



## EAN-Sony-FCB-4K Block Cameras

2023-03-22

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

This document describes how to configure the 4000-OEM video processing board to receive video from Sony-FCB 4K block cameras:

- FCB-ER8300
- FCB-ER8530
- FCB-ER8550
- FCB-ES8230
- FCB-EW9500H

*The Sony FCB-ER 8300 and Sony FCB-ER8230 cameras have not been tested.*

### 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. It can be accessed from 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 [Software Downloads](#) page.

### 1.2 SightLine Software Requirements

4000-OEM: Version 3.01.xx and higher.

**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 Safe Device Handling

- CAUTION:** To prevent damage to hardware boards, disconnect all input power to OEMs and adapter boards before connecting or disconnecting cables including all FFC, FPC, KEL, HDMI, MIPI, and round wire (Molex) cables.
- CAUTION:** To prevent damage to 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 antistatic mat.

## 3 Optional Interface Boards and Adapters

Additional system interface boards provide options for network interfacing, serial ports, and GPIO. Camera interface and adapter boards provide an interface from the camera to OEM. See the [ICD-3000-4000 Adapter Boards](#) for complete specifications and pinouts.

**IMPORTANT:** All boards should be connected and secured with the included cables and hardware fasteners first before applying power.

## 4 Hardware Connections

### 4.1 4000-OEM Sony FCB 4K Cameras and SLA-4000-STM Bench Setup



**Interface and adapter boards:**

- [SLA-4000-STM](#): FCB 4K camera and [4000-OEM](#) interface.
- The SLA-4000-STM board is connected to J9 on the 4000-OEM.

**Cable connections:**

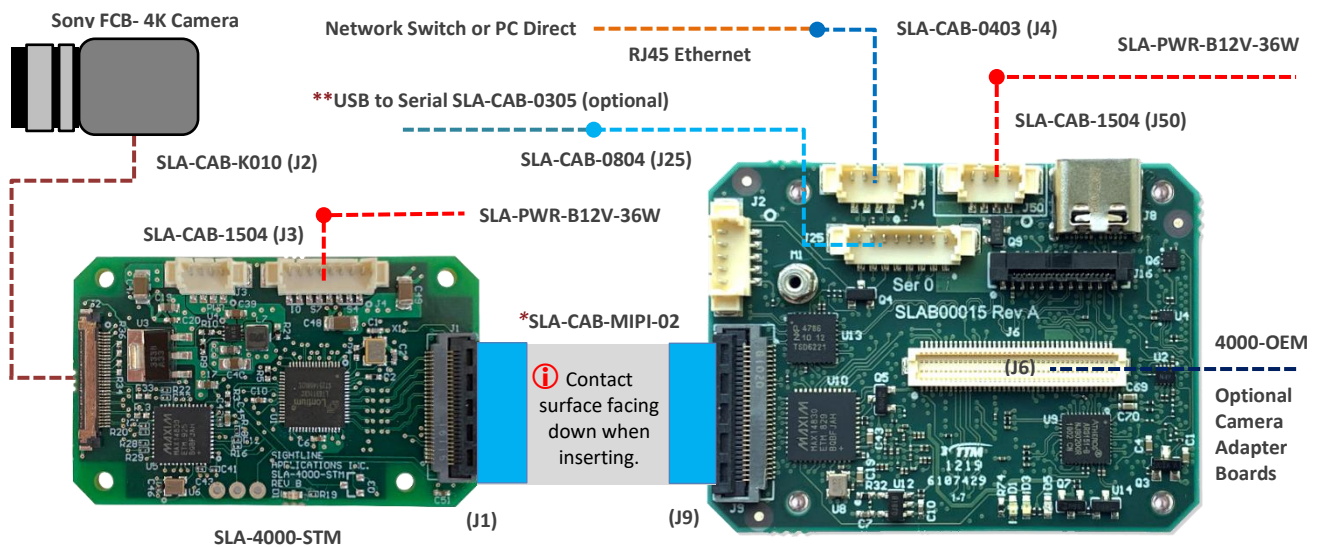
- SLA-CAB-K010: Connects the SLA-4000-STM board and the Sony FCB-4K camera. The SLA-4000-STM board supplies power to the camera through this cable.
- SLA-CAB-1504 / SLA-PWR-B12V (110-250VAC input / 12VDC output): Connects to J3 on the SLA-4000-STM board. Provides power to the camera and SLA-4000-STM board.
- SLA-CAB-MIPI-02: 2-inch FFC cable that connects to J9 on 4000-OEM and J1 on the SLA-4000-STM. Provides serial communication and digital video to the camera.
- SLA-CAB-0403: Connects to J4 on the 4000-OEM board. Provides an RJ45 Ethernet connection.
- SLA-CAB-1504 / SLA-PWR-B12V (110-250VAC input / 12VDC output): Connects to J50 on the 4000-OEM board.

