



## EAN-1500-OEM Startup Guide

2021-12-27

Exports: [Export Summary Sheet](#)

EULA: [End User License Agreement](#)


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1	Overview .....	1	6.1	Camera Setup and Network Selection .....	7
1.1	Additional Support Documentation .....	1	6.2	Direct serial connection (optional): .....	7
1.2	SightLine Software Requirements.....	1	7	Summary.....	8
2	Network Configuration .....	1	7.1	Demo Mode .....	8
3	Serial Communications .....	2	8	Troubleshooting.....	9
4	1500-EVAL Kit.....	2	8.1	Questions and Additional Support.....	10
5	Hardware Bench Setup .....	3		Appendix - 1500-OEM Enclosure.....	11
5.1	Power Connections .....	4			
6	Panel Plus.....	5			

 **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 1500-OEM Startup Guide provides the steps for connecting, configuring, and testing the 1500-OEM board on the 1500-AB accessory board. The AB provides the standard connections for communication with the 1500-OEM board. Boards with SLE options enabled use the same startup procedure.

### 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.

## 2 Network Configuration

The 1500-OEM board can be connected directly to the host PC or through a network switch. During startup, the board sends three DHCP discover requests in three second intervals. It will self-assign the link-local address of 169.254.1.180 if it does not receive a response.

 Refer to [EAN-Network Configuration](#) for more network configuration information.

 SightLine recommends assigning a static IP on the PC when a DHCP server is not present on the network.

 If you require additional assistance with assigning a static IP address to the host PC, contact your network administrator or search online for procedures that corresponds with your current PC operating system.

#### 1500-OEM Board + 1500-AB Board

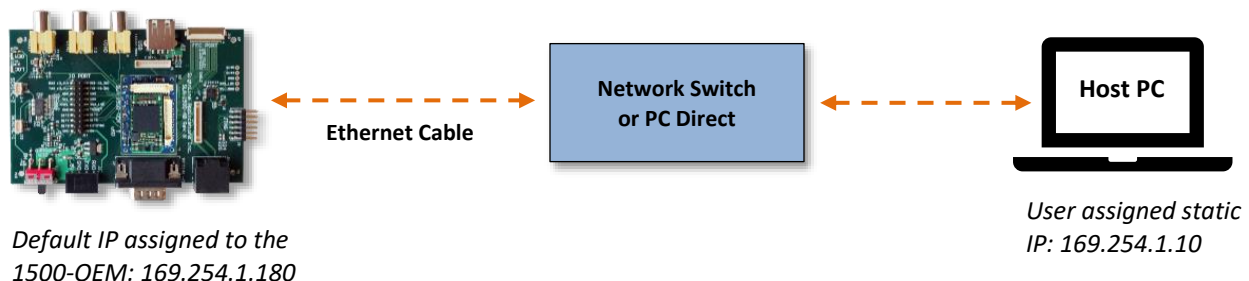


Figure 1: Network Configuration Options



**Configuration notes:**

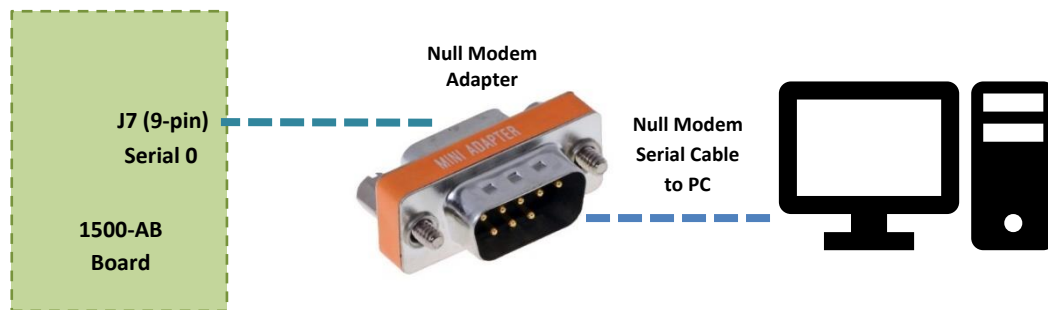
- If a wireless adapter is active on the host PC it should be disabled.
- If using the link local address, assign a static IP address to the host PC of 169.254.X.X, where X is 1-254 (do not use 180). Use a subnet mask of 255.255.0.0.
- Problems with outbound streaming are often related to setting/assigning IP addresses and ports. See the Encoding Configuration settings in [EAN-Encoding](#) for advanced settings.

