



SightLine

APPLICATIONS

EAN-Sony-FCB-ER-Cameras

PN: EAN-Sony-FCB-ER-Cameras

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**Contact:**

Web: sightlineapplications.com

Sales: sales@sightlineapplications.com

Support: support@sightlineapplications.com

Phone: +1 (541) 716-5137

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Alerts

The following notifications are used throughout the document to help identify important safety and setup information to the user:

 **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.*



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1 Overview

This document describes how to configure the 4000-OEM video processing board to receive video from the following Sony-FCB-ER series cameras:

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

1.1 Associated Documents

[EAN-Camera Compatibility](#): Lists third-party cameras that are currently supported by SightLine software. Lists camera adapter board kits for the SightLine OEM video processing boards.

[EAN-Digital Video Configuration](#): Describes how to configure the SightLine hardware for digital video input.

[EAN-Ethernet-and-Serial-Communication](#): Describes how to set up serial communications for cameras or other payload devices from SightLine hardware.

[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 Download](#) page.

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

Additional support documentation EANs can be found on the Documentation pages of the SightLine Applications [website](#).

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 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.



3 Hardware Connections

3.1 4000-OEM FCB-ER Series Cameras and SLA-4000-STM Bench Setup

Interface and adapter boards:

- SLA-4000-STM: FCB-ER 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-ER camera. The SLA-4000-STM board supplies power to the camera through this cable.
- SLA-CAB-MIPI-02: Connects to J9 on 4000-OEM board and to the Sony FCB-ER camera. Provides serial communication and digital video to the camera.

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.

- SLA-CAB-0403: Connects to J4 on the 4000-OEM board. Provides an RJ45 Ethernet connection.
- SLA-CAB-1504 / SLA-PWR-B12V: Connects to J3 on the SLA-4000-STM board and AC power source. Provides power to the camera and SLA-4000-STM board.
- SLA-CAB-1504 / SLA-PWR-B12V: Connects to J50 on the 4000-OEM and AC power source.

See diagrams below for power cable connections. All boards are immediately powered on when power is connected.

Power and network connectivity LEDs:

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

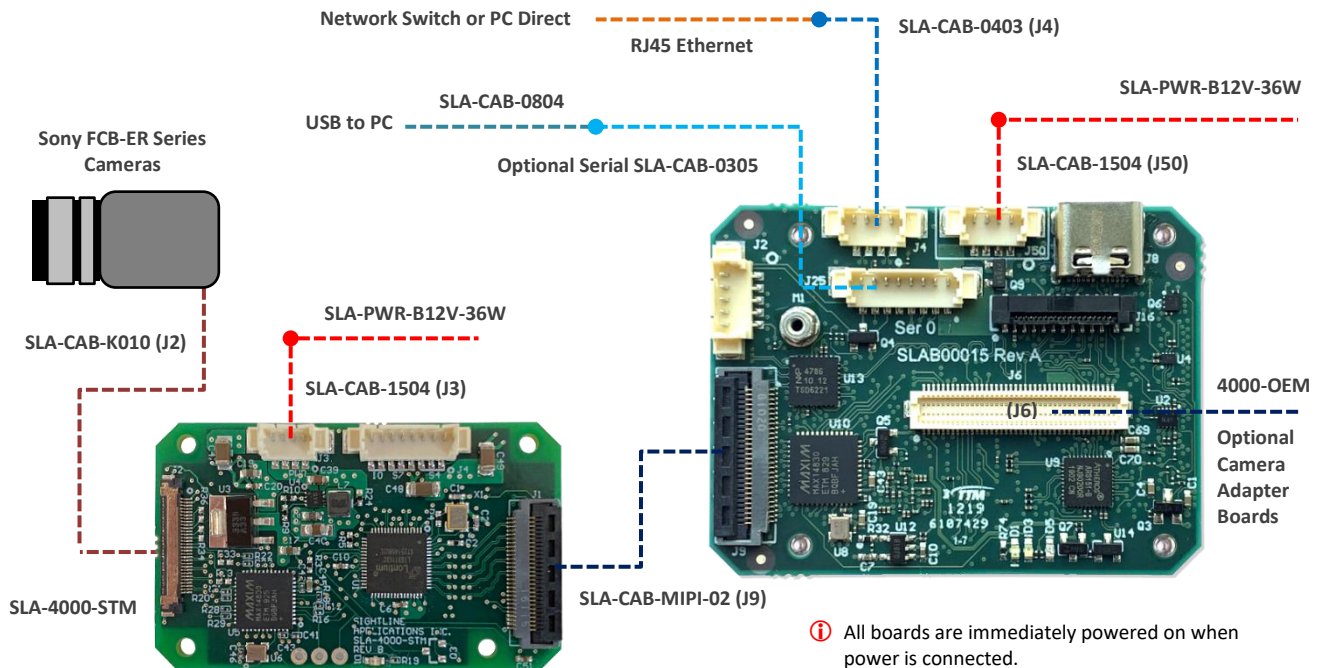


Figure 1: Bench Setup - 4000-OEM / Sony FCB-ER Series Camera / SLA-4000-STM



4 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.

