



**SightLine**  
APPLICATIONS

## **EAN-Firmware Upgrade Utility**

PN: EAN-Firmware-Upgrade-Utility

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-  **CAUTION:** Alerts to a potential hazard that may result in personal injury, or an unsafe practice that causes damage to the equipment if not avoided.
-  **IMPORTANT:** Identifies specific information that will assist with setup and configuration procedures and/or prevents damage to the hardware components.



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## 1 Overview

This document outlines the steps for installing and running the upgrade utility application. This utility can be used to manage the following files:

- **Firmware:** The video processing software and support items that are loaded on the OEM video processor.
- **Parameter File:** A file on the video processor which contains all the unit's non-volatile settings.
- **License File:** A file on the video processor (linked to the HW serial number for the device) that contains the enable application bits for that unit (functions that are enabled).
- **Program Files:** Used for getting and placing custom Lua scripts and DLLs.
- **Splash Screen:** If the splash. jpg file is present on the unit, it is displayed at startup. It will continue to display until a SightLine command is received by the unit.
- **User Logo:** SightLine supports placement of a customer logo watermark file on the video for branding purposes. The file is kept in the unit's memory.

### 1.1 MicroSD Card Recovery

This document contains steps updating the firmware from a microSD card. This process is useful for recovering a board that is either not working as designed or is not communicating. See the [Appendix](#) for more information.

### 1.2 Associated Documents

[EAN-Startup Guide 1500-OEM](#): Describes steps for connecting, configuring, and testing the 1500-OEM video processing board on the 1500-AB accessory board.

[EAN-Startup Guide 3000-OEM](#): Describes steps for connecting, configuring, and testing the 3000-OEM video processing board on the 3000-IO interface board.

[EAN-Parameter File](#): Outlines the differences between dynamic and non-dynamic parameter file settings and how to correctly save them to the board.

[EAN-Script Development](#): Describes everything needed to develop and run custom scripts in Lua on the 1500-OEM and 3000-OEM hardware.

Panel Plus User Guide: Provides descriptions of all the settings in the Panel Plus application. (Located in the Panel Plus application in the *Help* menu.)

### 1.3 SightLine Software Requirements

The 3000-OEM (REV C) requires firmware 2.24.xx and higher.

**IMPORTANT:** The Panel Plus software version should match the firmware version running on the board.



## 2 Upgrade Utility Download and Installation

1. Go to the SightLine software [download page](#) and select a version of firmware. Selecting the link will initiate the download process.
2. Open zip file and right click on the *.msi* file and select *Install*.
3. Accept all the defaults for installing the upgrade utility.

**Note:** The installer (by default) installs Bin and Firmware folders under C:\Program Files (x86)\SightLine Applications\SLA-xxxx Upgrade Utility m.nn.rrr. The Bin folder contains the upgrade utility and library files needed for the utility. The Firmware folder contains all necessary files needed to upgrade the board.

4. Click *Close* when complete.

## 3 Using the Upgrade Utility

Use the following process to start the upgrade utility and connect to the video processing board.

**IMPORTANT:** If you have multiple versions of firmware on your PC, make sure to open the correct upgrade utility application that matches the firmware and board you are upgrading to.

1. From the Windows Start menu, go to the SightLine application folder and click on the upgrade utility tool to open it.

**Note:** When the application starts for the first time, Windows may prompt a dialog regarding firewall access. Select *Allow* for the update to continue.

2. Click the *Find IP Addresses* button to get a list of boards on the network. Click on the appropriate board to select it.