**3 Serial Communications**

For a direct serial connection use the 9-pin serial connection.

Connecting to the serial COM port on the 1500-AB board from a host PC requires a null modem adapter or null modem serial cable ([Figure 2](#)).

Use a direct serial connection for troubleshooting or if a network connection cannot be established.



**Figure 2: 1500-AB Board Serial COM Connection**

**4 1500-EVAL Kit**

Parts listed below are included in the 1500-EVAL kit. If your application calls for other options and interface boards, please contact [Sales](#).

To review all the interface board options, see the [1500-OEM Accessories](#) page on the SightLine Applications website.

**Table 1: 1500-EVAL Kit**

Part Number	Qty	Description
1500-OEM + 1500-SOM (Rev E)	1	Video processing board
1500-AB (Rev H and later)	1	Accessory board with standard connections for the 1500-OEM
SLA-CAB-1514	1	Molex round wire cable
SLA-MSD-32GB	1	SD Card for recording clips and snapshots
SLA-PWR-B05V	1	5V Power supply for 1500-AB board
SLA-CAB-2RCA	2	RCA (M) to RCA (M) video cables
SLA-CAB-ETH0	1	Ethernet cable CAT 5e 3ft
SLA-MSD-ADPT	1	SD adapter
SLA-CAB-0303	1	Cable, 3P Molex to 9P D-sub
SLA-1500-HSNK	1	1500-OEM heatsink (COTS) (recommended for benchtop testing)



## 5 Hardware Bench Setup

**ⓘ IMPORTANT:** To prevent damage to the hardware boards, use a conductive wrist strap attached to a good earth ground. Before picking up an ESD sensitive electronic component, discharge built up static by touching a grounded bare metal surface or approved anti-static mat.

This section describes the connection for the 1500-OEM and the 1500-AB interface board to the supporting components. The 1500-AB board is used as the serial and network interface board.

### Cable connections:

**ⓘ IMPORTANT:** See [Power Connections](#) in the next section before applying power.

- Attach the heat sink to the top of 1500-OEM board. The heatsink has peel-and-stick backing.
- SLA-CAB-2RCA: Connects to VIN0 on the 1500-AB board and to the analog camera.
- SLA-CAB-2RCA (optional analog monitor): Connects to VOUT on the 1500-AB board and to analog monitor.
- SLA-CAB-ETH0: Connects to the Ethernet port on the 1500-AB board and to the network switch or host PC. A green blinking light on the 1500-OEM board verifies network connection.
- SLA-PWR-B05V (110-250VAC input / 5VDC output): Connects to J2 on the SLA-1500-AB board.

