

How to upgrade SMC V2.0 firmware to V2.2 with the new SD card

1 Introduction

This Application Note describes how to use SMC Firmware Loader to upgrade firmware in the ScanMaster Controller (SMC) from V2.0 to V2.2 with the new SD card provided by Cambridge Technology.

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Keywords: ScanMaster Designer, SMC, Software Development Kit, SMC SDK, SMC Firmware Loader, upgrade firmware, Lightning™ II servo parameters

2 Background information

A new SD card which is loaded with the SMC firmware V2.2 is provided to customers who want to upgrade their SMC from V2.0 to V2.2 which is designed to be used with ScanMaster Designer V2.2. Using the firmware Loader to upgrade can automatically transfer the configuration files in the original SD card to the new one.

You must use the new SD card and follow the instructions in this Technical Bulletin when you upgrade your SMC from V2.0 to V2.2. The reason for using the new SD card is to provide additional reliability. The original V2.0 SD cards were vulnerable to flash file system corruption under certain circumstances. The new SD card eliminates this possibility.

3 Software prerequisites

In order for you to upgrade the firmware to V2.2, you must install SMC SDK (Software Development Kit) V2.2 on your computer. Please see Technical Bulletin AN00002 - Cambridge Technology Software Suite Setup for details on downloading and installing the SDK.

You can download SMC SDK and the applicable manuals from our website.

3.1 Connect the SMC to the computer via Ethernet cable

The default factory setting on the new SD card for the SMC board IP address is the static address 192.168.100.20.

NOTE: You must ensure, before starting this process, that your network adaptor and your SMC should be configured for the 192.168.100 subnet.

You can use either of the following methods to connect the SMC to the PC via an Ethernet cable:

- **Direct** – The SMC is directly linked to the PC through an Ethernet cable. Both the PC and the SMC must have static IP addresses.
- **Network** – The SMC is connected to a network hub in an intranet, and the PC is connected to the same intranet. Even in this case, both the SMC and the PC must be set to **Static** IP address.

NOTE: Please make sure to upgrade the Network Adaptor Driver in your computer to the latest version before doing the firmware upgrade.

4 Upgrading firmware

Do the following to use SMC Firmware Loader to upgrade the firmware to V2.2:

NOTE: Be sure you have followed steps in Section 3 - [Software prerequisites](#) before you proceed with this step.

1. Check that the SMC board is properly connected to the computer, and then power on the board.
2. Launch SMC Firmware Loader (either from the Windows start-up menu or from the folder **C:\Program Files\Cambridge Technology\SMC\Server**). The following screen will be displayed while SMC Firmware Loader searches the Ethernet network for SMC target