Type	Name	IP Address	Version	SVN Revision	Date	Time
SLA1500	SLA1500 22015a	192.168.0.30	2.23.8.1	34850	2017/04/04	11:59:44

Find IP Addresses

Select a board

Get a list of boards

3. The upgrade utility application is now ready to use.



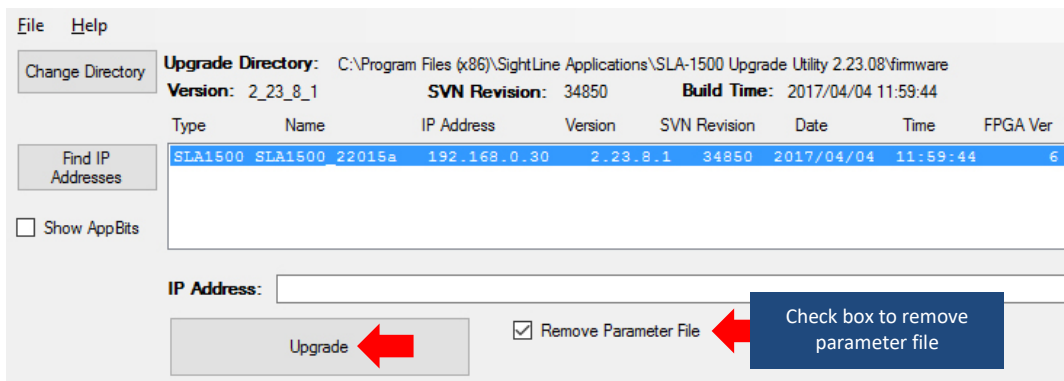
## 4 Updating the Firmware

### **IMPORTANT:**

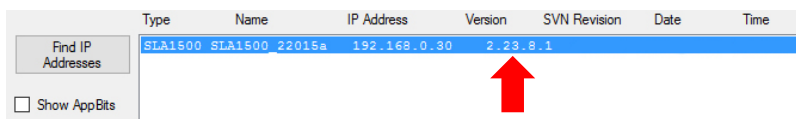
- For version firmware level upgrades, i.e., 2. 22.x to 2. 23.x, it is important to remove the parameter file from the board (see step 3 below). Older versions of parameter files may not be compatible with newer versions of firmware.
- For sub-version updates, i.e. 2.23.05 to 2.23.09, it is typically not important to check the *Remove the Parameter File* check-box.
- Before removing the parameter file, record the current network, passthrough, and camera configuration settings, since these settings will be lost once the parameter file is removed from the board.

**Recommended:** Save a backup copy of the current license file and parameter file before upgrading the board (see [Retrieving the Parameter File](#) and [Retrieving a License File](#)).

1. Start the upgrade utility and connect to the board.
2. Check the *Remove Parameter File* box if doing a version firmware level upgrade.
3. Click the *Upgrade* button.



4. Click *Yes* in the dialogue box to continue. The application interface will lock until the upgrade is complete (approximately 1 minute).
5. The Status window displays *Upgrade DONE* when the process is complete.
6. Click the *Find IP Addresses* button to verify that the firmware version number on board is correct.



7. Restart the board to activate the new firmware version.



## 5 Updating the License File

**ⓘ IMPORTANT:** Before proceeding make sure that all SightLine software applications are closed.

This procedure describes how to retrieve a license file from the OEM board. This is useful when a license file needs new application bit and to unlock new features on the board. It is common that SightLine support will ask for customers to retrieve and send a license file from a unit.

**Recommended:** Save a backup copy of the current license file upon receipt of a board, and before upgrading the board. A saved license file can save time and expense if repair work is being done.

### 5.1 Retrieving a License File

1. Start the upgrade utility and connect to the board.
2. Select *File » License File » Get. . .*
3. The *Browse for Folder* window opens. Choose a directory to put the license file. The *Browse* window defaults to `C:\Users\<username>\AppData\Roaming\SightLineApplications`, but the file can be put in any known PC or network directory.
4. Click *OK* in the *Browse for Folder* window. The *Status* window displays *Successfully Received License File* when complete.

```
Status:
Beginning Search
Search Ended
  C:\Users\AppData\Roaming\SightLineApplications\1400c022015a86d1
Successfully Recieved license file.
```

### 5.2 Upload a New License File

After receiving a new license file from SightLine (normally attached to an email), save it to a known PC or network directory.