*The camera and monitor are not provided by SightLine Applications.*

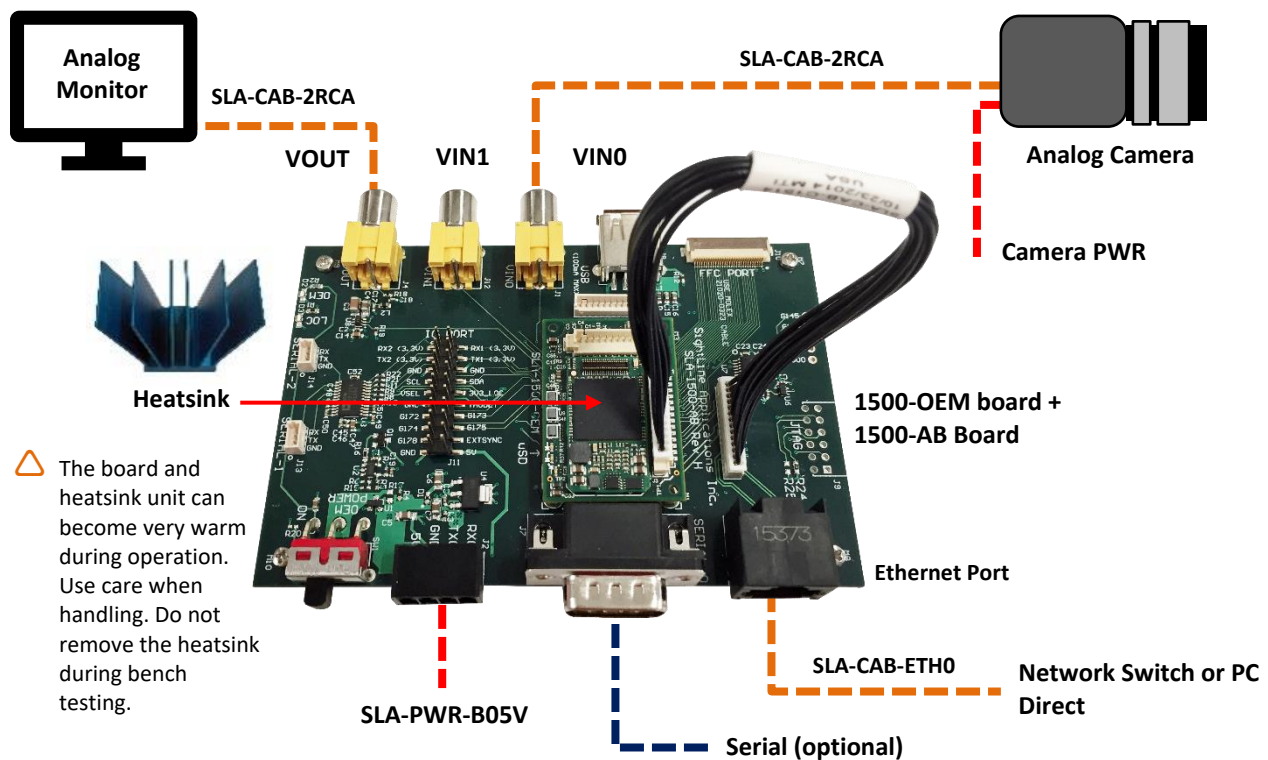


Figure 3: Typical Bench Hardware Setup



### 5.1 Power Connections

REV H and later 1500-AB boards have a single power switch. REV E and earlier boards have a dual power switch. REV H and later boards are immediately powered on when power is connected. A green light indicates the 1500-AB is powered on.

To prevent voltage spikes to the board, plug in the 1500-AB board power adapter (SLA-PWR-B05V) to an AC power source first.

To power-on the 1500-OEM board For Rev H and later AB boards, place the switch in the position shown in Figure 4.

To power-on the 1500-OEM board For Rev E and earlier AB boards, place both switches in the position shown in Figure 5.

A blue light on the 1500-AB board and a green light on the 1500-OEM indicate that all the boards are powered on.