**IMPORTANT:**

- SLA-CAB-MIPI-02 is an FFC cable and must be oriented and connected correctly for the camera to operate. See [FFC cable](#) instructions and precautions before connecting the cable.
- The KEL ribbon cable is made up of micro-coax cables. Bending the cable during insertion can cause the micro-coax connections to break, which can lead to poor or no video. The cable also supplies power to the camera, and if the cable is damaged, it can result in the camera resetting during operation, particularly when the zoom/focus mechanisms are in use and require additional power.

**Power and network connectivity LEDs:**

A green light (D1) on the 4000-OEM board indicates power. An amber light (D5) verifies network connection.



**IMPORTANT:** Disconnect all input to OEMs and adapter boards before connecting or disconnecting cables.

**Figure 1: Bench Setup - 4000-OEM / Sony FCB-ER Series Camera / SLA-4000-STM**

\*SLA-CAB-MIPI-02 FFC cable must be connected correctly. See [FFC cable](#) instructions before connecting the SLA-4000-STM board.  
 \*\*SLA-CAB-0305 can connect to SLA-CAB-0804 to facilitate a PC/USB connection to serial port 0 on the 4000-OEM. See the Serial Communications section in the [EAN-Startup-Guide-4000-OEM](#) for more information.



## 5 Configuration Settings

This section covers the basic camera configuration settings in Panel Plus for the SightLine 4000-OEM video processing board.

Before connecting with the Panel Plus software, the OEM board should be powered up and connected through:

- a network switch or directly to the host PC (preferred) or,
- Direct serial connection (for troubleshooting or if a network connection cannot be established).

See the [EAN-Startup Guide 4000-OEM](#) for connection and video streaming instructions.

**ⓘ IMPORTANT:** This procedure assumes that the customer has read the OEM startup guide(s) and has a basic understanding of the following fundamentals:

- Completed a functional connection between the SightLine video processing board and Panel Plus application.
- Familiar with Panel Plus controls.
- Successfully streamed video in Panel Plus.

If you do not have a strong basic system setup and familiarity, we recommend reviewing the OEM startup guide and work with our support team to establish basic connection and streaming fundamentals.

### 5.1 Acquisition Settings

From the main menu in Panel Plus » *Configure* » *Acquisition Settings*, select *Camera Index* as *Cam 1*.

Figure 2: Set Camera Index - Cam 1

The Sony camera attached to the SLA-4000-STM is only available as CAM 1.

If available, use the *Auto Fill* drop-down menu in the *Acquisition Settings* dialog to automatically populate the relevant fields with the correct settings.

The settings can also be manually entered as shown in the [camera configuration tables](#).

For information about Acquisition fields in Panel Plus see [EAN-Digital Video Configuration](#).

**ⓘ IMPORTANT:** Save parameters and reset the board when changing parameters. Cycle system power when changing resolution.

If video does not display, try saving and activating the settings again. Check the encoding settings on the *Compress* tab and review the network addresses for the destination video.