1. Start the upgrade utility and connect to the board.
2. Select *File » License File » Put. . .*
3. The *Browse for Folder* window opens. Navigate to the directory that the new license file is in.
4. Click *OK* to copy the new license file to the board. The *Status* window displays *Successfully Sent File* when complete.

```
Status:
Beginning Search
Search Ended
  C:\Users\AppData\Roaming\SightLineApplications\1400c022015a86d1
Successfully Sent license file.
```

5. Restart the board to activate the new license file.





### 5.3 License File Details

Each license file is generated for a specific board and must be loaded on that board. The upgrade utility will only upload or download a license file that matches the hardware ID of the board. Multiple license files can be placed in a folder. The upgrade utility will upload the one that matches the board's hardware ID.

The name of the license file includes the hardware ID. This is not the same as the board serial number, which can be found on the board and can be difficult to read. An example license file name is *3c943c9448eada74.license*. An example board serial number is *M39741-001-0033*.

To license or upgrade a board, download the license file from the board and send it to [Support](#). See [section 7](#) for instructions to download the license file.

To find the hardware ID, connecting to the unit with Panel Plus and go to the main menu » *Help* » *About Board*. The dialog will show the hardware ID and related hardware and firmware information.

**ⓘ IMPORTANT:** Clicking *OK* will download the license file and parameter file to the host PC download directory (C:\Users\Username\Downloads).

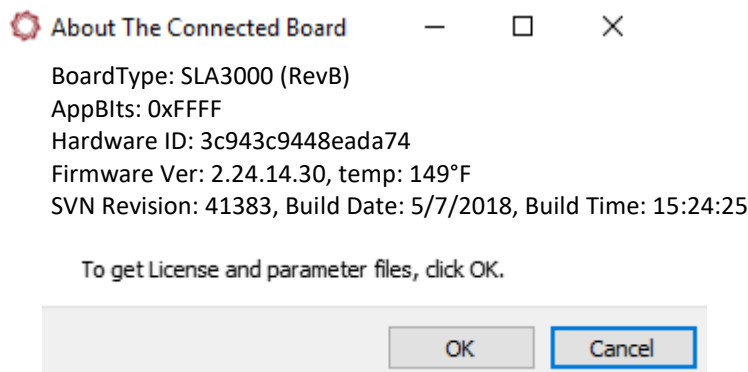


Figure 1: About the Connected Board

If a license file not matching the hardware ID is uploaded to the board, this license file will be ignored. If a board is powered up without a license file, a new license file with App Bits 0x00000000 will be generated automatically.

## 6 Managing the Parameter File

The parameter file on each board contains system and configuration startup settings. See [EAN-Parameter File](#) for more information about parameter file settings and how to correctly save them to the board.

All systems have the following parameter file name: *param51ac4a9a.txt*. The upgrade utility can be used to remove, upload, or archive a parameter file from a system for unit recovery.

**ⓘ IMPORTANT:** The upgrade utility can also use to propagate a known parameter file to multiple units allowing productions team to quickly duplicate settings across systems. Since all settings are contained in the parameter file, including network IP addresses, make sure the settings in the file will not cause a conflict in other systems when propagating files.



## 6.1 Retrieving a Parameter File

1. Start the upgrade utility and connect to the board.
2. Select *File » Parameter File » Get. . .*
3. The *Browse for Folder* window opens. Choose a directory to put the parameter file. The Browse window defaults to C:\Users\\AppData\Roaming\SightLineApplications, but the file can be put in any known PC or network directory.
4. Click *OK* in the *Browse for Folder* window. The Status window displays *Successfully Received Parameter File* when complete.

```

Status:
Beginning Search
Search Ended
    Getting Parameter file C:\Users\AppData\Roaming\SightLineApplications
Successfully Received Parameter file.
  