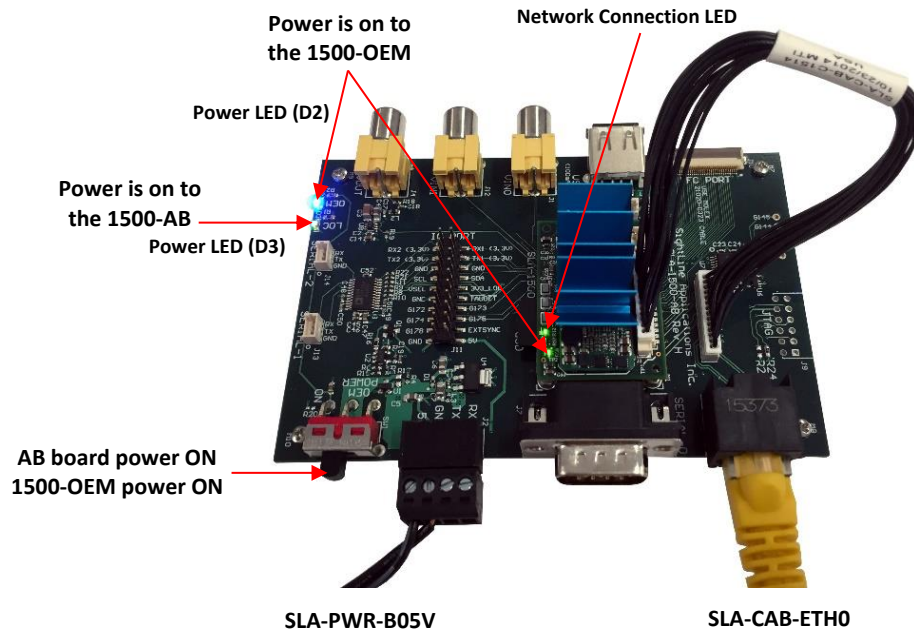


Figure 4: 1500-OEM Bench Setup with 1500-AB Board (Rev H and later)

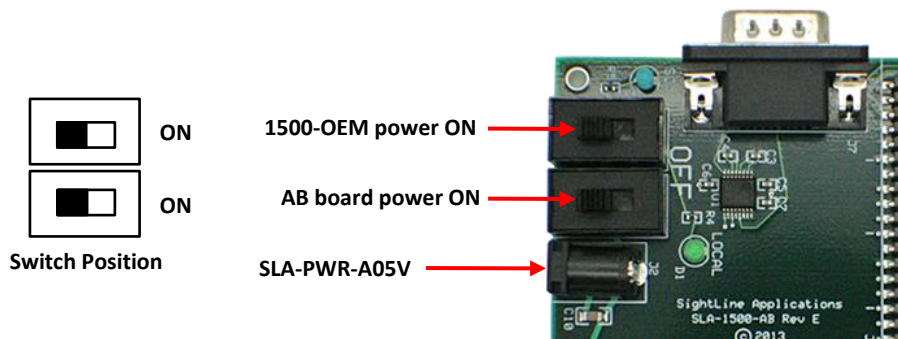


Figure 5: 1500-AB Board Dual Power Switches (Rev E and earlier)



## 6 Panel Plus

This section covers the Panel Plus setup and configuration process. Panel Plus provides a basic graphical interface to the features and functions of the 1500-OEM and 1500-AB board.

Before connecting with the Panel Plus software, the 1500-OEM and 1500-AB boards should be powered up and connected through:

- a network switch or directly to the host PC (preferred) or,
  - a direct serial connection (for troubleshooting or if a network connection cannot be established).
1. Go to the [Software Downloads](#) page on the SightLine website and download the Panel Plus application installer. Older releases are available under the *Previous Versions* section.
  - ❗ **IMPORTANT:** The firmware version number and Panel Plus Software version number should match. If the board firmware version is initially unknown, reference the SightLine invoice that came with the board when it was purchased.
  2. Launch the installer file and follow the prompts. After installation open the Panel Plus application.
  3. The first time that Panel Plus is launched, a Windows Security Alert prompt should appear. Select *Allow Access* to create a firewall exception.

📄 Approving private network access is sufficient in most cases. Check public networks if directly connecting to the board.

