



## EAN-Parameter File

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Exports: [Export Summary Sheet](#)

EULA: [End User License Agreement](#)

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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 Hardware Compatibility

Standard Ethernet network or serial connection to the SightLine hardware.

### 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.

### 1.4 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](#).

### 1.5 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's communication 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.



**i 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. 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 settings 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*.

**📄** *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:*

- *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.*
- *Make sure Panel Plus is not in Demo mode.*
- *On the Connect tab in Panel Plus, make sure the video processing functions that you are using are enabled.*

### 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	
<b>Parameters</b>	
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)
<b>Reset</b>	
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 the startup guide
Soft Reset	Resets most dynamic settings on the board
<b>Help</b>	
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 Renaming / Moving the Parameter File

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*.

The same procedure can be done using SSH instead of the serial port. This assumes the SightLine hardware is on the network and the IP address of the unit is known. Test by using PING tools to query the SightLine hardware. If using SSH first, proceed to step 8 below.

Figure 1: Example Using SSH to Connect to SightLine Hardware

**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 is most likely due to a combination of settings. The solution is to interrupt the boot cycle using the serial port, rename or move the suspect parameter file to a temporary file, and then reboot the hardware.

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

**ⓘ IMPORTANT:** The following procedure assumes that:

- analog video in and out and network and serial communication are working.
- all the cables are connected properly.
- a 1500-OEM and 1500-AB (or similar) are being used.

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 3 pins are used (2, 3, 5). If you are 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 a terminal emulator / console such as [Tera Term](#) (recommended).

*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 repeatedly press the *S* key (*Shift+S*). 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. More text will slowly display (it varies based on error). Press the *Enter* key to stop the VideoTrack1500.
8. At the SLA\_1500\_ login, enter the login and password:

1500-OEM and 3000-OEM:

Login: `root`

Password: `root`

4000-OEM:

Login: `slroot`

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. Type: `ls`
  - b. 4000-OEM: Type: `cd sl/bin`

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

- c. For the 3000-OEM type: `mount -w -o remount /`



- 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 further. Contact [Support](#) for further assistance.

#### 4.1 Additional Tasks in U-Boot (1500-OEM and 3000-OEM serial port only)

At the OMAP Logic # prompt (after *Shift+S* in step 5):

- `setenv bootdelay 1` # sets a delay in seconds before Linux kernel loads  
# setting to zero make SHIFT+S Impossible
- `saveenv` # saves u-boot args to NAND flash
- `setenv silent 1` # disable console window output
- `setenv silent` # re-enable console window output to serial
- `setenv bootargs run nfsboot` # boot from an NFS server rather than NAND  
# requires additional parameters to be set
- `setenv bootargs run nandboot` # boot from NAND rather than NFS Server
- `boot` # load and execute the Linux kernel
- `printenv` # shows all the u-boot args

```
Hit any key to stop autoboot: 0
OMAP Logic # setenv bootdelay 1
OMAP Logic # saveenv
Saving Environment to NAND...
Erasing Nand...
Erasing at 0x260000 -- 100% complete.
Writing to Nand... done
OMAP Logic # █
```

Figure 2: Changing Boot Delay in U-Boot

**⚠ CAUTION:** Care should be taken when working with system files. In the event the system becomes inoperable, the system can be recovered by creating a bootable microSD card. See the [EAN-Firmware Upgrade Utility](#) document for more information.

## 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 - Master Parameter File

SightLine recommends creating a master [parameter](#) file for applications with multiple OEM boards that use identical configurations. This file can then be propagated across those boards allowing production teams 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.

 *Since all parameter files use the same filename (`param51ac9a4a.txt`), once the master parameter file is set up, make sure to save it to a unique location or directory before copying the file across multiple OEM boards.*

Use one of the methods in the [EAN-Firmware-Upgrade-Utility](#) to copy the master parameter file across multiple OEM boards. See each section for more information:

- [Managing the Parameter File](#)
- [Command Line File Management](#)
- [Appendix A - Updating Firmware with MicroSD Card.](#)

 *After all the files have been copied to the reformatted microSD card per instructions, copy the new master parameter file over to the card. For example, `[drive]:\release\root\home\root\param51ac9a4a.txt`. Follow the instructions to continue the update.*

 *The master parameter file can also be copied to an OEM board using WinSCP or a similar utility. See [EAN-Using-WinSCP](#).*

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

### A2 Parameter File Compatibility

There are limits to which parameters files are forward or backward compatible. In most cases, a newly created parameter file should continue to be compatible with future releases, especially within the same major/minor version family. For example, a parameter file created with 2.25.5 should be compatible with version 2.25.10. When downgrading to older systems, 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) may present some challenges.

