

# A33606-AIC

## Expander Re-programming Guide

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### Install Astek SAS2 Expander Programming Tool

1. Unzip the contents of ASas2xProg.zip to the target machine.
2. Navigate to the ASas2xProg directory.
3. Start the application by double-clicking on ASas2XProg.exe.

### Hardware Setup

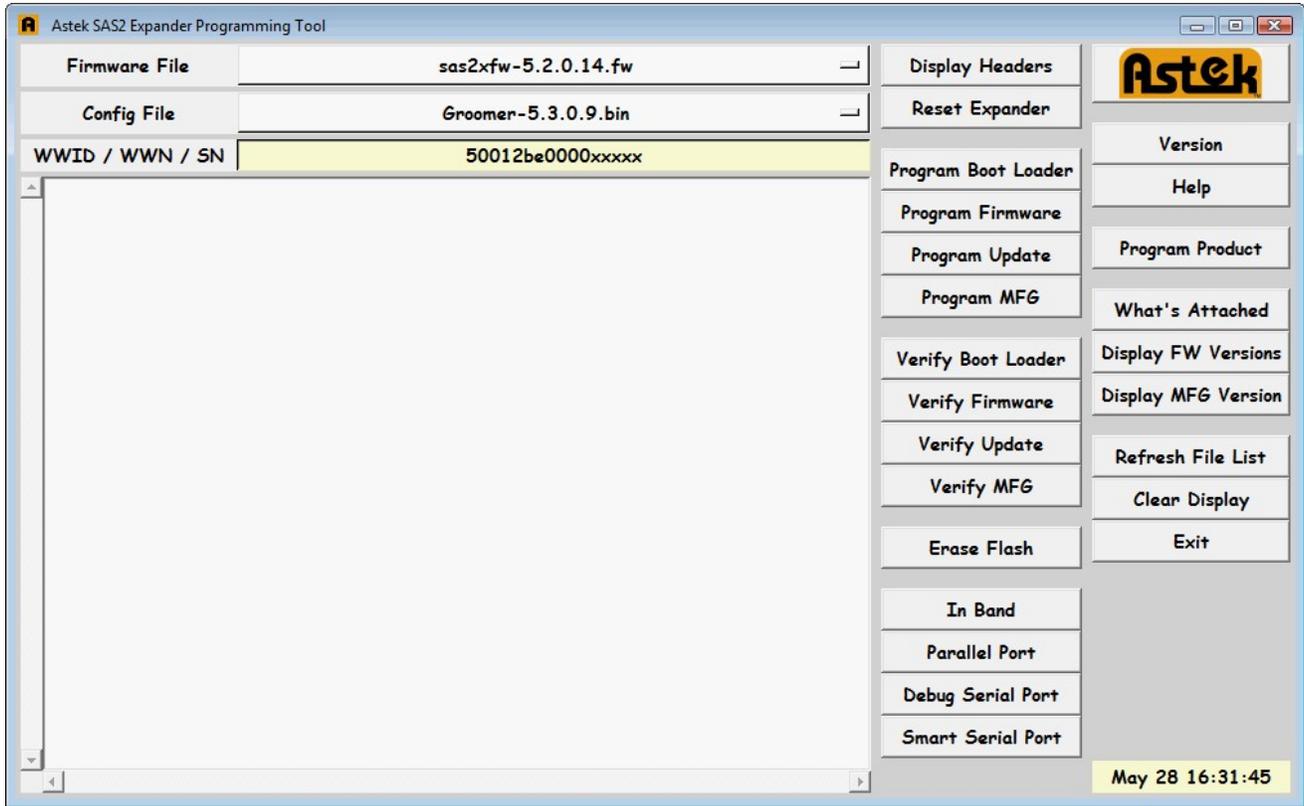
Programming of the expander can be performed in-band using the SAS interface.

Connect an LSI-based HBA to the expander board. Once connections are established between the expander and HBA, you can run ASas2xProg.