4.1 Acquisition Settings

From the main menu in Panel Plus go to *Configure » Acquisition Settings*.

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 [Table 1](#).

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 *Compression* tab and review the network addresses for the destination video.

Table 1: 4000-OEM Panel Plus Basic Acquisition Settings

Digital Cameras	Camera Index = Cam 1	Camera Type = Generic Digital										
Acquisition Settings	Auto Fill	Height	Width	VFP	HFP	Bits	Input	Invert VSync	Invert HSync	Sync/Crop	Init Code	Flags
8300, 8530, 8550, 8230 4K cameras + SLA-4000-STM Board	Sony FCB-ER8550 720p	720	1280	0	0	8	YUV	None	None	None	InitVISCA	0x41
	Sony FCB-ER8550 1080p	1080	1920	0	0	8	YUV	None	None	None	InitVISCA	0x41
	Sony FCB-ER8550 2160p	2160	3840	0	0	8	YUV	None	None	None	InitVISCA	0x41

*Configuration notes: Requires software version 3.01.xx and above. *Enter <mipi=lt6911> in the options field. 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.*

*This information is automatically entered when using Auto Fill.

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



4.2 Optional Frame Rates

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

- 720x1280: 50 / 60 (default)
- 1080x1920: 24 / 25 / 30 (default) / 50 / 60
- 2160x3840: 24 (default) / 25 / 30

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

The screenshot shows the 'Generic Digital Settings' window. The 'Options' field is highlighted with a red arrow and contains the text 'mipi=lt6911, fps=60'. Other settings include: Auto Fill (dropdown), Height (1080), Width (1920), Resulting Flag Bits (0x41), Vertical Front Porch (0), Horizontal Front Porch (0), Bit Depth (8), Input (YUV color selected), Interlaced (unchecked), Byte Swap (unchecked), Invert V-Sync Polarity (unchecked), Invert H-Sync Polarity (unchecked), UB0 (unchecked), 2xbins (unchecked), Sync/Crop (None), Camera Init Code (InitVISCA), and Big: Height (0), Width (0), Vertical Blanking (0), Horizontal Blanking (0).

Figure 2: Setting Optional Frame rates

5 Sony FCB-ER 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. Alternately, the 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.

This serial connection shows up as Serial 6 through the 4000-STM and allows access to the lens control tools in Panel Plus.

Enabling TCP passthrough will disable lens control in Panel Plus (or SightLine protocol) for the camera and lens attached to that port. SightLine's lens control implementation requires that the port protocol is set to Port Not Used.



5.1 TCP Passthrough Setup

Configure TCP passthrough on the SightLine hardware.

- From the Panel Plus main menu » *Configure* » *Serial Ports*:
 - 3000-OEM: *Serial Port 2* (Cam0 / VIN0) or *Serial Port 3* (Cam2 / VIN1).
 - 1500-OEM: Select *Serial Port 2*.
 - Protocol: TCP Pass Through*.
 - Enter the desired inbound port number. This example uses port *4001*.
 - Baud: 9600*
 - Data Bits, Stop Bits, Parity* are set at the default values shown.