```

## 6.2 Upload a Parameter File

1. Start the upgrade utility and connect to the board.
2. Select *File » Parameter File » Put. . .*
3. The *Browse for Folder* window opens. Navigate to the directory that the new parameter file is in.
4. Click *OK* to copy the new parameter file to the board. The Status window displays *Successfully Sent Parameter File* when complete.

```

Status:
Beginning Search
Search Ended
    Sending Parameter file from C:\Users\AppData\Roaming\SightLineApplications
Successfully Sent Parameter file, restart board to take effect.
  
```

5. Restart the board to activate the parameter file.

## 6.3 Removing a Parameter File

1. Start the upgrade utility and connect to the board.
2. Select *File » Parameter File » Remove.*
3. Click *Yes* in the *dialog* window to remove the file. The utility removes the parameter file from the board and saves a copy in C:\Users\\AppData\Roaming\SightLineApplications.

```

Status:
Beginning Search
Search Ended
Beginning Search
Search Ended
Copied param file to C:\Users\Van\AppData\Roaming\SightLineApplications\192.168.0.21_param51ac9a4a.bt
Successfully renamed parameter file to *.bt_renamed, restart board to take effect.
  
```



## 7 Logo, Splash Screen and Program Files

The upgrade utility can also be used to manage Logo, Splash Screen and Program Files. File types and definitions are shown in Table 1.

**Table 1: Logo, Splash Screen and Program Files**

File	File Type	Explanation
<b>User Logo (watermark)</b>	userLogo.png	<p>Used for displaying watermark.</p> <p>Guidelines for creating a logo file:</p> <p>When creating a logo file, size the logo so it fits in the video frame size of the camera that is being used.</p> <p>The logo is aligned to the bottom-right corner of the frame. If it is too large to fit in the frame the software will crop the bottom-right part of the logo file. The file is re-scaled by 1/2 only if it is 640X150 (for backwards compatibility).</p> <p>When creating a logo or watermark, be aware that the software will sample a pixel on the top left corner of the logo. This color will then become the transparent background.</p> <p>To view the logo, open Panel Plus and go to <i>Configure » Overlays</i>. Check the <i>Logo Watermark</i> box in the <i>Overlay Settings</i> dialog window. The logo will be visible.</p>
<b>Splash Screen</b>	splash.jpg	<p>Used for displaying splash screen at startup. It is displayed until the unit receives a SightLine command.</p> <p>The splash image is zoomed to cover the entire video maintaining the aspect ratio, then cropped if needed.</p> <p>It is recommended to make the aspect ratio the same as the camera (e.g., 16 x 9 ratio for 1280 x 720 camera).</p> <p>For NTSC camera, 720 x 480 (or that ratio) is recommended.</p>
<b>Program Files</b>	*.lua,* .so	Used for custom scripts or custom DLLs. See <a href="#">EAN-Script Development</a> for more information.

### 7.1 Uploading a File

1. Start the firmware upgrade utility and connect to the board.
2. Select *File » XXX » Put...*
3. The *Browse for Folder* window opens. Navigate to the directory that the new file is in.
4. Click *OK* to copy the new file to the board. The Status window displays the result when complete.
5. Restart the board for the change to take effect.



## 7.2 Retrieving a File

1. Start the firmware upgrade utility and connect to the board.
2. Select *File » XXX » Get...*
3. The *Browse for Folder* window opens. Choose a directory to put the file.
4. Click *OK* to copy the file from the board. The Status window displays the result when complete.

## 7.3 Removing a File

1. Start the firmware upgrade utility and connect to the board.
2. Select *File » XXX » Remove*.
3. The Status window displays the result when complete.