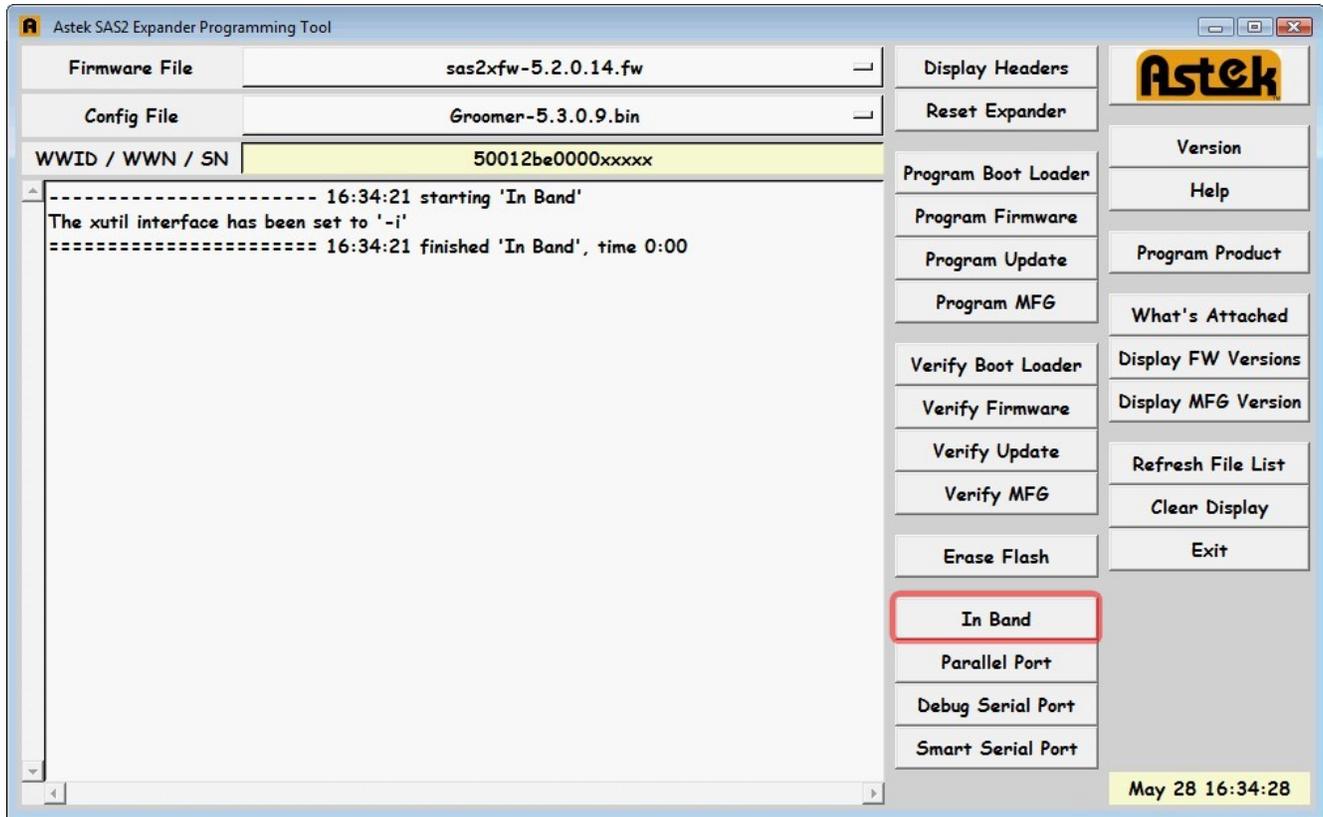
You may need to start (or restart) ASas2xProg after the connections have been established.

# Operation – Full Firmware Upgrade

When you run the tool, the following Window should appear.



Click the **In Band** button near the bottom of the window. This sets the programming tool to utilize the SAS interface for communication. Your screen should like below.



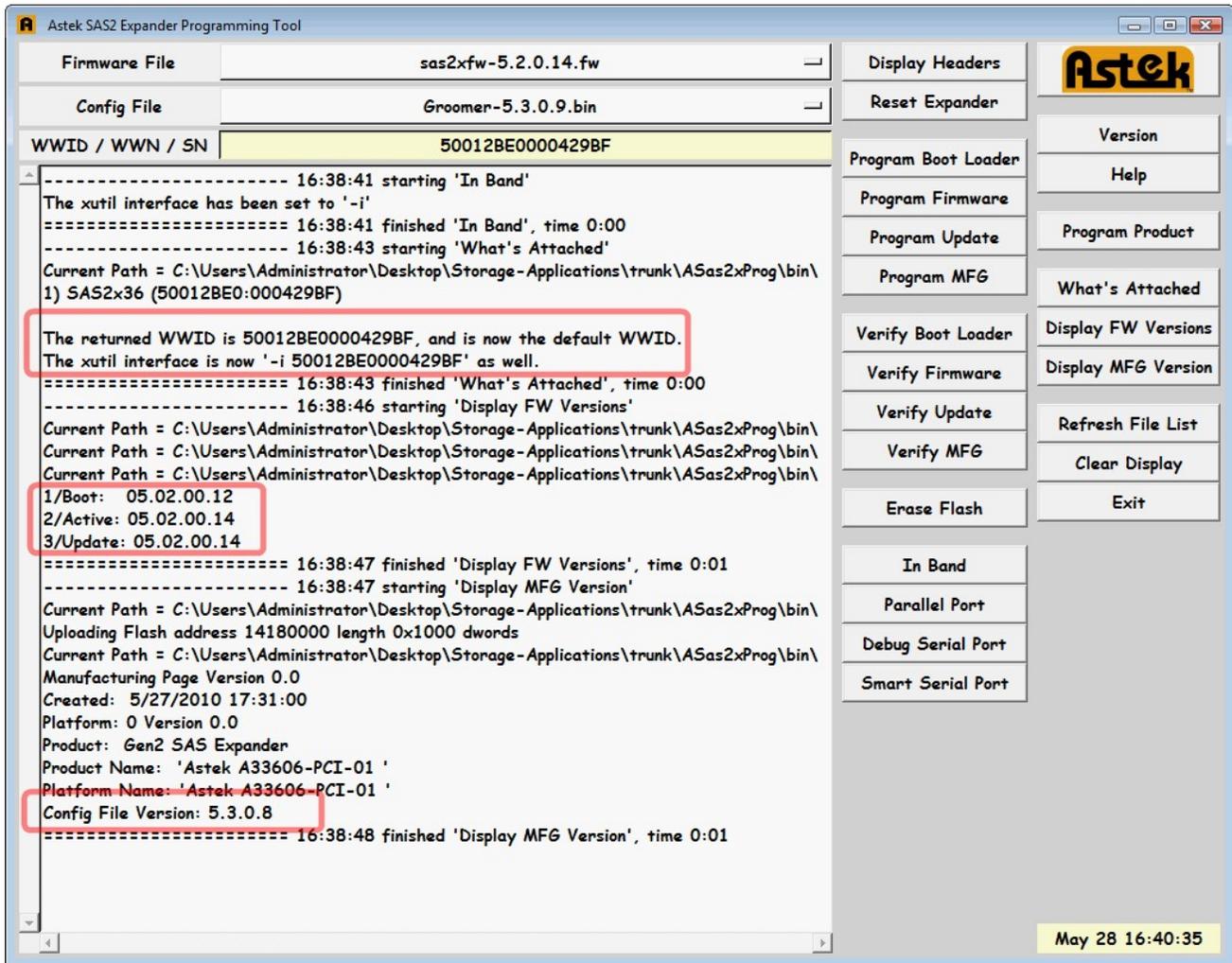
Click the **What's Attached** button on the right side of the Window. Occasionally, you will get an error message during this step. If this occurs, click continue and click the **What's Attached** button again. When successful, you will see a message that indicates the SAS WWID of the attached device.

