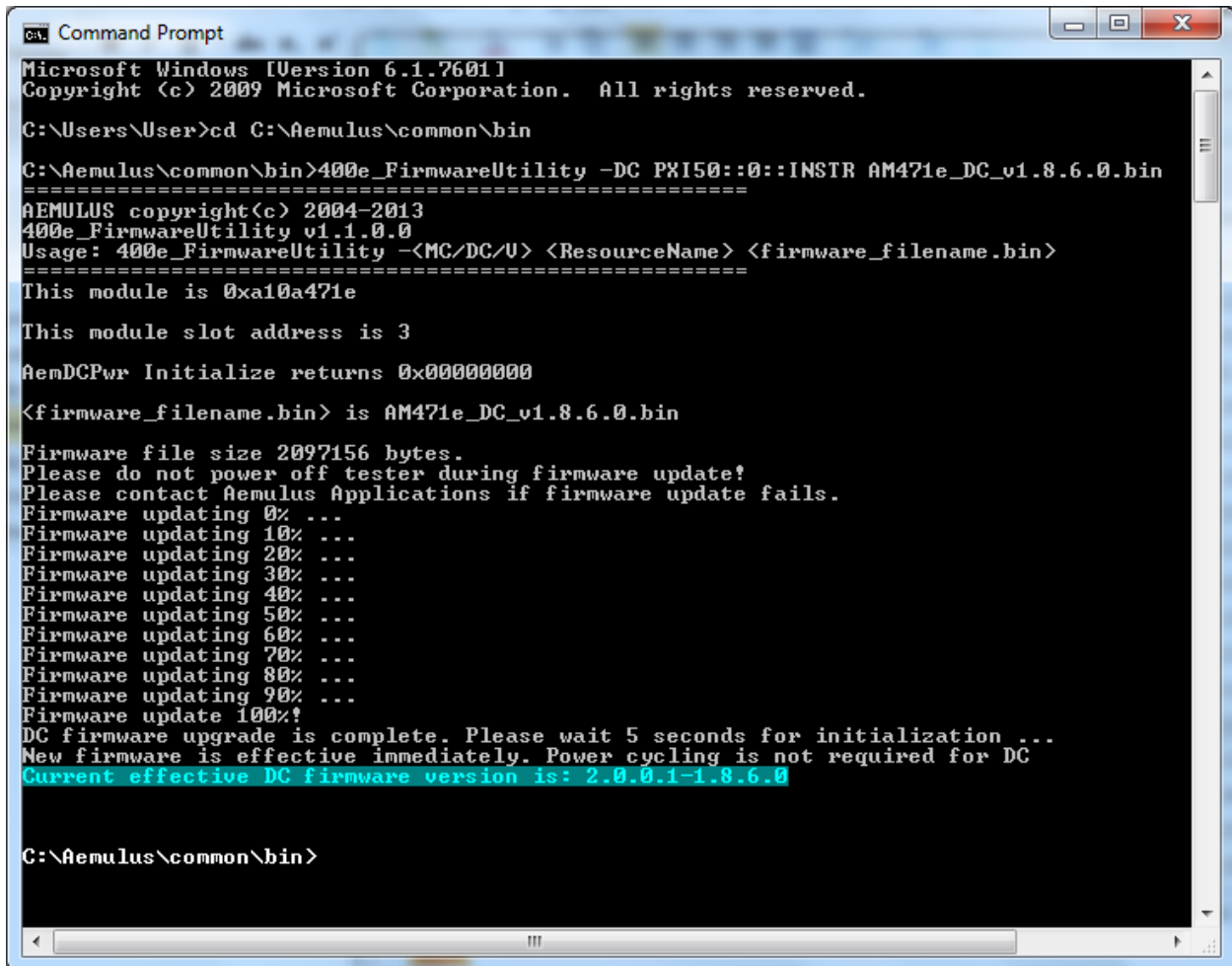
400e_FirmwareUtility -DC <PXI address of the module> <Firmware file>

6. The example below shows the firmware upgrade process of AM471e, with the following inputs:

Card: Slave (DC)