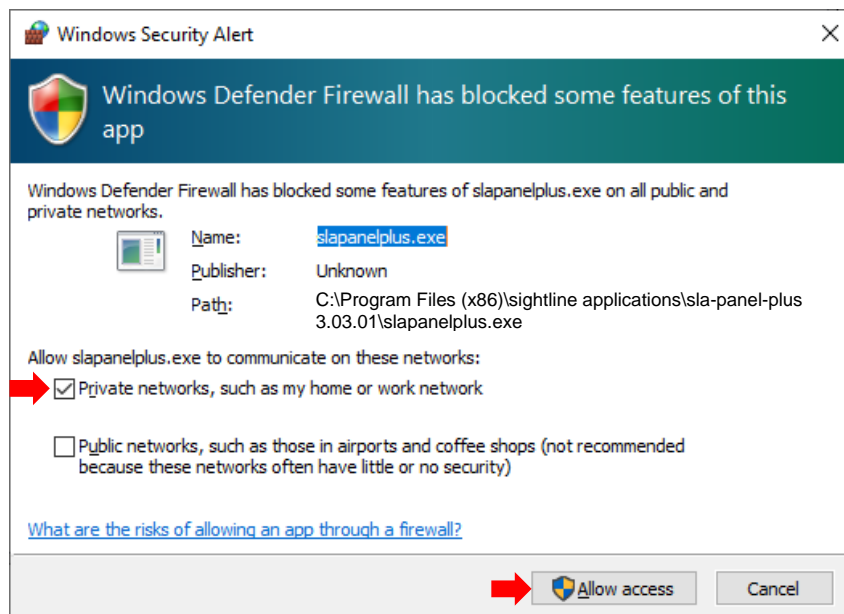


Figure 6: Windows Security Alert Prompt

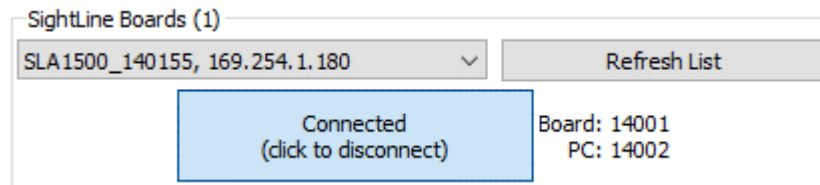
### ❗ IMPORTANT:

- Do not cancel this prompt. Failure to allow access at this point will not allow the Panel Plus application to connect to the board. See the [Troubleshooting](#) section for more information.
- Before using the Panel Plus program, review the Panel Plus User Guide in the Help section of the Panel Plus application for additional user and setup information.



4. Network connection to the board:
  - a. From the *Connect* tab, click the *Refresh List* button to get a list of boards on the network.
  - b. Use the dropdown menu and click on the appropriate board to select it.
  - c. Click the *Disconnected (click to connect)* button.

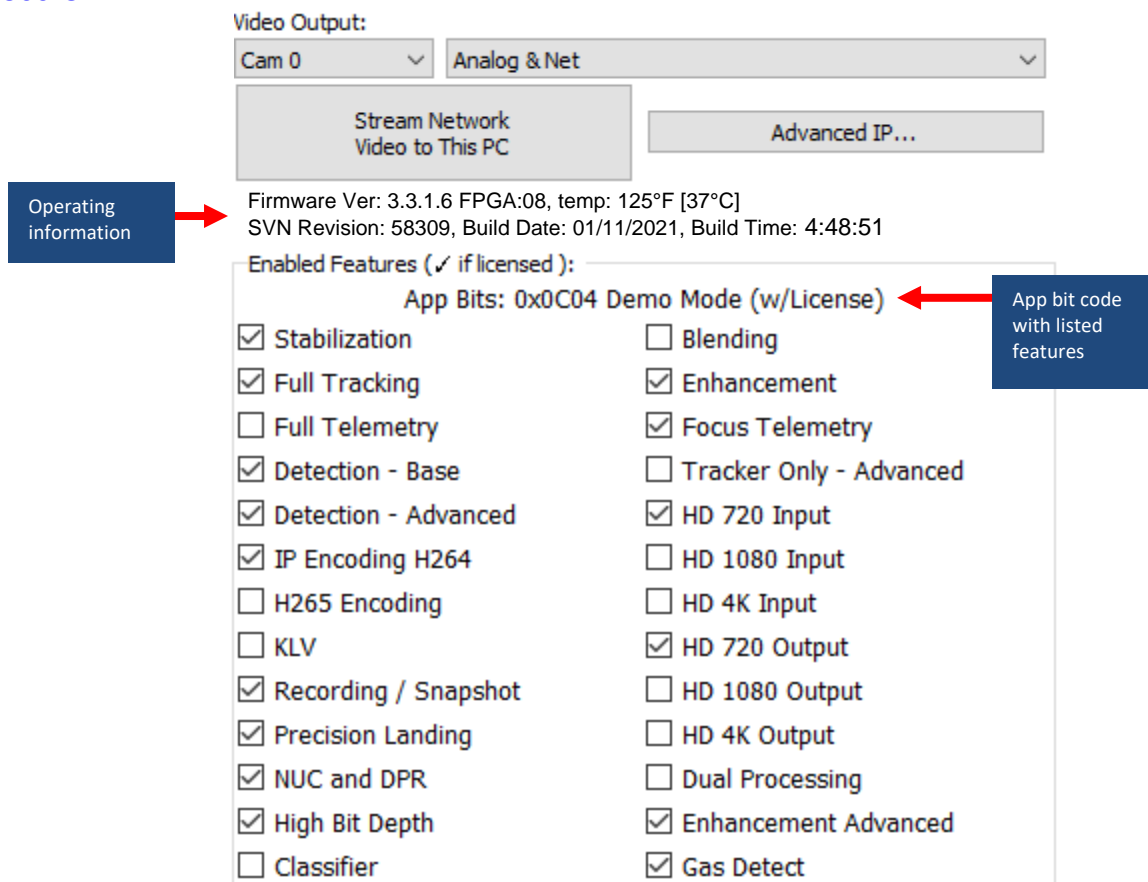
Once the connection is successful, the button changes to *Connected*.