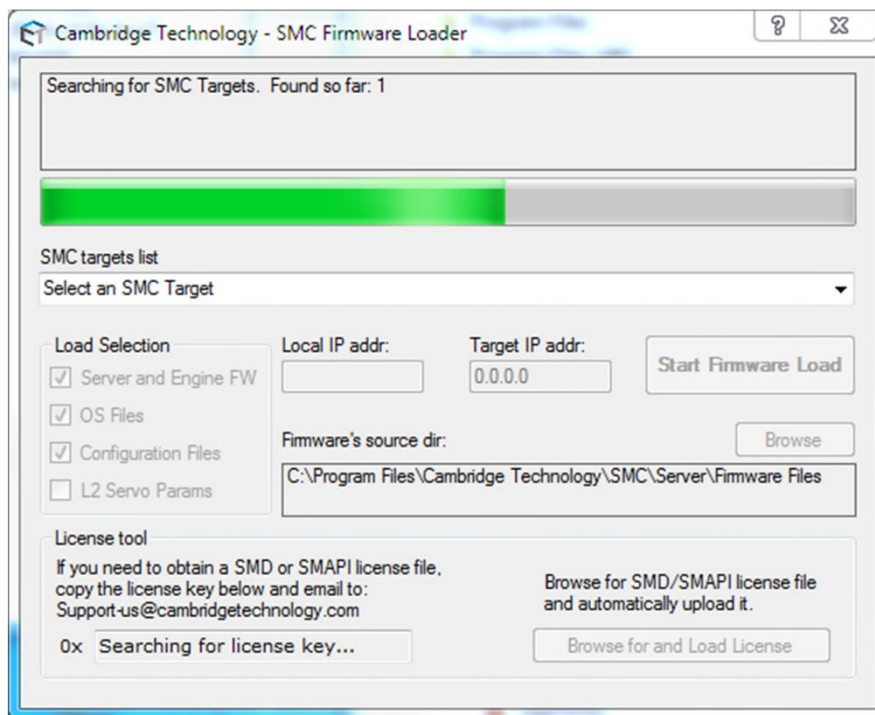


Figure 1 - SMC Firmware Loader searching for SMC targets

If one SMC is found, it is automatically selected in the **SMC targets list**. The message window will display the **Server Version**, the **Marking Engine Version**, and the **ScanScript Engine Version** as shown in the following figure.