PXI address: PXI50::0::INSTR

Firmware file: AM471e_DC_v1.8.6.o.bin



```

Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\User>cd C:\Aemulus\common\bin

C:\Aemulus\common\bin>400e_FirmwareUtility -DC PXI50::0::INSTR AM471e_DC_v1.8.6.o.bin
=====
AEMULUS copyright(c) 2004-2013
400e_FirmwareUtility v1.1.0.0
Usage: 400e_FirmwareUtility -<MC/DC/U> <ResourceName> <firmware_filename.bin>
=====
This module is 0xa10a471e
This module slot address is 3
AemDCPwr Initialize returns 0x00000000
<firmware_filename.bin> is AM471e_DC_v1.8.6.o.bin
Firmware file size 2097156 bytes.
Please do not power off tester during firmware update!
Please contact Aemulus Applications if firmware update fails.
Firmware updating 0% ...
Firmware updating 10% ...
Firmware updating 20% ...
Firmware updating 30% ...
Firmware updating 40% ...
Firmware updating 50% ...
Firmware updating 60% ...
Firmware updating 70% ...
Firmware updating 80% ...
Firmware updating 90% ...
Firmware update 100%!
DC firmware upgrade is complete. Please wait 5 seconds for initialization ...
New firmware is effective immediately. Power cycling is not required for DC
Current effective DC firmware version is: 2.0.0.1-1.8.6.0

C:\Aemulus\common\bin>

```

Figure 6: Firmware Upgrade

7. Shut down the PXIe chassis. The module will load latest firmware upon power up.

Section 4: Using 400e_FirmwareUtility.exe with Batch File

In Microsoft Windows, **batch file** (*.bat) is the name given to a type of script file, a text file containing a series of commands to be executed by the command interpreter. A batch file may contain any command the interpreter accepts interactively at the command prompt.

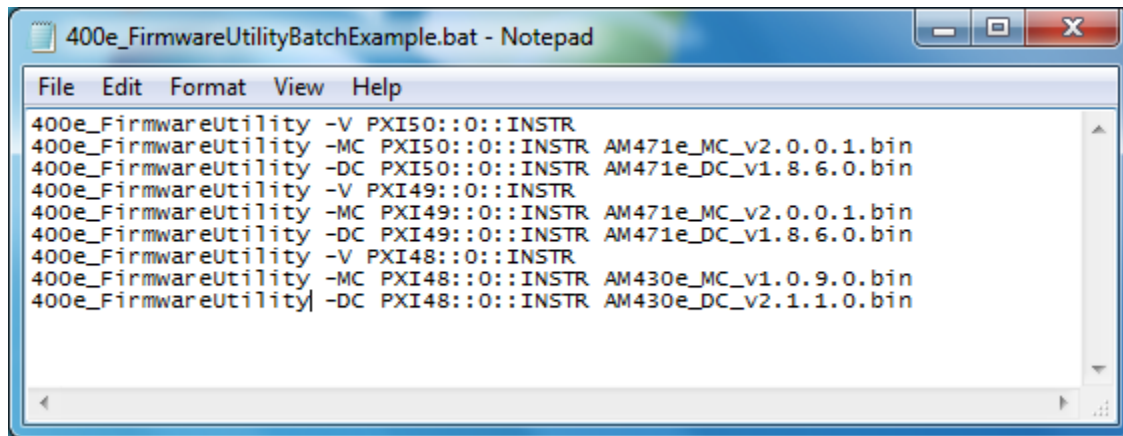
You can include multiple commands in a batch file to automate several activities in a sequential manner, such as checking firmware revision, then perform firmware upgrade for master card, then followed by slave card. This can be done to multiple modules in a chassis.

Steps to create a batch file:

1. Launch Microsoft Windows Notepad.
2. Enter all the command lines you intend to execute.
3. Save the file with *.bat file extension.
4. Place the file at C:\Aemulus\common\bin.