**Figure 7: Network Connection to Board**

5. Verify the connection. When the Panel Plus has successfully connected to the 1500-OEM board, operating information is displayed under the *Video Output* section and the bottom status bar in Panel Plus. If the connection was not successful, this information will not be present or incomplete.

**ⓘ IMPORTANT:** For optimal performance, monitor the board temperature. Board temperatures should be below 185°F (85°C). To keep boards within the optimal temperature range, use the included heatsink during bench testing. For more information about thermal management, see the [ICD-1500-OEM](#).



**Figure 8: Operating Information**





## 6.1 Camera Setup and Network Selection

1. From the main menu go to *Configure » Acquisition Settings*. This dialog window allows changes to the camera configurations.
2. Select the *Camera Index (Analog 0 or Analog 1)* and *Camera Type (NTSC or PAL)*.
3. After changes have been made, the *Apply* button will turn red indicating that a change has been detected. Click *Apply* to apply the changes.

### Acquisition Settings

4. Save and activate the settings:
  - a. Main menu » *Parameters » Save to Board*.
  - b. Main menu » *Reset » Board*.
  - c. After the system reboots reconnect to the board. Make sure the board connects.

See [EAN-Parameter File](#) for a comprehensive guide to saving parameter settings.

See [EAN-Camera Compatibility](#) for all third-party cameras and lens assemblies that are currently supported by SightLine software. Includes configuration and setting support guidance.

5. From the *Connect* tab, click *Stream Network Video to This PC*.

## 6.2 Direct serial connection (optional):

1. Connect the serial cable to the 1500-OEM board and host PC as shown in [Serial Communications](#).
2. From the *Connect* tab, click the *Refresh List* button to get a list of available COM ports.
3. Use the dropdown menu and click on a COM port to select it.
4. Click the *Disconnected (click to connect)* button.

Figure 9: Direct Serial Connection





## 7 Summary

This completes the startup guide for the 1500-OEM board. See the Panel Plus User Guide (main menu » *Help* » *User Guide*) for additional user and setup information.

If the board has been connected to a camera and encoding functions are part of the configuration, video will be displayed in the main window. On the *Connect* tab of Panel Plus, the purchased functions are checked and enabled. To add additional features to 1500-OEM board, contact [Sales](#).

### 7.1 Demo Mode

To enable all features for testing and evaluation purposes, click the *Demo Mode* button from the *Connect* tab.

*The video screen will have a Demo Mode screen overlay until the Demo Mode function is turned off.*



**Figure 10: Panel Plus Connection to Board**

**ⓘ IMPORTANT:** Not all 1500-OEM purchased configurations include encoded IP video, e.g., the Tracker-only configuration. For configurations that include encoding, video will be displayed in the Panel Plus main window. Tracker-only configurations will display processed video on the analog output only. An analog monitor is required for viewing this output.



