



EAN-Parameter File

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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 crucial information that is important to setup and configuration procedures.

 *Used to emphasize points or reminds the user of something. Supplementary information that aids in the use or understanding of the equipment or subject that is not critical to system use.*



1 Overview

The parameter file on each board contains system and configuration startup settings. This guide outlines both dynamic and non-dynamic settings and how to manage these using the Panel Plus Software application.

1.1 Additional Support Documentation

Additional Engineering Application Notes (EANs) can be found on the [Documentation](#) page of the SightLine Applications website.

The [Panel Plus User Guide](#) provides a complete overview of settings and dialog windows located in the Help menu of the Panel Plus application.

The Interface Command and Control ([IDD](#)) describes the native communications protocol used by the SightLine Applications product line. The IDD is also available as a PDF download on the [Documentation](#) page under Software Support Documentation.

1.2 SightLine Software Requirements

ⓘ IMPORTANT: The Panel Plus software version should match the firmware version running on the board. Firmware and Panel Plus software versions are available on the [Software Download](#) page.

1.3 Third Party Software


[Tera Term](#) (or PuTTY): SightLine recommends Tera Term for troubleshooting, debugging, and issuing commands on SightLine hardware.

Additional information and links to third party software can be found on the SightLine [website](#).

1.4 Parameter File Description

The parameter file contains system configuration definitions for the board. The parameter file is loaded at system startup. Changes to system and configuration definitions are made via the Panel Plus software or directly with SightLine communications protocol.

The Panel Plus application provides multiple ways to save settings to the parameter file. The main menu (*Parameters » Save to board*) is the primary path used to save settings to the board.


 *The parameter file name used is the same for all SightLine boards (param51ac9a4a.txt).*

ⓘ IMPORTANT: The parameter file format changed with firmware release 2.23.x. The parameter file format can change with major releases. Some older releases of firmware may not be able to read new formats. It is recommended to use the same versions of Panel Plus and firmware to ensure compatibility.

ⓘ IMPORTANT: In troubleshooting situations, sending the parameter file to SightLine can help expedite the troubleshooting process. See the [EAN-Firmware Upgrade Utility](#) document for steps on how to download the file from the board.

ⓘ IMPORTANT: Parameter files may not be written and or removed while the system is in Demo Mode.



 In some troubleshooting procedures it may be advantageous to delete the parameter file, and either reload a copy of a known good file or reset the board to factory defaults. Before removing the file or resetting the board it is important to record the current network, pass-through, and camera configuration settings.

2 Configuring Dynamic and Non-Dynamic Settings

Some changes to configuration settings are made immediately and are referred to as *dynamic*. Other settings, to become active, must first be written to the parameter file and then loaded at system startup or reboot. These are referred to as *non-dynamic*.

When to save:

- All settings that need to be preserved through system restarts should be saved to the board.
- Most hardware and camera setup related settings are non-dynamic and require a save and system reboot before they take effect.
- Settings most often used during video processing are dynamic and take effect immediately.

Table 1 below lists functions containing configuration settings that are dynamic. They do not require a board restart.


Table 1: Dynamic Parameter Settings (reboot not required)

Dynamic Parameter Setting	Description
Compress	Output options including frame size, bit rate, I-Frame interval, delivery format, streaming destination IP and Port.
Video	Pan, image control, display, and stabilization.
Enhance	Enhancement, false color, ROI for enhancement.
Track	Tracking modes, track-box size, index, and acquisition assist.
Detection	Detection modes, frame step, sensitivity, background threshold, watch frames, temperature (radio metric) modes.
Record	Start/stop video clips, snapshots, capture, display.
Display	Display PIP, camera selection.
Overlay	Text, lines, boxes, circles, cursor.
User Palette	Allows a custom color palette for the radiometric display data.
Lens	Focus and zoom.
Acquisition Settings	Region of interest.

Table 2 lists areas within the Panel Plus application that contain configuration setting that are non-dynamic and must be saved to the parameter file and the system restarted prior to taking effect.

Table 2: Non-Dynamic Parameter Settings (save and reboot required)

Non-Dynamic Parameter Setting	Description
Acquisition Settings	Camera type / resolution / settings
Network Settings	IP address / settings
Communications	Serial port settings / options
Lens	Lens type

 **IMPORTANT:** All settings that need to be preserved through system restarts should be saved to the board. Main menu » *Parameters* » *Save to board*.



2.1 Incorrect Parameters or Missing Parameter Files

If the saved parameters are incorrect or missing when the system is powered up and connected to Panel Plus, the parameter file may be corrupted.

Possible solutions:

- Make sure Panel Plus is not in Demo mode.
- From the Panel Plus main menu go to Reset » Factory Defaults (params). This will clear the parameter file. The system will need reconfigured once this is complete.