## 8 Advanced Menu

**Reset Board (Reboot):** Restarts the board.

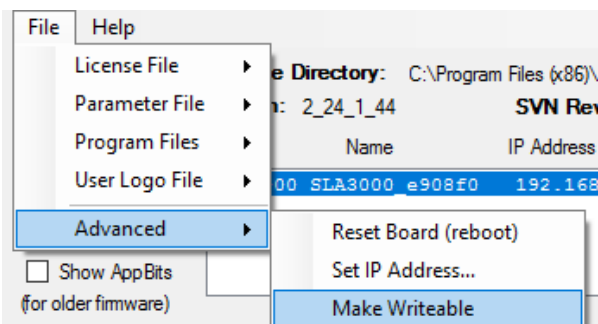
**Set IP Address:** Temporarily sets an IP address to the board. This is useful when troubleshooting a network issue, i.e., the board is on a different subnet. In that case, assign a temporary IP address to the board so that it can be connected from the Panel Plus application. The temporary address is not saved (unless it is saved to the parameter file from Panel Plus). It will revert to the original address when the board is restarted.

**Make Writeable (3000-OEM):** This option allows users to use other utilities (WinSCP or FileZilla) to copy custom program files to the file system or library files of the 3000-OEM board.

**⚠ CAUTION:** This is an advanced option and could potentially lockup or damage the board. If you are unsure how to proceed, contact [Support](#) at SightLine Applications before proceeding.

The filesystem is read-only on the 3000-OEM. To copy files to the 3000-OEM with another utility, the filesystem must be made temporarily writeable.

1. Start the firmware upgrade utility and connect to the board.
2. From the main menu, go to *File » Advanced* and select *Make Writeable*.



3. Click *Yes* in the *dialog* window to load the file.
4. Restart the board for the change to take effect.



## 9 Questions and Additional Support

If you are still having issues and require additional support, please contact [Technical Support](#). Additional support, documentation and Engineering Application Notes (EANs) can be found on the Support pages of the SightLine Applications [website](#).



## Appendix: Updating Firmware with MicroSD Card

This section covers how to update the 1500-OEM and 3000-OEM board firmware using a microSD card. This process is useful for recovering a board that is either not working as designed or is not communicating.

Before updating the firmware, the microSD card must first be formatted using the MiniTool Partition Wizard tool available on the MiniTool Solution [website](#).

**Note:** A microSD card reader is needed for this procedure. If your PC does not have a built-in reader, use an external USB microSD card reader.

### A1 MicroSD Card Types

The following microSD card types are recommended for updating firmware and or storing data (video and snapshot captures):

- Kingston SDC10/32GB Kingston 32GB microSD / Class 10
- SightLine PN: SLA-MSD-32GBs

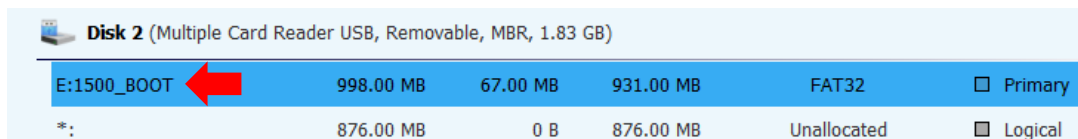
**ⓘ IMPORTANT:** Class 10 cards are strongly recommended. They have a read/write speed of 10 MB/sec (or higher).

### A2 Formatting the MicroSD Card for Bootable Media

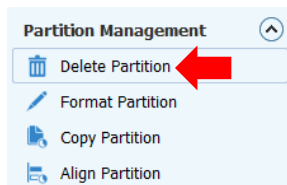
Before starting this procedure, download and install the MiniTool Partition Wizard tool.

A specific partition size is required for the microSD recovery card. The partition size should be set to 1GB (or less). The partition file system types will also need to be changed. For the recovery card, the file system type is required to be set to *FAT, Primary, and Active*.

1. Insert the microSD card into the card reader on the PC.
2. Open the MiniTool application.
3. From the list of drives, highlight the microSD card by clicking on it.