## 8 Troubleshooting

**Issue:** Unable to connect with the Panel Plus application to the 1500-OEM board over a standard network connection.

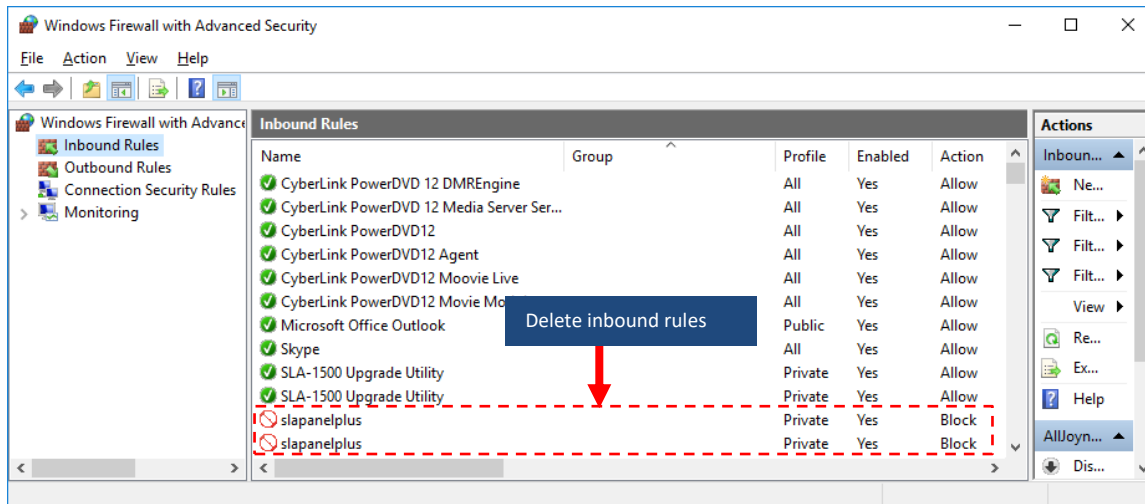
### Check static IP address:

Check the static IP address configuration. Improper or unknown static IP address setup is a common connection problem. See the [Network Configuration](#) section and [EAN-Network Configuration](#) for more network configuration information.

### Check Windows firewall:

Failure to allow access in the Windows Security Alert prompt upon initial startup of the Panel Plus application can cause connection issues.

1. Close the Panel Plus software application and open the Window Firewall Security Manager on the host PC.
2. Go to Inbound rules and delete the two *slapanelpus* rules (TCP and UDP).
3. Re-start the Panel Plus application and allow access in the Windows Security Alert prompt window.



### Check hardware connections:

Make sure that all the boards are powered on.

If connecting over the network, switch to a direct serial connection (see the [Serial Communications](#) section). The Panel Plus software will automatically recognize serial ports and list them in the dropdown menu for available connections.

6. *Connecting to the serial COM port on the 1500-OEM board from a host PC requires a null modem adapter or null modem serial cable.*



### Check network configuration:

After communications have been established using the serial connection, networking settings can be corrected to allow proper network communications.

1. From the main menu, go to *Configure » Network Settings*.
2. If an unknown static IP address is assigned, remove it, or update it to match the current network addressing scheme.

Network Settings

Set eth0 network parameters.

Use Static IP

IP address	192 . 168 . 0 . 35
Subnet	255 . 255 . 255 . 0
Gateway	192 . 168 . 1 . 1

Command and Control Port 14002 [14002]

Host Name: (Clear to reset)

Send

### 8.1 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 [Documentation](#) page of the SightLine Applications website.