### Configuration notes:

- Requires software version 3.01.xx and above.
- Enter `<mipi=lt6911>` in the options field. This is automatically entered when using *Auto Fill*.
- Enter `<fps=X>` if different from default.
- Use *Cam 1* only.
- See *Optional Frame Rates* for default fps.
- The FCB-ER8550 Auto Fill selections cover all the FCB-ER series cameras.

The Sony FCB-ER8550 can also be configured using the SLA-3000-HDMI and 4K HDMI interface board from Intertest.

The Sony FCB-ER8550 and Sony FCB-ER8530 cameras have been tested with the above acquisition settings. The FCB-ER 8300 and Sony FCB-ER8230 cameras have not been tested.

## 5.2 Optional Frame Rates

The camera supports a multiple frame rate options for each resolution:

- 720x1280: 50 / 59.94 (default)
- 1080x1920: 23.98 / 25 / 29.97 (default) / 50 / 59.94
- 2160x3840: 23.98 (default) / 25 / 29.97

Frame rates can be set by entering `fps=<frame rate>` in the *Options* field.

Generic Digital Settings

Auto Fill

Height  Width  Resulting Flag Bits **0x41**

Vertical Front Porch:  Horizontal Front Porch:  Bit Depth:

Input:  Gray Scale  YUV color  G8 16bit in  Bayer  Laser  Interlaced  Byte Swap

Invert V-Sync Polarity  Invert H-Sync Polarity  UBO  2xbin Sync/Crop:

Camera Init Code:  Options:

Big: Height  Width  Vertical Blanking  Horizontal Blanking

Figure 3: Setting Optional Frame Rates



## 6 Testing Lens Control

Lens focus and zoom can be controlled through Panel Plus, see the [EAN-Lens Focus Control](#) document for steps on how to set this up. The SightLine lens control implementation requires that the port protocol be set to *Port Not Used*.

1. From the Panel Plus main menu » *Configure* » *Serial Ports*.
2. Set *Port* to *Serial Port 6*.
3. Set *Protocol* to *Port Not Used*.
4. Click *Send*.

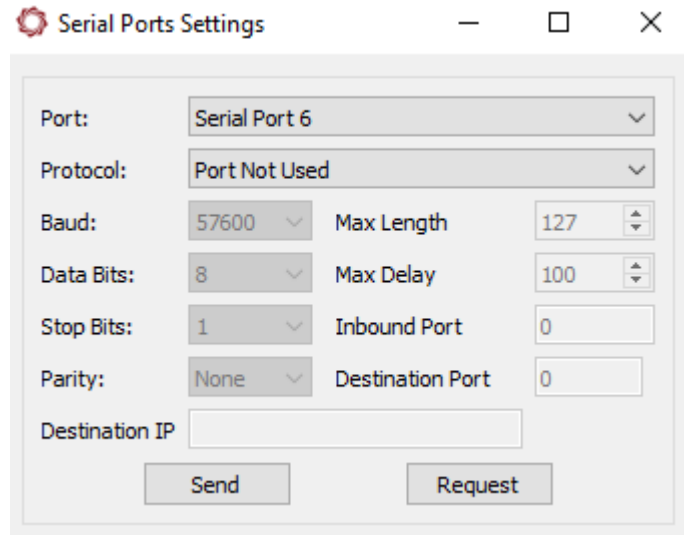
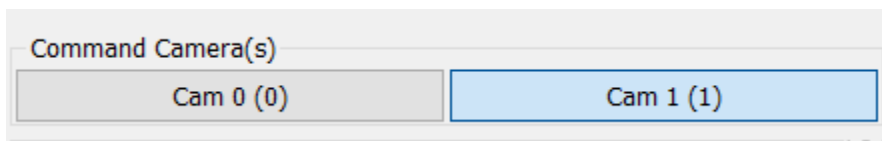
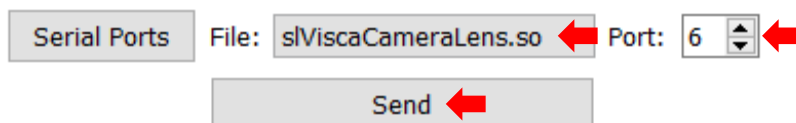


Figure 4: Serial Port Settings - Port Not Used

5. Select the *Lens* tab.
6. Select *Cam 1* as the command camera.



7. In the *File* drop-down menu in *Comms* section select the lens file.
8. Set the *Port* to *6* and then click *Send*.



9. Save the parameters and then reset the board. Once complete the SightLine hardware will initialize the serial port for lens communication.