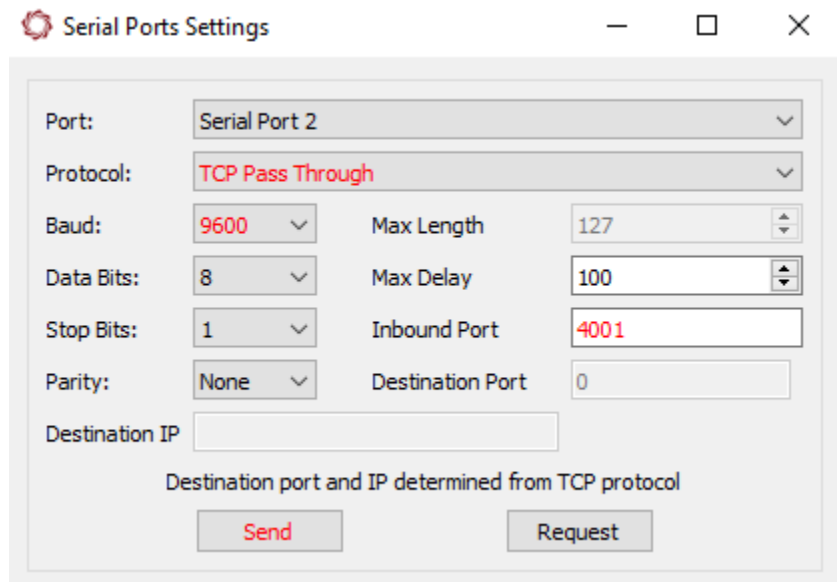



Figure 3: TCP Passthrough Setup

- After configuring the settings, changed fields will be highlighted in red. Click *Send*.
- 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.*

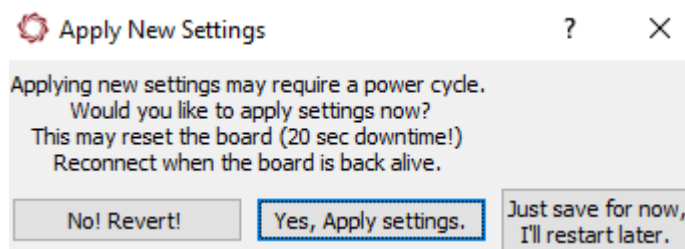


Figure 4: Apply New Settings Dialog Window - 3.01.xx and Earlier

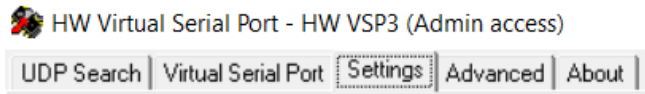
- Proceed to the next section to set up the virtual COM port.



5.2 Virtual Com Port Setup

Review the physical serial ports on the host PC. Create virtual serial ports that are not already assigned or in use on the current system. COM4 is used in this example.

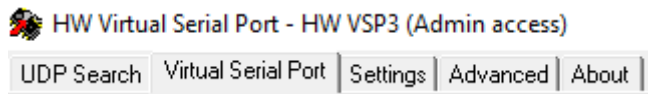
1. Launch the HW VSP3-Virtual Serial Port application.
2. Select the *Setting* tab.



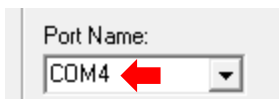
3. Make sure the *NVT Enabled* box is unchecked.



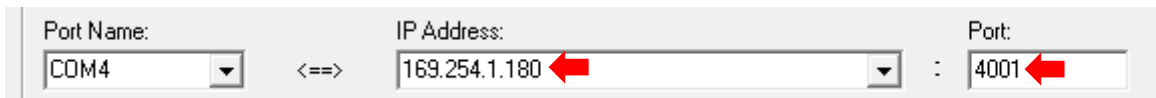
4. Select the *Virtual Serial Port* tab.



5. Select an unused COM port from the *Port Name* drop-down menu.



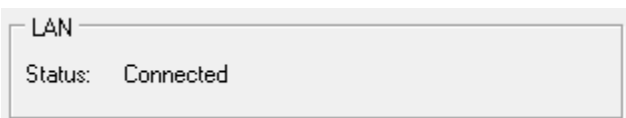
6. Enter the IP address of the SightLine hardware and TCP passthrough inbound port.



7. Click *Create COM* to create the virtual serial port. The virtual serial port parameters are configured automatically.

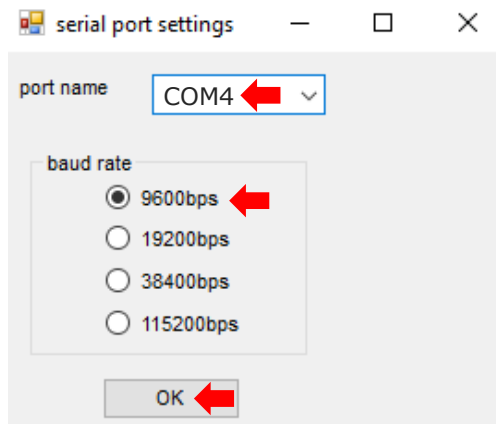


8. Verify a successful connection in the LAN Status section of the dialog window.





9. Launch the Sony camera control application. Select the virtual port and the baud rate. COM4 is used in this example.



10. Verify sent and received packets are being shown in the *Counters* section of the *Virtual Serial Ports* tab. The Sony control application is now ready to use.

Counters			
	VSP:	LAN:	QUEUE:
Rx:	0	20	0
Tx:	20	0	0

6 Questions and Additional Support

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