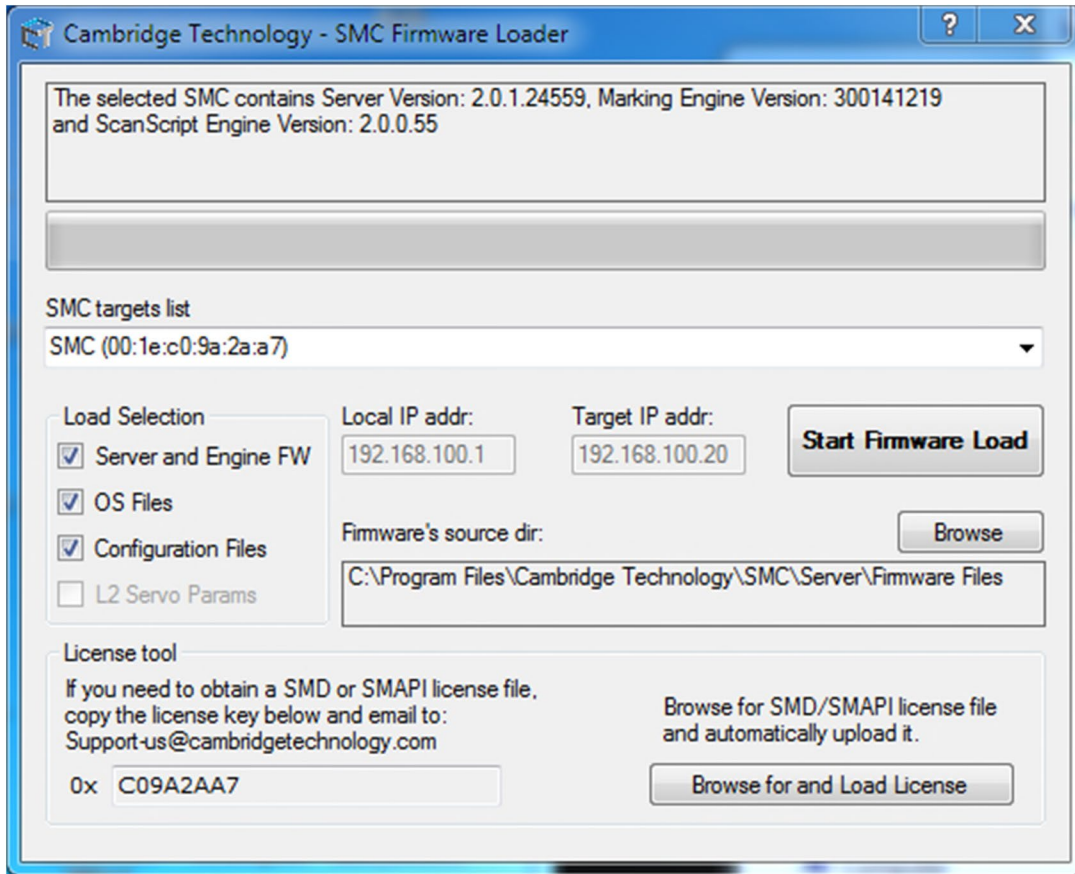


Figure 2 - SMC Firmware Loader finds the SMC target

If two or more SMCs are found, the user will be asked to select the correct one. If none are found, an error is reported in red and the user is asked to retry the search or manually enter the IP address of the target SMC. If you encounter the following error message, please double check your firewall and IP address settings. Please make sure that you set firewall permission to access the software and that you configure the network adaptor and the SMC for the 192.168.100 subnet.

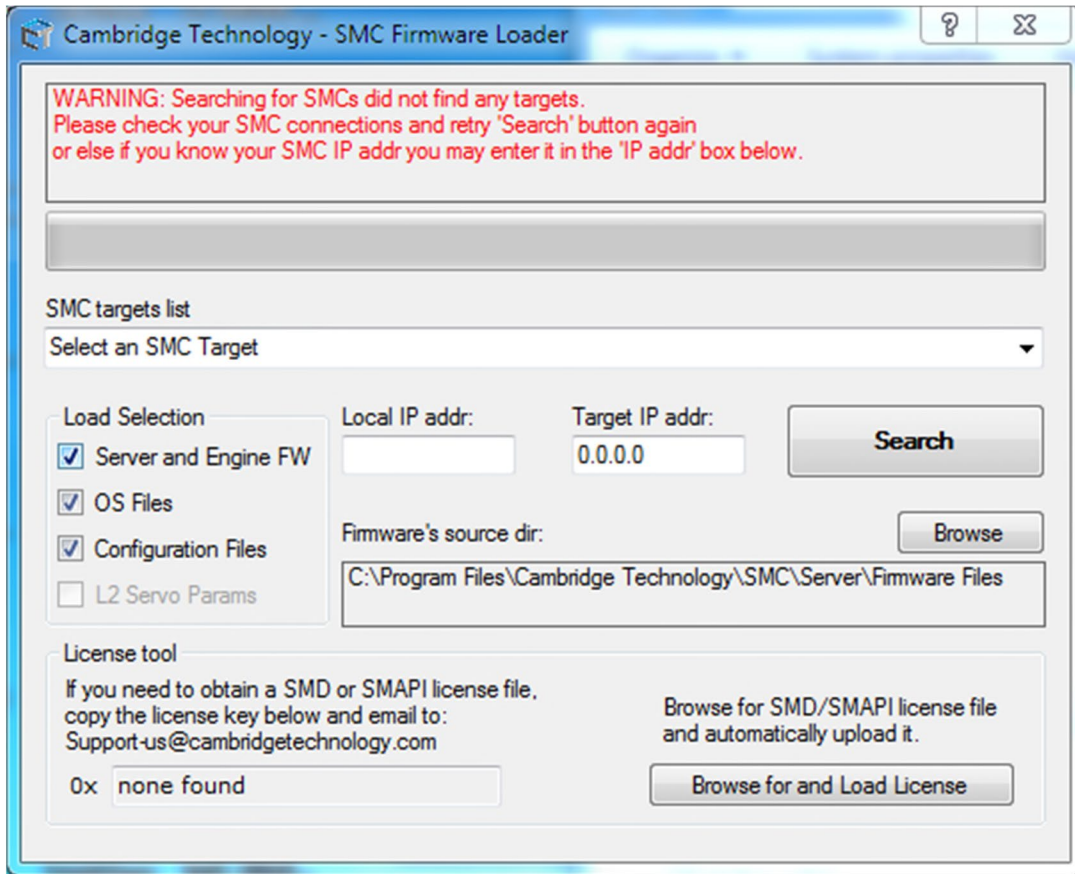


Figure 3 - SMC Firmware Loader did not find any SMC target

3. In the **Load Selection** area of the following screen, check all three active boxes: **Server and Engine FW**, **OS Files**, and **Configuration Files**.
4. Left-click the **Start Firmware Load** button in the following screen. This will start the firmware upgrade process.