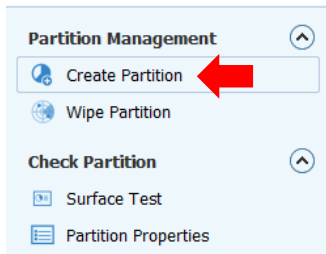


4. From the *Partition Management* list, click *Delete Partition*.



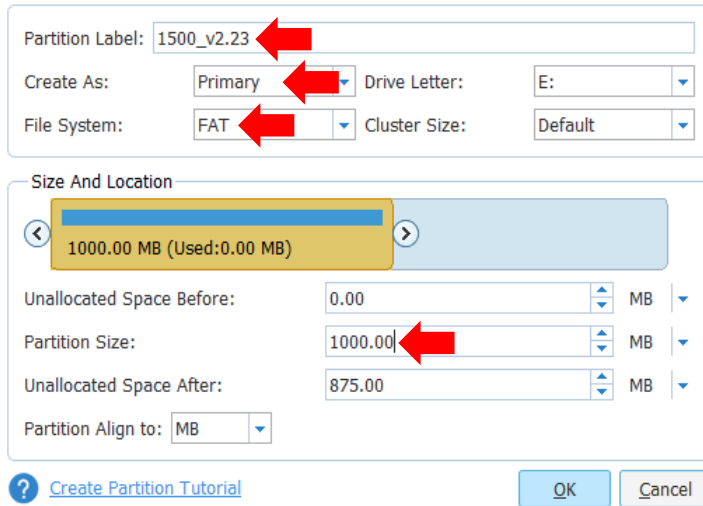


5. From the *Partition Management* list, click *Create Partition*.



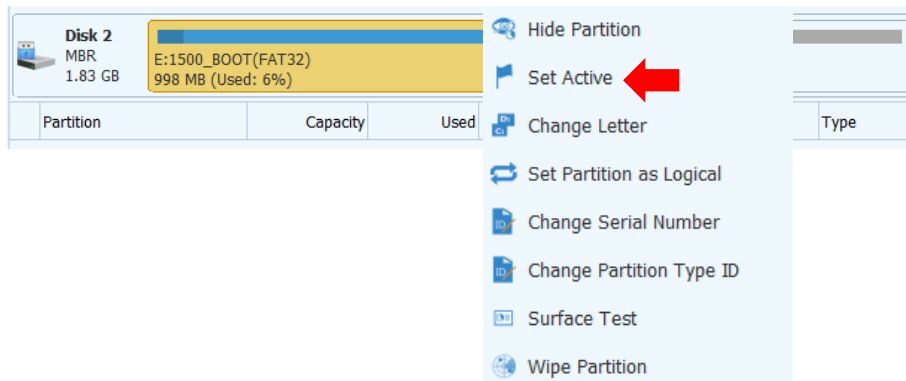
6. In the Create New Partition window, enter/change the following fields:

- a) Partition Label: 1500\_vx. xx. xx or 3000\_vx. xx. xx (x = firmware number)
- b) Create As: Primary
- c) File System: FAT
- d) Partition Size: 1000 MB. The MiniTool software may default to 999 MB. This is acceptable.



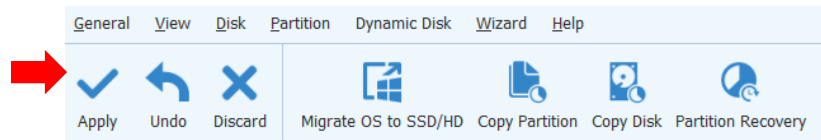
7. Click *Ok*.

8. Right-click on the microSD Card in the list and select *Set Active* from the dropdown list to make the card active. The *Status* column displays *Active*.





- Click *Apply* from the top menu bar. The operations status screen shows the progress of creating and setting of the partition values.