ⓘ IMPORTANT: Parameter files may not be written/removed while system is in DEMO mode.

3 Controlling Parameter File with Panel Plus

Table 3 lists the menu options that control the Parameter file.

Table 3: Parameter File and Panel Plus Menu Functions

Panel Plus Main Menu	
Parameters	
Download	Downloads a copy of the parameter file to the PC
Save to Board	Save parameters stored in memory to the parameter file
Request All	Gets all current settings from the board (refreshes Panel Plus)
Reset	
Board	Restart the board and load the last saved parameter file
Factory Defaults (params)	Deletes the parameter file on the board and restart. System resets to factory default settings. Network IP address will also reset to factory default. See one of the corresponding OEM startup guides for more information.
Soft Reset	Resets most dynamic settings on the board
Help	
About Board	Snapshot of the boards configuration and allows parameter and license file capturing
User Guide	Online users guide for the Panel Plus application

4 Remove / Rename the Parameter File

If a connection to Panel Plus cannot be established, and there are no problems with the firewall the parameter file can be removed to allow a connection to the OEM with Panel Plus using one of the following methods:

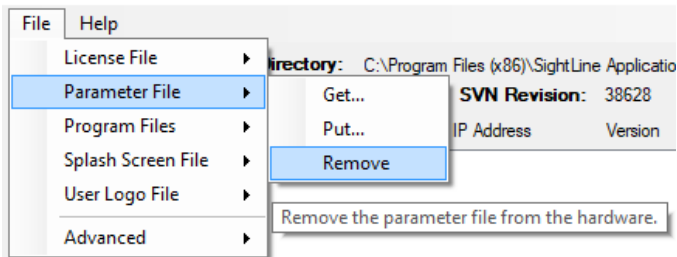
- SightLine upgrade utility application
- [Tera Term](#) (recommended) or another SSH client
- Direct serial connection

See [EAN-Firmware Upgrade Utility](#) for additional parameter file management information.



4.1 SightLine Upgrade Utility

1. From the Start menu on your PC, go to SightLine Applications and open the appropriate upgrade utility application.
2. Click the *Find IP Addresses* button.
3. Select the IP address of the board.
4. From the main menu, go to *File » Parameter File » Remove*.



Use the *Get* function to download a copy of the existing parameter file. This can be used in future diagnostics if problems continue.

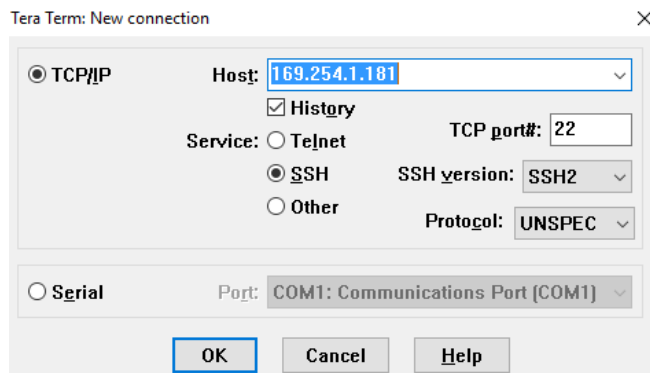
5. Click *Yes* in the *dialog* window to remove the file. The utility removes the parameter file from the board and saves a copy in *C:\Users\\AppData\Roaming\SightLineApplications*.
6. Close the upgrade utility and cycle the board power.
7. In Panel Plus wait for the system to boot, and then try connecting to the board.

4.2 SSH Connection

The SSH connection method assumes that the OEM is on the network and the IP address of the OEM is known. This can be tested by using the PING tool to query the unit.

If you cannot connect Panel Plus through serial, establish an SSH session to the board and check the running processes from the Linux console.

1. Use [Tera Term](#) (recommended) or another SSH client to connect to the board IP address. The default port is 22.





2. Log into the OEM:

1500-OEM and 3000-OEM:	4000-OEM:
Login: <code>root</code>	Login: <code>slroot</code>
Password: <code>root</code>	Password: <code>slroot</code>

3. Linux command prompt:

- 4000-OEM: Type: `cd sl/bin`
- For the 3000-OEM type: `mount -w -o remount /`
- Type: `ls`

This command lists all the files. Verify that the `param51ac9a4a.txt` file is shown.

- Type: `mv param51ac9a4a.txt param51ac9a4a.backup`
- For the 3000-OEM type: `mount -r -o remount /`
- For the 3000-OEM type: `sync`
- Type: `reboot`

The reboot cycle should begin, and the board should start in factory default mode.

IMPORTANT: When the system reboots, if there is no analog video in/out or network connectivity do not proceed further. Contact [Support](#) for further assistance.