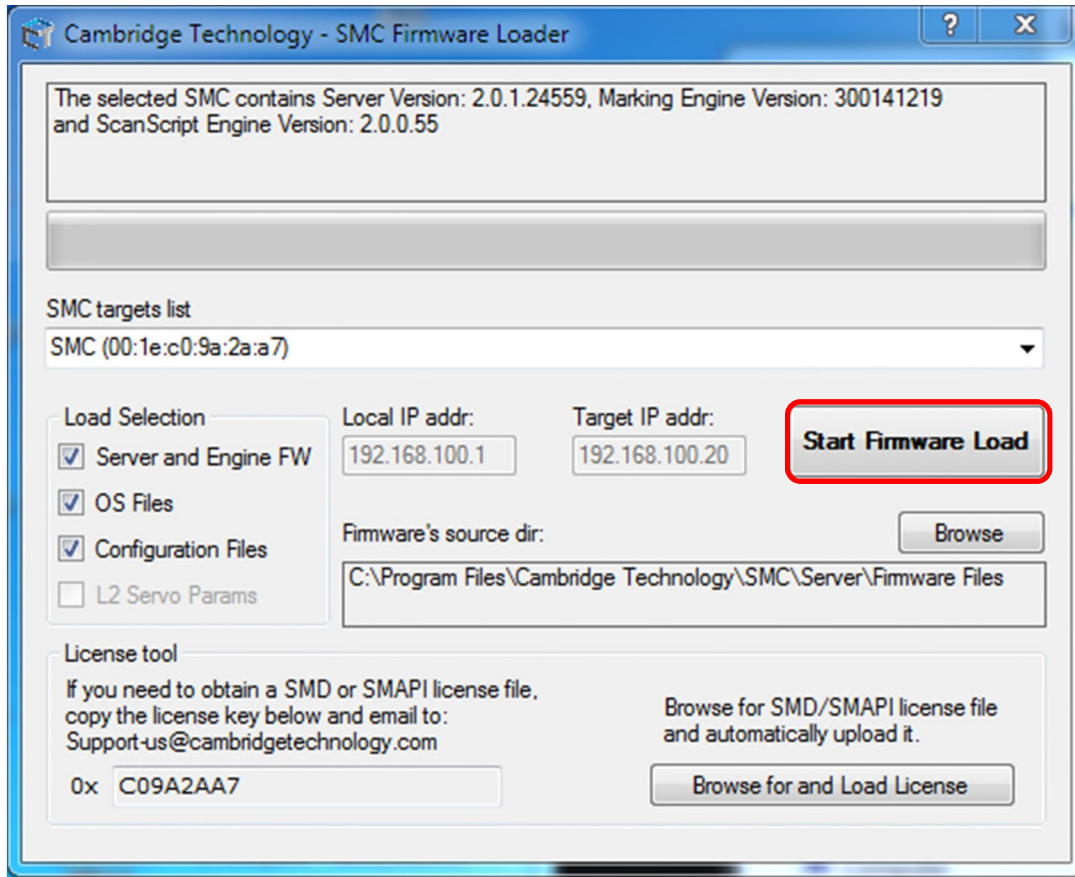


Figure 4 - Load Selection and Start Firmware Load

- The first step in this process is “Step 2: Backing up the current firmware files...” which is shown in the figure below.