*Additional controls on this tab should now be available to control the lens.*



## 7 Camera Control

This section describes how to set up a TCP passthrough and virtual COM port to allow camera control through the Sony GUI. The [HW VSP3-Virtual Serial Port](#) application is used to set up a virtual COM port

*Enabling TCP passthrough will disable lens control in Panel Plus (or SightLine protocol) for the camera and lens attached to that port.*

### 7.1 TCP Passthrough Setup

Configure TCP passthrough on the SightLine hardware.

1. From the Panel Plus main menu » *Configure* » *Serial Ports*.
2. Set *Port* to *Serial Port 6*.
3. Set *Protocol* to *TCP Pass Through*.
4. Enter the desired inbound port number. This example uses port *4001*.
5. Set *Baud* to *9600*.
6. *Data Bits*, *Stop Bits*, and *Parity* are set at the default values shown.

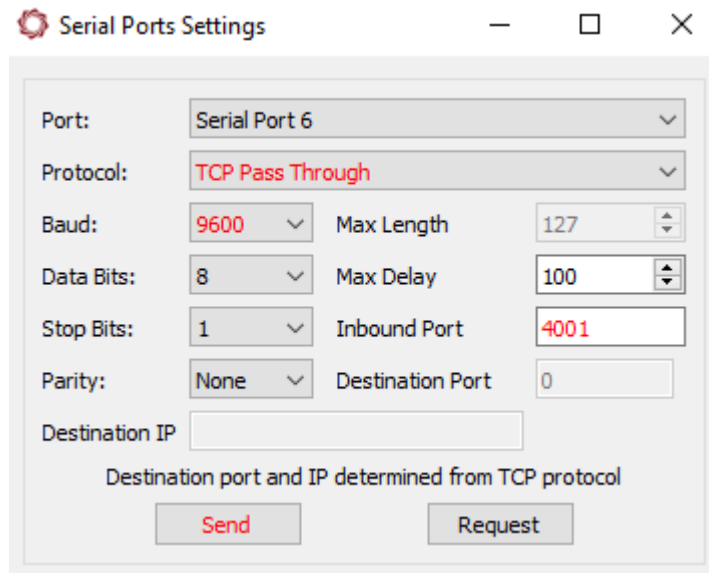


Figure 5: TCP Passthrough Setup

7. After configuring the settings, changed fields will be highlighted in red. Click *Send*.
8. To save the configuration to the parameter file, from the Panel Plus main menu » *Parameters* » *Save to board*.

*In 3.01.xx and earlier software versions, saving the Serial Port settings will prompt an additional dialog window. Some setting changes require the board to be restarted for the settings to take effect. In the Apply New Settings dialog window, select an option to save the port configuration.*

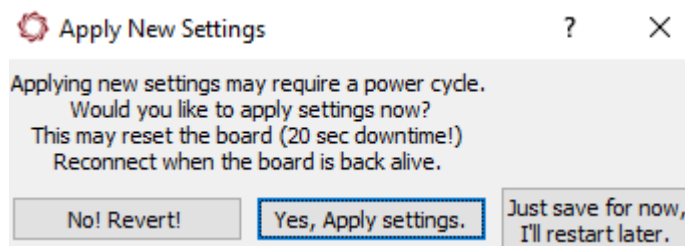


Figure 6: Apply New Settings Dialog Window - 3.01.xx and Earlier

9. See *Appendix C - Virtual Com Port Setup* in [EAN-Ethernet-and-Serial-Communication](#) to set up the virtual COM port.



## 8 Questions and Additional Support

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