4.3 Serial Connection

The following instructions were written for the 1500-OEM, but also apply to the 3000-OEM and 4000-OEM. Additional steps for the 3000-OEM or 4000-OEM are specified.

When logging into the SightLine hardware, the default username and password are `root` for the 1500-OEM and 3000-OEM and `slroot` for the 4000-OEM.

Problem: The 1500-OEM seems to have power, but the video does not display. Connection cannot be made over the network or the serial port.

Analysis: The boot cycle is not being completed. This could be due to a problematic setting in the parameter file. Try interrupting the boot cycle using the serial port. Rename or move the suspect parameter file to a temporary file, and then reboot the hardware. Alternately, if the network is working, try using the upgrade utility to remove the parameter file.

IMPORTANT: If you are unsure how to complete the steps below, do not proceed. Contact [Support](#) for further assistance.

This procedure assumes the following conditions:

- Serial communications are working
- All cables are connected properly
- Hardware used: 1500-OEM and 1500-AB (or similar IO hardware)



IMPORTANT: If these assumptions are not correct do not proceed. Contact [Support](#) further assistance.

The 1500-AB board uses a DB-9 connector for RS-232C communication for use with a PC. Only pins 2, 3, 5 are used. If using a serial port that does not support the RS-232C voltage levels do not proceed. Contact [Support](#) for further assistance.

1. Power off the 1500-OEM.
2. Connect the 1500-AB board serial port to the host PC.

A null modem cable or adapter may be required for this procedure.

3. From the PC run [Tera Term](#) (recommended) or similar SSH client.

The baud rate for debugging is 115200.

4. Apply power to the 1500-OEM.
5. In the terminal window hold the *Shift* key down and press the *S* key (*Shift+S*) multiple times. This will disrupt the boot process on the board.
6. In the terminal window, at the command prompt type: `boot`

```
OMAP Logic # boot
Booting from nand...

NAND read: device 0 offset 0x300000, size 0x2a0000
2752512 bytes read: OK
## Booting kernel from Legacy Image at 81000000 ...
Image Name:   Linux-3.0.0-BSP-dm37x-2.3-2SLA-s
Image Type:   ARM Linux Kernel Image (uncompressed)
Data Size:    2401260 Bytes = 2.3 MiB
Load Address: 80008000
Entry Point:  80008000
Verifying Checksum ... OK
Loading Kernel Image ... OK
OK
```

7. Additional text is displayed. This will vary based on error. Press the *Enter* key to stop the VideoTrack1500.
8. At the `SLA1500_login` prompt enter the login and password:

1500-OEM and 3000-OEM:	4000-OEM:
Login: root	Login: slroot
Password: root	Password: slroot

Enter the login and password twice if needed.


```
route add -host 255.255.255.255 dev eth0
vidTsk_core: FPGA version = 0x0
Assuming eth0
Available Network Interfaces:
    lo
    eth0
IP = 169.254.1.180 NETMASK = 255.255.0.0
Hit ENTER to terminate the program...

SLA1500_login: █
```





9. Linux command prompt:

- a. 4000-OEM: Type: `cd sl/bin`
- b. For the 3000-OEM type: `mount -w -o remount /`
- c. Type: `ls`

 *This command lists all the files. Verify that the `param51ac9a4a.txt` file is shown.*

- d. Type: `mv param51ac9a4a.txt param51ac9a4a.backup`
- e. For the 3000-OEM type: `mount -r -o remount /`
- f. For the 3000-OEM type: `sync`
- g. Type: `reboot`

 *The reboot cycle should begin, and the board should start in factory default mode.*

 **IMPORTANT:** When the system reboots, if there is no analog video in/out or network connectivity do not proceed. Contact [Support](#) for further assistance.

5 Questions and Additional Support

For questions and additional support, please contact [Support](#). Additional support documentation and Engineering Application Notes (EANs) can be found on the Support pages of the SightLine Applications [website](#).

Appendix A - Additional Parameter File Configuration


A1 Sharing a Common Parameter File


Summary:

Parameter files contain common settings making it easy to setup and deploy multiple systems.

Background:

For customers who plan on duplicating configurations across production, SightLine recommends creating a baseline (golden template) parameter file that can be loaded easily onto SightLine hardware. Using SightLine tools, such as the SightLine Upgrade Utility, production teams can quickly configure new SightLine hardware with common firmware and settings.