Click the **Display FW Versions** button on the right side of the Window.

Click the **Display MFG Version** button on the right side of the Window.

Once all three steps are completed, you should see a Window similar to the one shown below. Note the location of key pieces of information.

- The 1<sup>st</sup> rectangle shows the WWID. This should match the WWID of the expander board that is attached to the HBA.
- The 2<sup>nd</sup> rectangle shows the firmware revisions that are loaded into the device. In this example, the boot loader region contains firmware revision 05.02.00.12. The active and update region contains firmware revision 05.02.00.14.
- The 3<sup>rd</sup> rectangle shows the configuration file revision number. In this example, the current revision is 5.3.0.8.

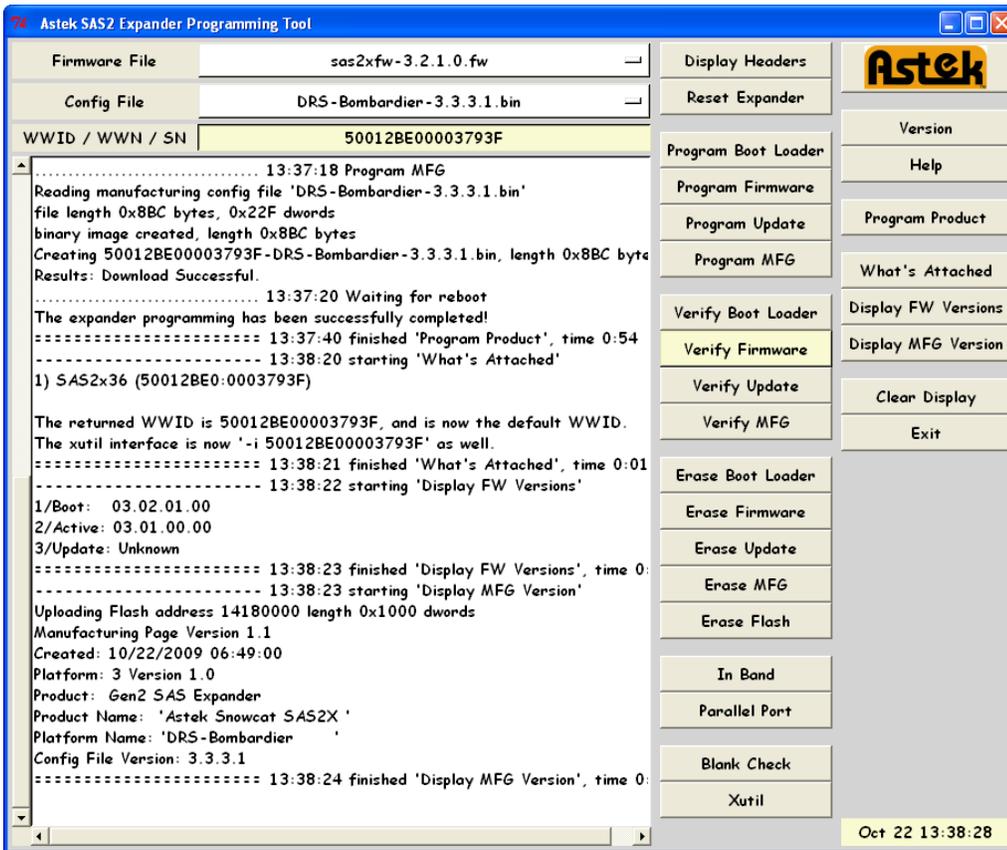


To program a different firmware image and/or configuration file, click on the drop-down menus and select the file that you wish to program. It is important to note that both the firmware and configuration file will be written in the next steps. Therefore, it is important to insure these contain the correct values. Also, verify the WWID has the correct value.

Click the **Program Product** button located on the right side of the Window.

The screen background will turn green while it is running. Do not click any buttons while the tool is running. When the tool completes programming, the background will change back to white. Additionally, the tool logs information to the screen as it runs. It usually takes 30-60 seconds to reprogram the expander. When the tool has completed running, you will see a message indicating “finished Program Product” at the bottom of the screen.