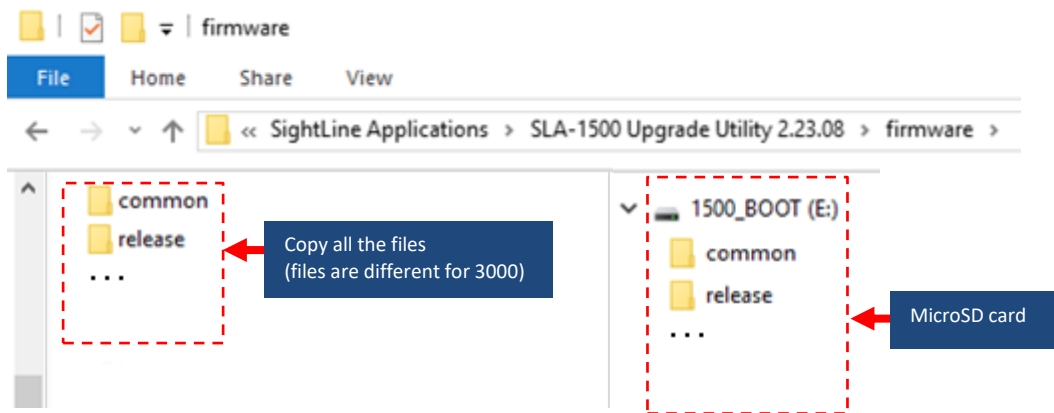
- When complete, a status message will be displayed. Click *OK* and close the application.
- This concludes the formatting process. Proceed to the next section to update the firmware.

### A3 Updating the Firmware

The files that are needed for this procedure are located on the PC in the Upgrade Utility folder.

**ⓘ IMPORTANT:** Make sure the microSD card has been formatted before starting this procedure.

- Choose the appropriate board firmware. Go to C:\Program Files (x86)\SightLine Applications\SLA-xxxx Upgrade Utility m.nn.rrr\firmware.
- Copy all the files in the *Firmware* folder to the root directory of the newly formatted microSD card.



- Once the files have been copied to the microSD card, remove it from card reader.
- Make sure the OEM board is powered off. Insert the microSD card in the microSD slot on the appropriate board as shown in Figure 1.

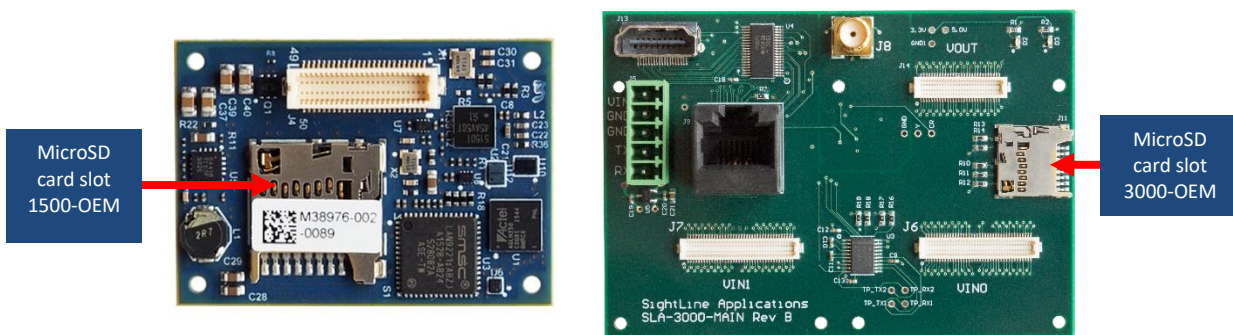


Figure A1: 1500 and 3000 Board MicroSD Card Slots





5. Power up the board to start the update. This process takes approximately three minutes.

**Note:** For 1500, if an analog monitor is connected to the board, a successful/completed message will be displayed when the firmware upload is complete. If a monitor is not connected, wait for the onboard LED on the 1500-SOM begin flashing once every second. This indicates the firmware upload is complete.

For 3000, there is no indication when the update is complete, so please wait at least for 3 minutes.

6. Remove the microSD card and power cycle the board for the new firmware to take effect.