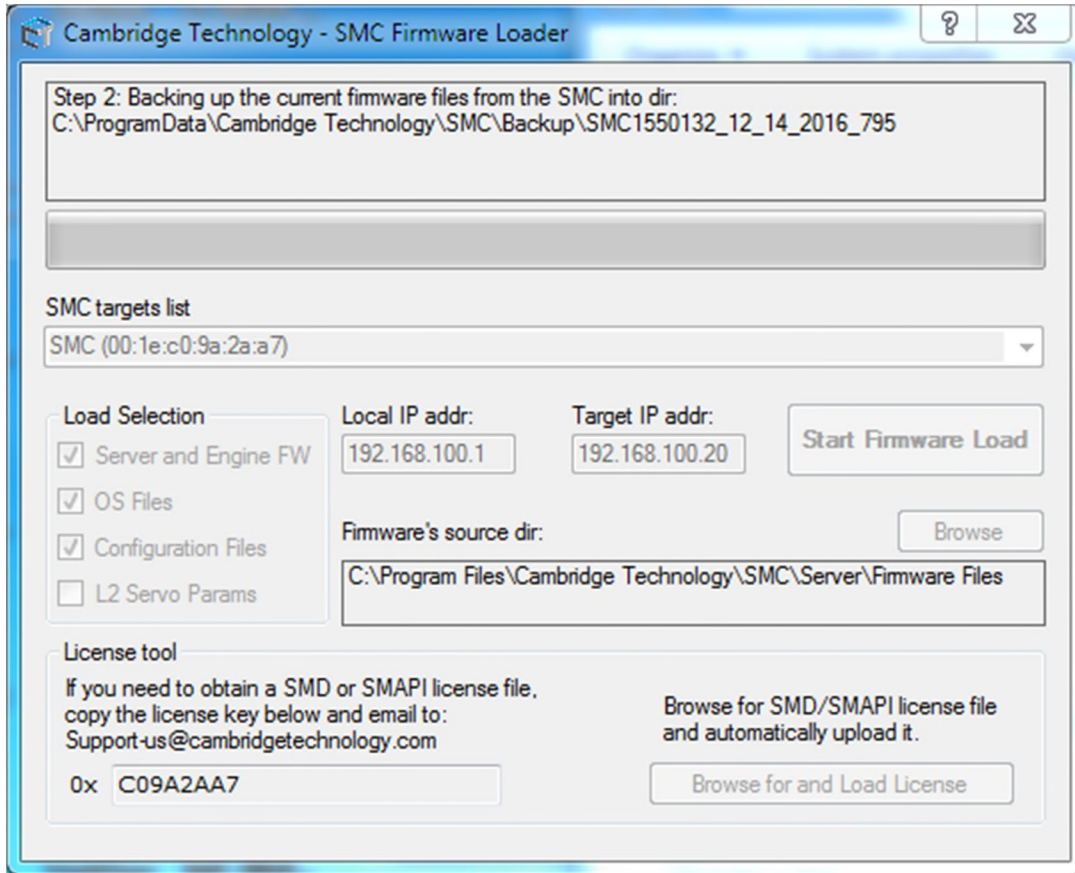


Figure 5 - Backing up the current firmware files from the SMC

After this step, the firmware loader will pop up a message window asking if you have a new V2.2 SD card from Cambridge Technology as shown in the figure below. Please click “Yes” to proceed. If you do not want to use the new SD card for now, you can press “No” and the firmware loader will exit with no changes.

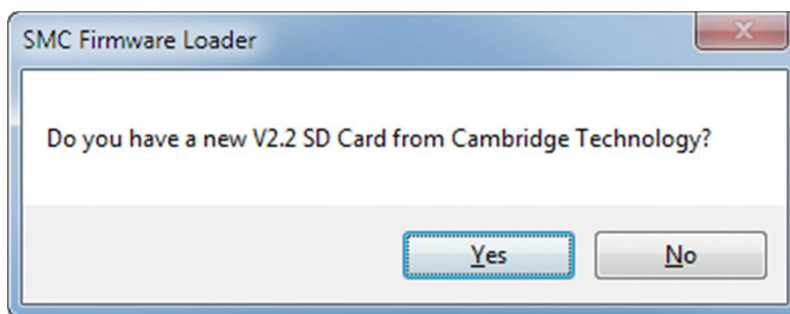


Figure 6 - Pop-up window “Do you have a new V2.2 SD?”