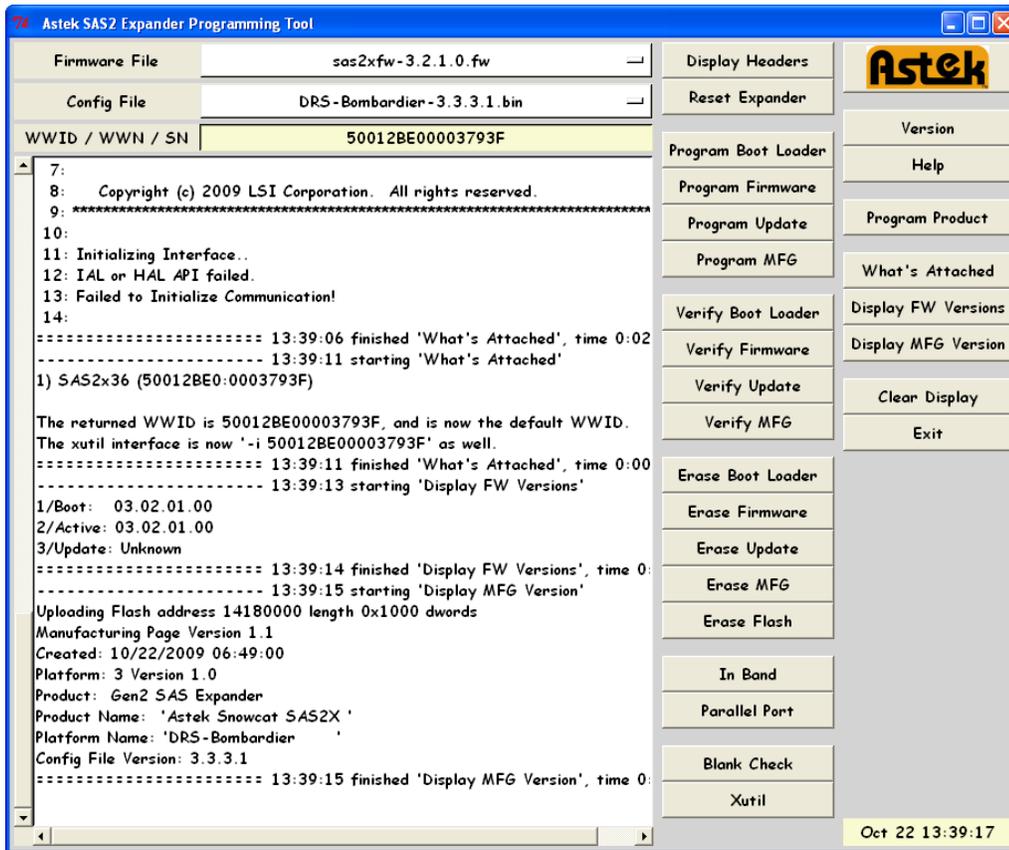
When programming is completed, click the **Display FW Versions** and **Display MFG Version** buttons. The new firmware image should be displayed in the “1/Boot” section. The “2/Active” section will still contain the old firmware revision. This will be updated in later steps. The new configuration file revision should be shown in the Mfg section.



Reset the expander by clicking the **Reset Expander** button near the top of the window. At this point most of the LEDs on the expander will go off. After 10-20 seconds, the LEDs should come on again. During that time, the expander was copying the boot firmware to the active firmware location.

Once the expander appears to be back online, click the **What's Attached** button to insure the expander is being seen by the programming tool. You may have to click this button 2-3 times before the expander is recognized.

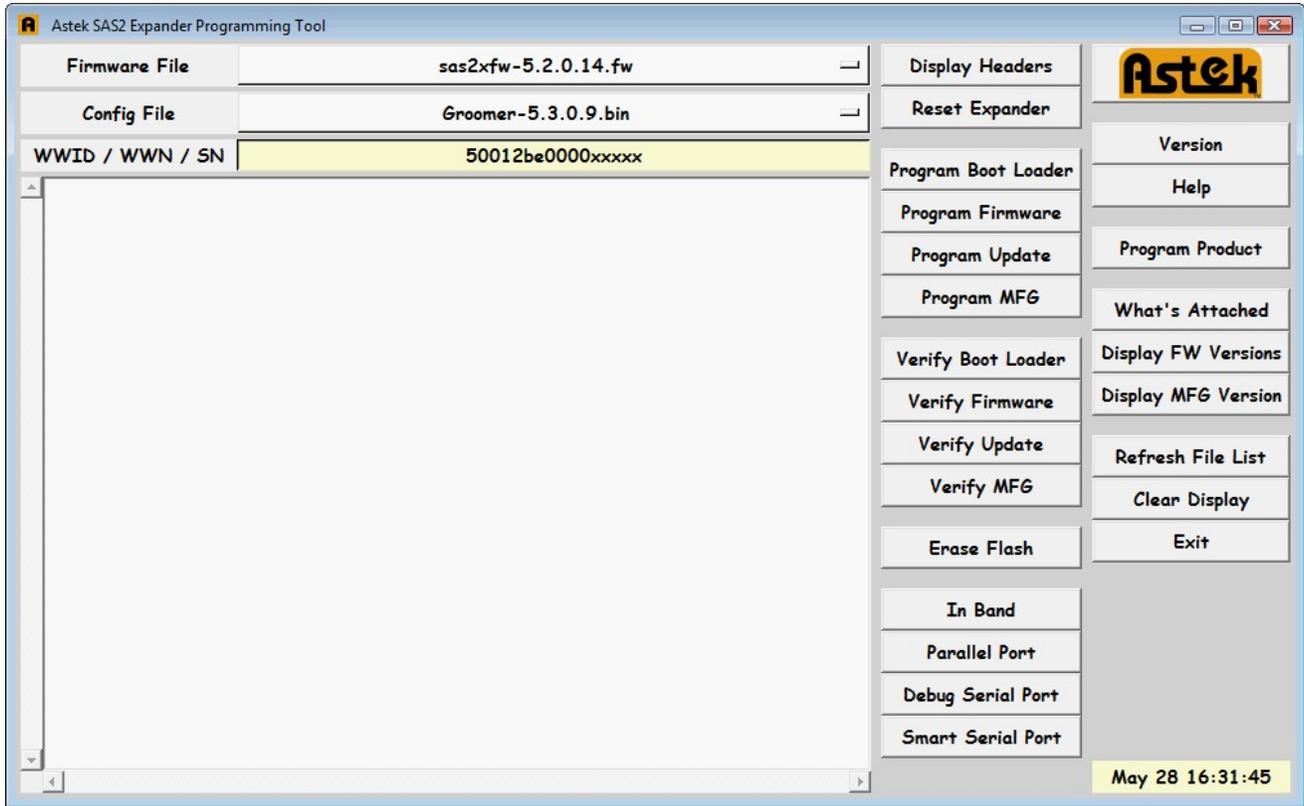
You can check the firmware revision was copied properly by clicking the **Display FW Versions** button again. Verify the Boot and Active regions now contain the same firmware revision.