In the example below, the following actions are executed:

1. Check firmware revision of PXI50::0::INSTR (AM471e).
2. Perform firmware upgrade to master card for PXI50::0::INSTR. Firmware file is AM471e_MC_v2.0.0.1.bin.
3. Perform firmware upgrade to slave card for PXI50::0::INSTR. Firmware file is AM471e_DC_v1.8.6.0.bin.
4. Check firmware revision of PXI49::0::INSTR (AM471e).
5. Perform firmware upgrade to master card for PXI49::0::INSTR. Firmware file is AM471e_MC_v2.0.0.1.bin.
6. Perform firmware upgrade to slave card for PXI49::0::INSTR. Firmware file is AM471e_DC_v1.8.6.0.bin.
7. Check firmware revision of PXI48::0::INSTR (AM430e).
8. Perform firmware upgrade to master card for PXI48::0::INSTR. Firmware file is AM430e_MC_v1.0.9.0.bin.
9. Perform firmware upgrade to slave card for PXI48::0::INSTR. Firmware file is AM430e_DC_v2.1.1.0.bin.



```
400e_FirmwareUtility -V PXI50::0::INSTR
400e_FirmwareUtility -MC PXI50::0::INSTR AM471e_MC_v2.0.0.1.bin
400e_FirmwareUtility -DC PXI50::0::INSTR AM471e_DC_v1.8.6.0.bin
400e_FirmwareUtility -V PXI49::0::INSTR
400e_FirmwareUtility -MC PXI49::0::INSTR AM471e_MC_v2.0.0.1.bin
400e_FirmwareUtility -DC PXI49::0::INSTR AM471e_DC_v1.8.6.0.bin
400e_FirmwareUtility -V PXI48::0::INSTR
400e_FirmwareUtility -MC PXI48::0::INSTR AM430e_MC_v1.0.9.0.bin
400e_FirmwareUtility -DC PXI48::0::INSTR AM430e_DC_v2.1.1.0.bin
```

Figure 7: Batch Execution Example

```

C:\Windows\system32\cmd.exe

firmwareRevision: 2.0.0.1-1.8.6.0

C:\Aemulus\common\bin>400e_FirmwareUtility -MC PXI50::0::INSTR AM471e_MC_v2.0.0.1.bin
=====
AEMULUS copyright(c) 2004-2013
400e_FirmwareUtility v1.1.0.0
Usage: 400e_FirmwareUtility -<MC/DC/U> <ResourceName> <firmware_filename.bin>
=====
This module is 0xa10a471e

This module slot address is 3

AemDCPwr Initialize returns 0x00000000

<firmware_filename.bin> is AM471e_MC_v2.0.0.1.bin

Firmware file size 2097156 bytes.
Please do not power off tester during firmware update!
Please contact Aemulus Applications if firmware update fails.
Firmware updating 0% ...
Firmware updating 20% ...
Firmware updating 40% ...
Firmware updating 60% ...
Firmware updating 80% ...
Firmware update 100%!
MC firmware upgrade is complete
New firmware is effective after recycle power the module
New firmware version after recycle power will be: 2.0.0.1-1.8.6.0

C:\Aemulus\common\bin>400e_FirmwareUtility -DC PXI50::0::INSTR AM471e_DC_v1.8.6.0.bin
=====
AEMULUS copyright(c) 2004-2013
400e_FirmwareUtility v1.1.0.0
Usage: 400e_FirmwareUtility -<MC/DC/U> <ResourceName> <firmware_filename.bin>
=====
This module is 0xa10a471e

This module slot address is 3

AemDCPwr Initialize returns 0x00000000

<firmware_filename.bin> is AM471e_DC_v1.8.6.0.bin

Firmware file size 2097156 bytes.
Please do not power off tester during firmware update!
Please contact Aemulus Applications if firmware update fails.
Firmware updating 0% ...
Firmware updating 10% ...
Firmware updating 20% ...

```

Figure 8: Batch File Execution

Section 5: Revision History

1.0	FEB 2012	INITIAL RELEASE
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Section 6: Contact Us

To obtain service, warranty or technical assistance, please contact Aemulus.



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Product specifications and descriptions in this document are subject to change without prior notice.