6. Then another window pops up with instructions.

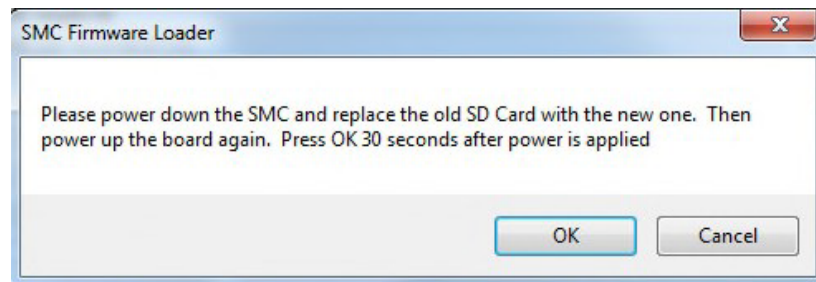


Figure 7 - Pop-up window with instructions to put the new card

Follow the instructions:

- a. Power down the SMC
- b. Remove the old SD card from the SMC by pressing the SD card into the card slot at the back of the SMC. The SD card is then released from the slot and can be removed.

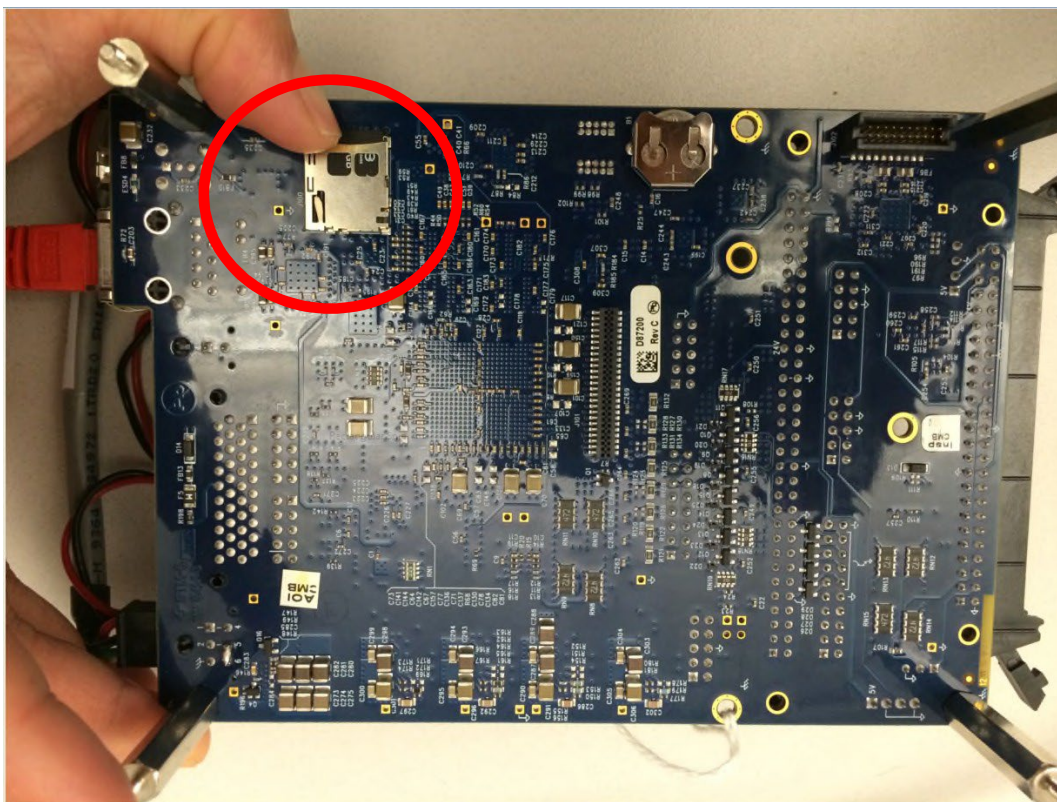


Figure 8 - Releasing the old SD card from the card slot

- c. Insert the new SD card into the slot, carefully pressing the card into the slot until it locks into place.
- d. Power up the board again.
- e. Wait for 30s and then press OK.