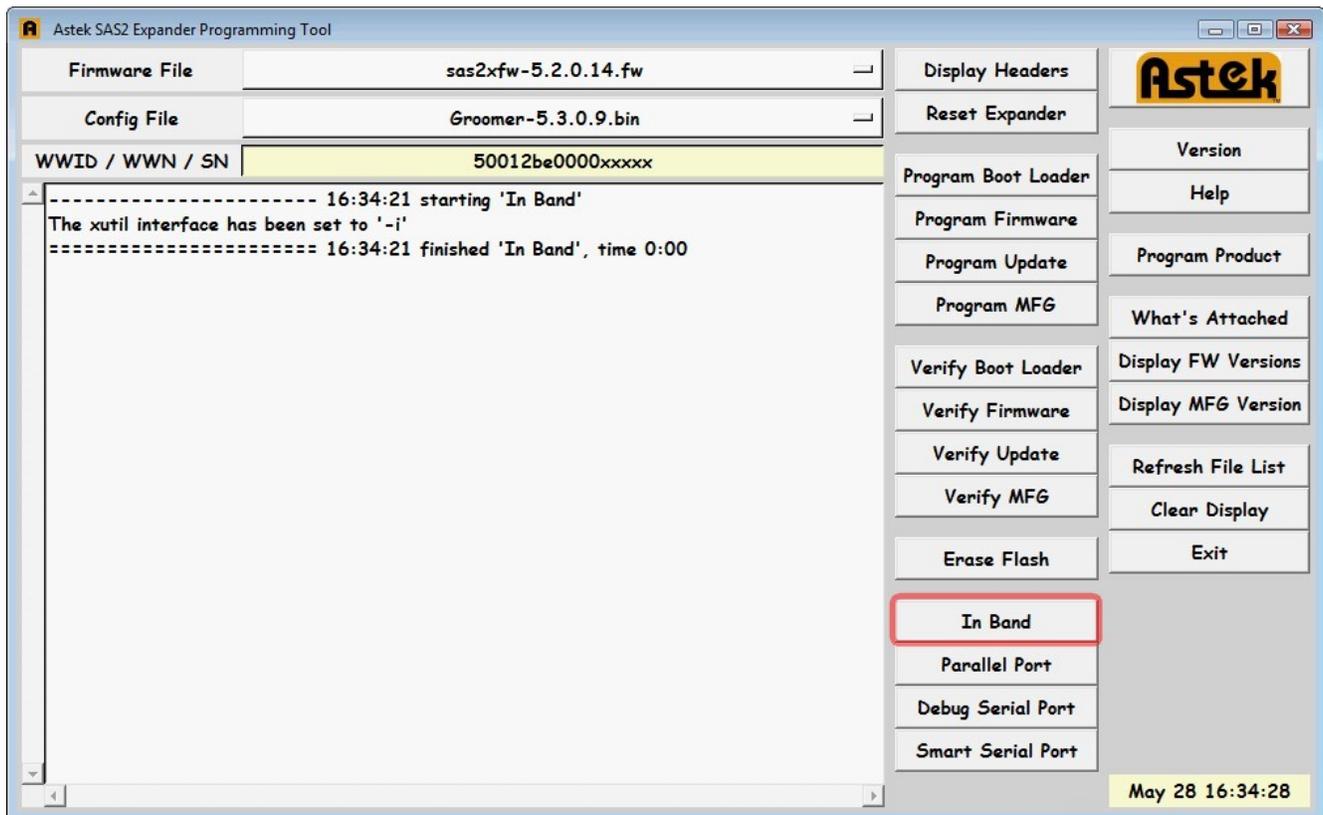
The expander has been updated with new firmware and configuration files. Your expander is ready for use and/or testing.

## Operation – Configuration Upgrade

When you run the tool, the following Window should appear.



Click the **In Band** button near the bottom of the window. This sets the programming tool to utilize the SAS interface for communication. Your screen should like below.