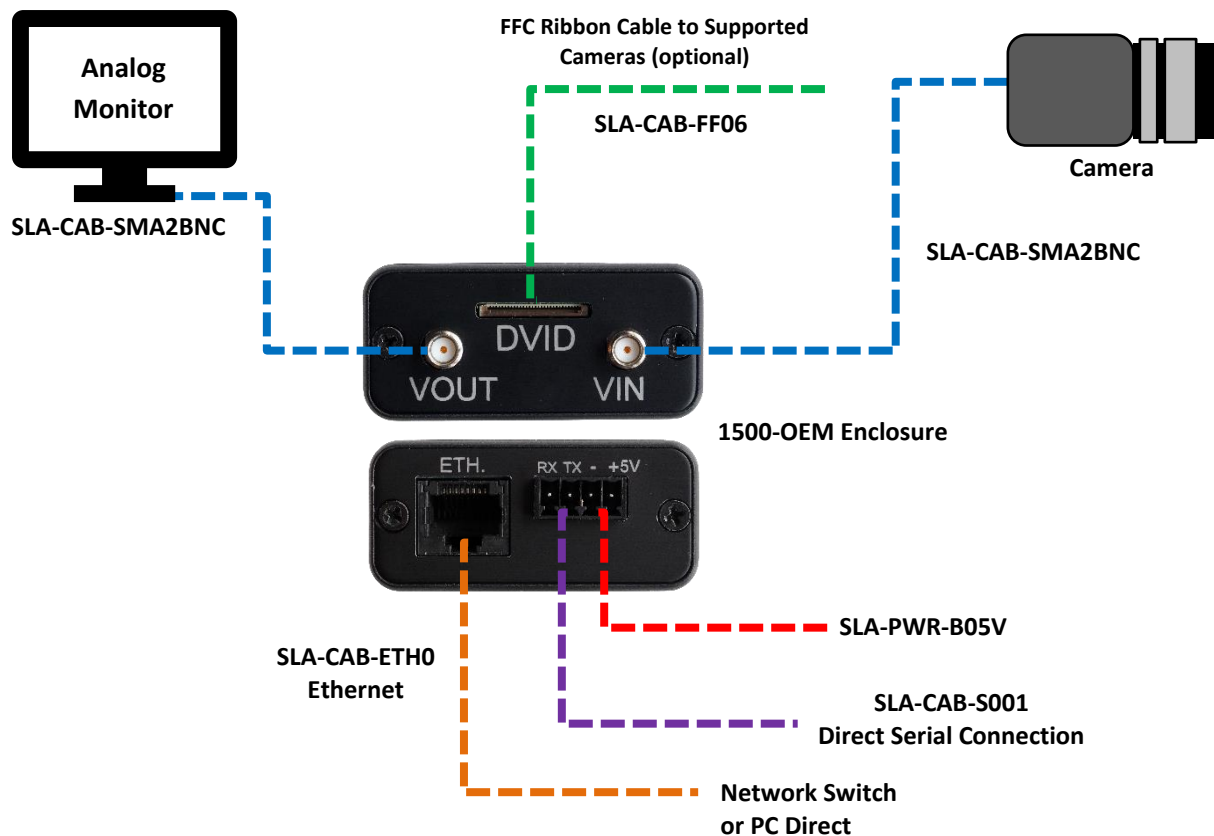


## Appendix - 1500-OEM Enclosure

The 1500-OEM enclosure supports both laboratory and system integrations. It provides standard connectors for analog Video In and Out, ethernet, power and RS232 serial. An FFC interface allows digital interface connections to FLIR Tau, FLIR Quark, and Tamarisk LWIR cameras.

**Table B1: 1500-ENC EVAL KIT**

Part Number	Qty	Description
SLA-1500-ENC	1	1500-OEM + 1500-mAB
SLA-PWR-B05V	1	5V Power, Phoenix
SLA-CAB-S001	1	Serial adapter (stripped)
SLA-CAB-SMA2BNC	2	SMA 2 BNC
SLA-CAB-2RCA	2	RCA (m) to RCA (m)
SLA-CAB-ETH0	1	Ethernet
SLA-CAB-FF06 (optional) Contact <a href="#">Sales</a>	1	FFC ribbon cable
SLA-ADPT-B2R-FF (optional) Contact <a href="#">Sales</a>	1	BNC (F) to RCA (F) Adapter



**Figure A1: 1500-OEM Enclosure Bench Connection Diagram**