After that, the firmware loader uploads the new configuration files from its backup into the SMC and restarts the SMC, as shown in the following figures.

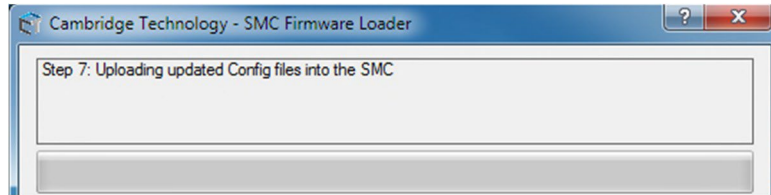


Figure 9 - Uploading the new configuration files into the SMC

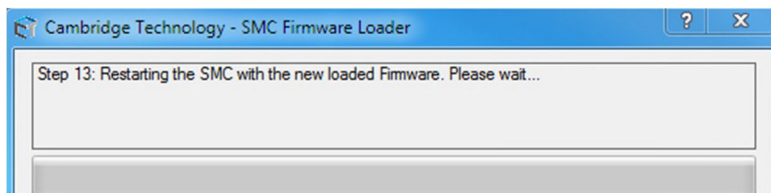


Figure 10 - Restarting the SMC with the new loaded firmware

The screen similar to the following will be displayed after the SMC has been restarted with the updated firmware.

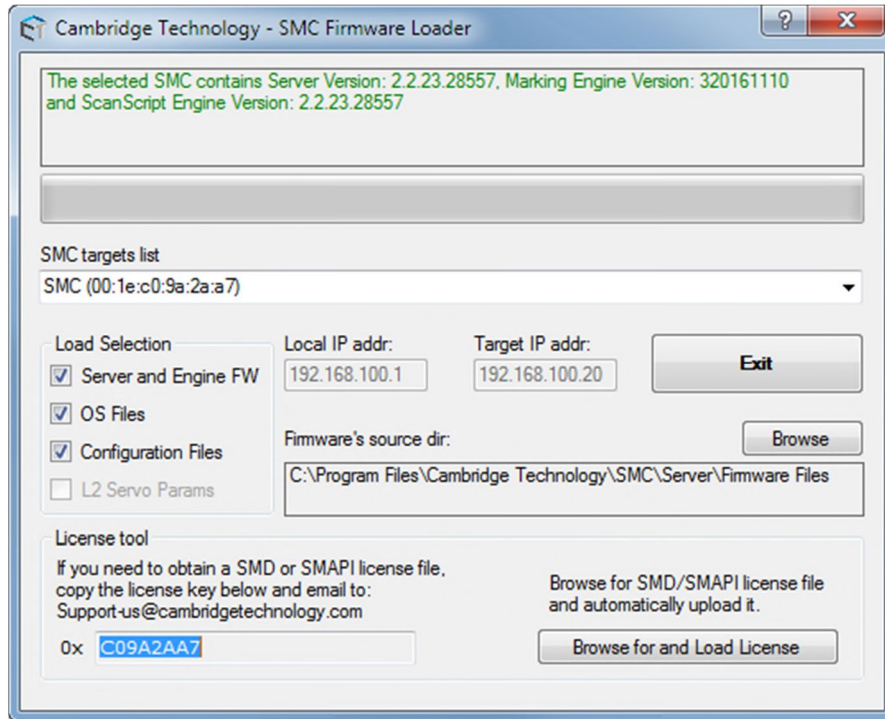


Figure 11 - Updated firmware status screen

7. Left-click the **Exit** button in the above screen. This completes the loading of the SMC firmware V2.2.

5 Referenced Documents

The following table lists the Application Notes that are referenced herein.

NOTE: Unless otherwise noted, the current version of the following Application Notes is the applicable one.

Table 1 - Referenced Application Notes

Lit. No.	Title
AN00002	Cambridge Technology Software Suite Setup