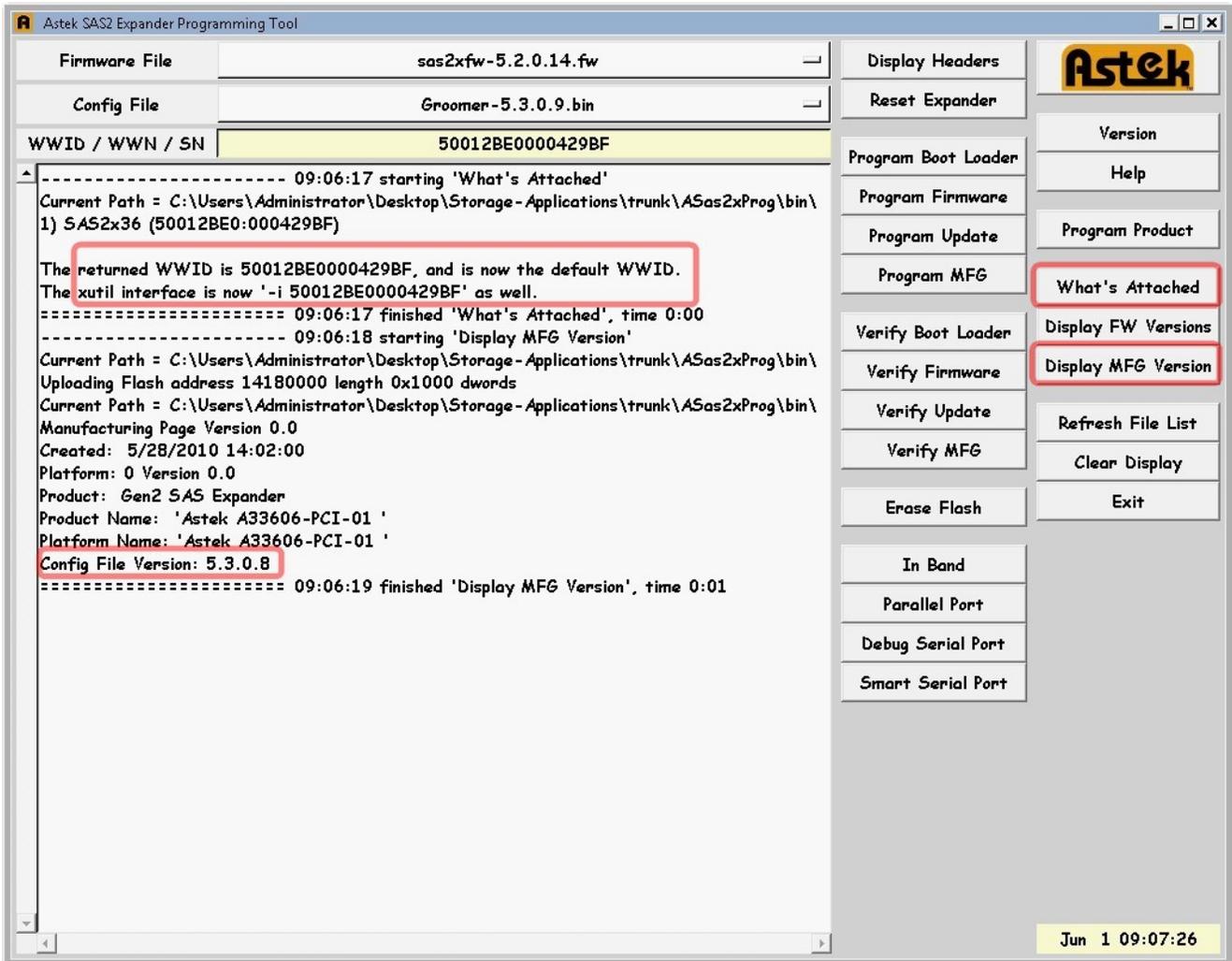


Click the **What's Attached** button on the right side of the Window. Occasionally, you will get an error message during this step. If this occurs, click "continue" and click the **What's Attached** button again. When successful, you will see a message that indicates the SAS WWID of the attached device. If you get an error more than 3 times in a row, contact Astek for additional assistance.

Click the **Display MFG Version** button on the right side of the Window.

Once both steps are completed, you should see a Window similar to the one shown below. Note the location of key pieces of information.

- The 1<sup>st</sup> rectangle shows the WWID. This should match the WWID of the expander board that is attached to the HBA.
- The 2<sup>nd</sup> rectangle shows the configuration file revision number. In this example, the current revision is 5.3.0.8.