 *We recommend that a firmware version specific parameter file should be used in conjunction with the firmware deployed on the system. Contact [Support](#) if you are experiencing file compatibility issues.*



### A3 Configuring Startup Scripts

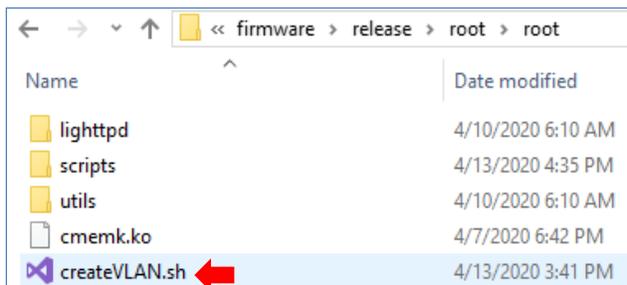
Custom bash scripts can be loaded to the target OEM hardware. This section explains how to create, edit and call up startup scripts.

Example:

1. Create a new script file. In the scripts folder go to:

`\SLA-1500 Upgrade Utility\3.01.01\firmware\release\root\root\scripts\createVLAN.sh`.

2. Double click on the `createVLAN.sh` script file.



3. Edit script contents.

```

createVLAN.sh
1  ##
2  ## Add a VLAN
3  ##
4  vconfig add eth0 5
5  ifconfig eth0.5 192.168.42.100 netmask 255.255.255.0 broadcast 192.168.42.255 up

```

4. Use the SightLine Upgrade Utility to upgrade the OEM. The new script is now on the target hardware and ready to test.
5. Use Tera Term to establish an SSH session to the target and execute the script.

```

root@sla1500:~# sh createVLAN.sh
root@sla1500:~# ip addr
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
   link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
   inet 127.0.0.1/8 scope host lo
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP100> mtu 1500 qdisc pfifo_fast qlen 100
   link/ether 0e:00:a0:28:01:37 brd ff:ff:ff:ff:ff:ff
   inet 169.254.1.180/16 brd 169.254.1.255 scope global eth0
3: teql0: <NOARP> mtu 1500 qdisc noop qlen 100
   link/void
4: eth0.5@eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue
   link/ether 0e:00:a0:28:01:37 brd ff:ff:ff:ff:ff:ff
   inet 192.168.42.100/24 brd 192.168.42.255 scope global eth0.5
root@sla1500:~#

```



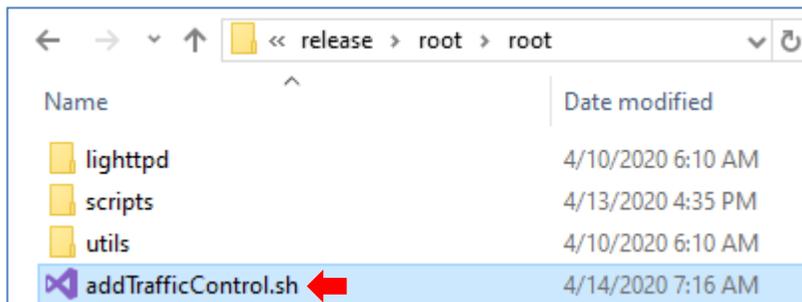
6. Call scripts at bootup. The primary scripts for SightLine OEM platforms are as follows:
  - 1500-OEM /etc/rc.d/rc.local
  - 3000-OEM /root/home/root/sla3000\_init.sh
  - 4000-OEM /root/home/slroot/sl/scripts/sla\_init.sh
7. After manually verifying that the custom script works, edit the startup script to call those custom scripts at bootup.

```
#ifup eth0; exit 0  ## Not to start VideoTrack.
./createVLAN.sh

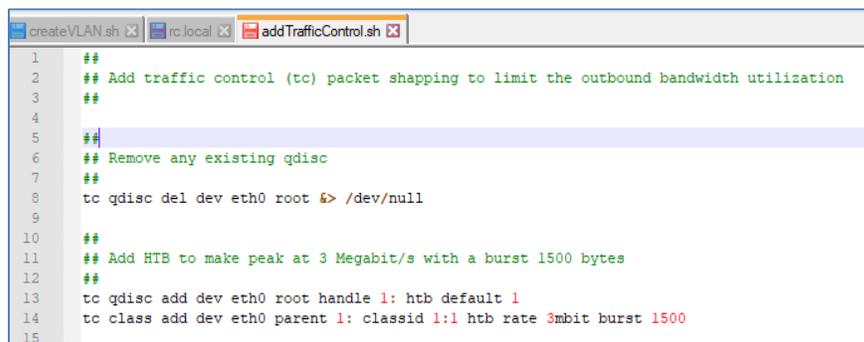
if [ -f VideoTrack1500 ]; then
  if [ -f slStabTrackOMAP.out ]; then
    :
    #./VideoTrack1500 -S0 0 -O -CAPTURE sonv 720p &
```

When the firmware is updated the startup script will automatically call the custom script.

8. To add an additional script:
  - a. Double click on the *addTrafficControl.sh* file.



- b. Edit the script.





- c. Call new script from startup script (*rc.local*).

```

fi

#ifup eth0; exit 0  ## Not to start VideoTrack.
./createVLAN.sh
./addTrafficControl.sh

if [ -f VideoTrack1500 ]; then
    if [ -f slStabTrackOMAP.out ]; then
        #./VideoTrack1500 -S0 0 -Q -CAPTURE sony_720p &

```

- d. To apply the script, update the firmware of the target OEM.

#### A4 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 A1: Manually Editing Parameter Files