 *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. For example, if the configuration is to set a static IP address, then a problem would occur if two units were present on the network at the same time.*

 *All parameter files use the same filename (`param51ac9a4a.txt`). Once a golden template parameter file is created, save it to a unique location or directory on the host PC so that is easily identifiable as shown in [Figure A1](#).*

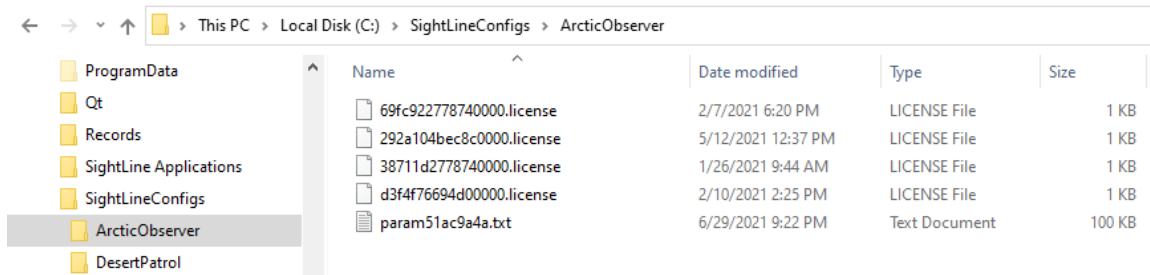


Figure A1: Directory Naming Example

Common issues and recommendations:

Issue

Recommendation

A static IP address, set by the parameter file, can cause network problems if multiple devices are powered on at the same time.

Power on only one unit at a time.

Since the parameter file name is the same on each SightLine system (param51ac4a9a.txt), it is important to manage the different configurations effectively, e.g., using directory names or similar approach.

See [Figure A1](#) for directory naming examples.

Parameter files should be generated to match the firmware version.

The parameter file format can change with major releases. Some older releases of firmware may not be able to read new formats. It is recommended to use the same versions of Panel Plus and firmware to ensure compatibility.

License files are unique to each SightLine system.

It is important to manage license files separately.

A2 Deploying Parameter Files

Parameter files can be copied to hardware in multiple ways:

- Use one of the methods outlined the [EAN-Firmware-Upgrade-Utility](#) to copy the parameter file:
 - Managing the Parameter File
 - Command Line File Management
- Follow instructions in [EAN-OEM-Recovery](#) for updating firmware using the microSD card (1500-OEM and 3000-OEM only).

After all the firmware files have been copied to the reformatted microSD card per instructions, copy the source parameter file over to the card, e.g., [drive]:\release\root\home\root\param51ac9a4a.txt. Follow the instructions in the EAN to continue the update. Please contact [Support](#) for the modified script.

- The source parameter file can also be copied to an OEM board using WinSCP or similar FTP client. See [EAN-Using-WinSCP](#).

IMPORTANT: Parameter files can only be transferred to multiple OEM boards of the same type.



A3 Parameter File and MicroSD Card Recovery (3000-OEM only) Use Case


When upgrading the firmware using the microSD card there is an option to add a *param51ac9a4a.txt* file that is copied to the 3000-OEM after the upgrade is complete.

Additionally, if an empty or small size *param51ac9a4a.txt* file (<100 bytes) is placed at the root of the microSD card, e.g., *[drive]:\release\root\home\root*, the upgrade process will preserve the *param51ac9a4a.txt* file.


A4 Parameter File Compatibility

There are limits on which parameter files are forward or backward compatible. In most cases, a newly created parameter file should continue to be compatible with future releases, i.e., within the same major/minor software version family. For example, a parameter file created with 2.25.05 should be compatible with version 2.25.10.

When downgrading to older firmware, use the parameter file for that firmware version. Upgrades to new major or minor versions (2.25.xx to 3.00.xx, or 2.25.xx to 2.26.xx) could be problematic.

 *A firmware version specific parameter file should be used in conjunction with the firmware deployed on the system. Contact [Support](#) if there are file compatibility issues.*

A5 Advance Parameter File Configuration

 **IMPORTANT:** Use this procedure with discretion.

To configure specific parameters for custom applications the parameter file can be edited to remove specific pairs of lines, or to only include the minimal settings you want to persist as shown in [Figure A2](#).

```

16  --local rv = ffi.new('SLAUnion');
17  --out.out = rv
18
19  f = ffi.new('SLASetNetworkParameters_t', {mode=0, ipAddr=ipAddress("169.254.1.180"),
20  ..... subnet=ipAddress("255.255.0.0"), gateway=ipAddress("192.168.1.1"), c2replyPort=14002,
21  ..... reserved0=14002, reserved1=4, reserved2=0, listenPort=14001, listenPort2=14003,
22  ..... hostName={len=14, str="SLA1500_280137"}})
23  C.SLASetNetworkParameters(c, f, out, 11)
24  f = ffi.new('SLASetEthernetDisplayParameters_t', {protocol=3, ipAddr=ipAddress("169.254.1.42"),
25  ..... port=15004, displayId=2})
26  C.SLASetEthernetDisplayParameters(c, f, out, 4)

```

Figure A2: Manually Editing Parameter Files