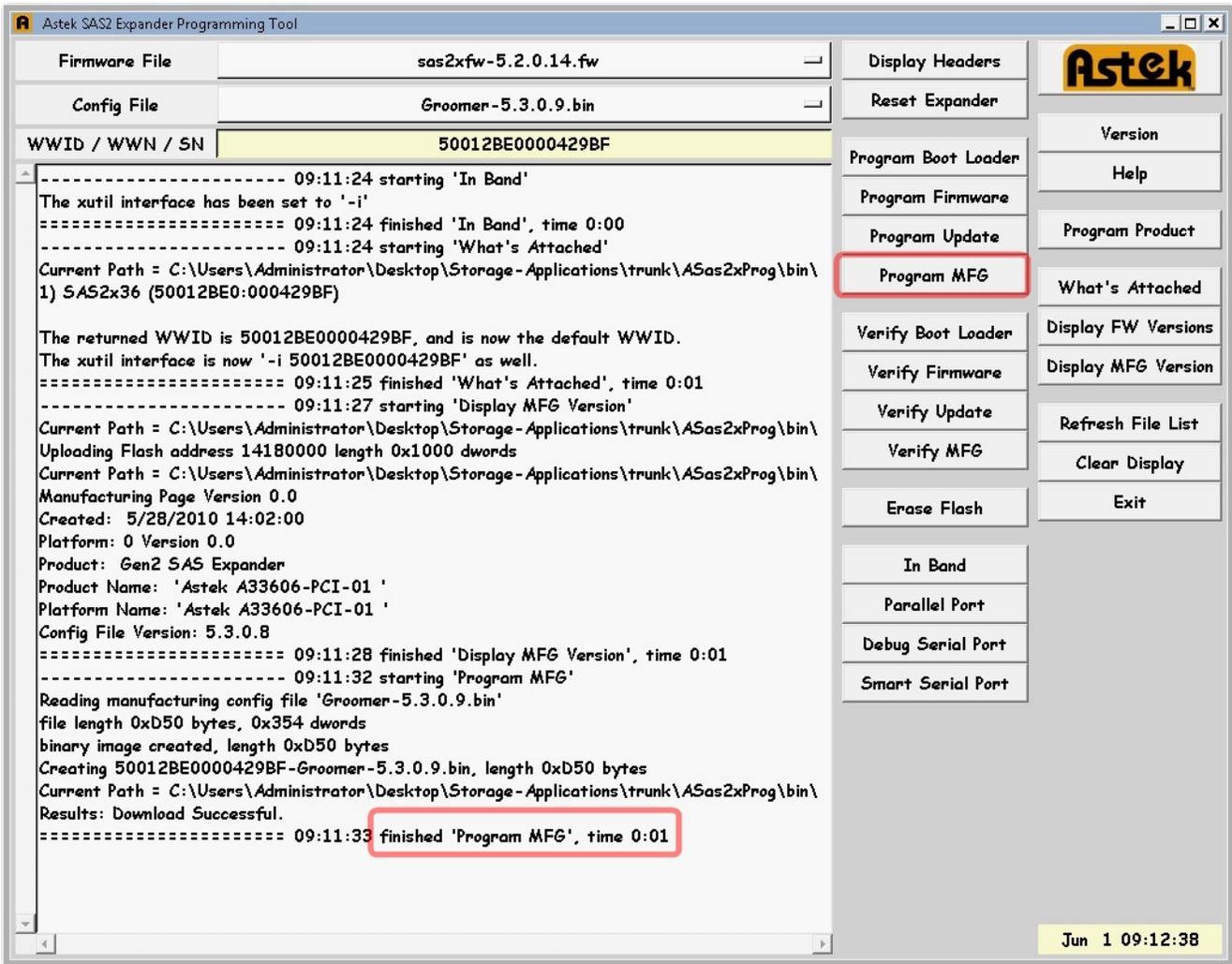


To program a different configuration file, click on the drop-down menus and select the configuration file that you wish to program. Verify the WWID number listed in the window is correct for your card.

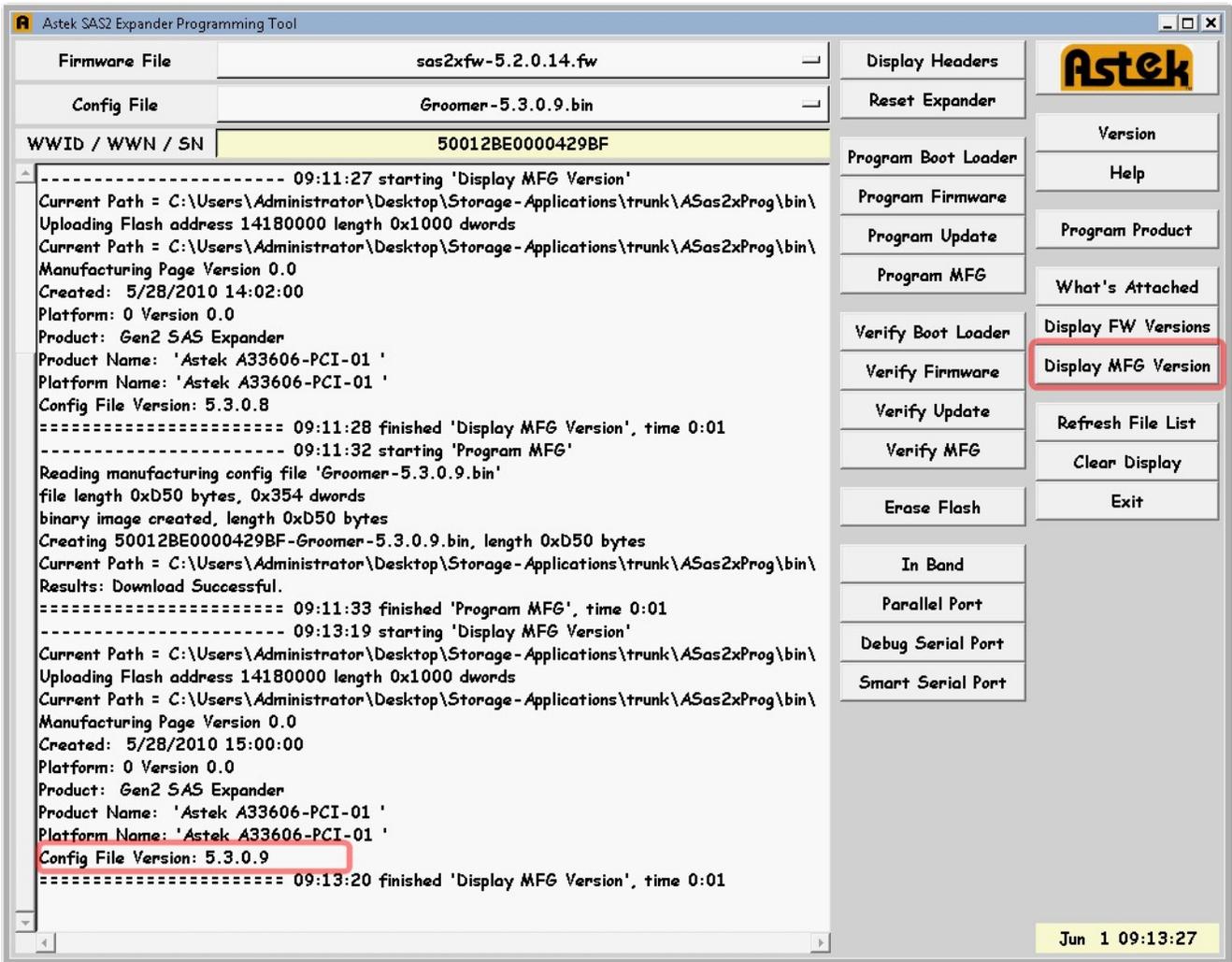
Click the **Program MFG** button located on the right side of the Window.

The screen background will turn green while it is running. Do not click any buttons while the tool is running. When the tool completes programming, the background will change back to white.

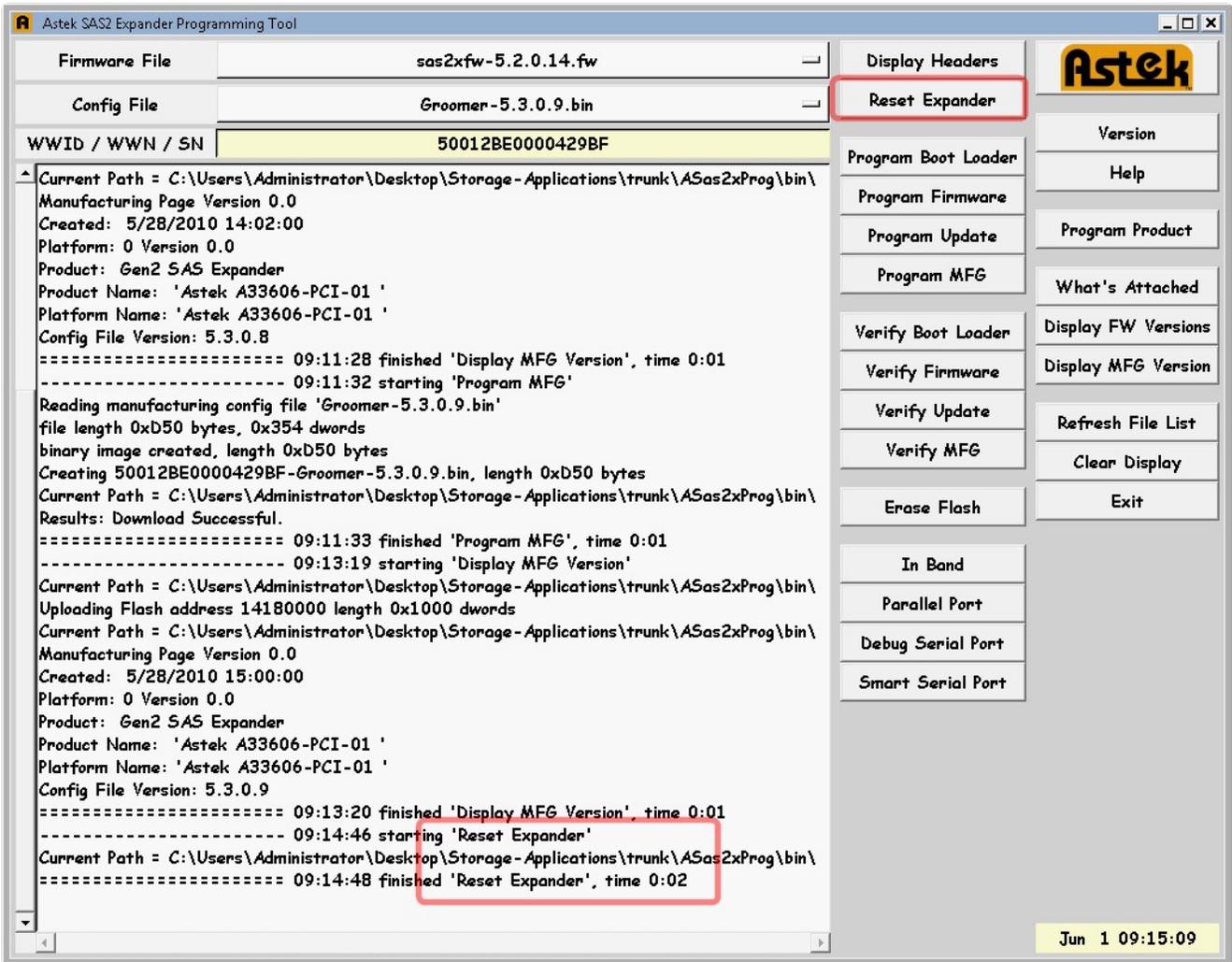
Additionally, the tool logs information to the screen as it runs. It usually takes 10-15 seconds to reprogram the configuration file on an expander. When the tool has completed running, you will see a message indicating “finished Program MFG” at the bottom of the screen.



When programming is completed, click the **Display MFG Version** button. The new configuration file revision should be shown in the Mfg section.



Although the new configuration information has been programmed, the expander is not using these new settings yet. Reset the expander by clicking the **Reset Expander** button near the top of the window. At this point most of the LEDs on the expander will go off. After 5-10 seconds, the LEDs should come on again. During that time, the expander was initializing the new configuration.



The expander has been updated with new a new configuration. You expander is ready for use and/or testing.