



SightLine

APPLICATIONS

EAN-Camera Compatibility

PN: EAN-Camera-Compatibility

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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 covers third party cameras that are currently supported by SightLine. It also covers 1500-OEM FPGA driver support and lens control through the SightLine Command and Control (IDD) protocol.

SightLine is continually working on expanding camera support. New additions will be added to this document when they become available.

ⓘ IMPORTANT: For camera specific configuration examples, see [EAN-Digital-Video-Configuration](#).

1.1 Associated Documents

[EAN-Startup Guide 1500-OEM](#): Describes steps for connecting, configuring, and testing the 1500-OEM video processing board on the 1500-AB accessory board.

[EAN-Startup Guide 3000-OEM](#): Describes steps for connecting, configuring, and testing the 3000-OEM video processing board on the 3000-IO interface board.

[Interface Command and Control \(IDD\)](#): Describes the native communications protocol used by the SightLine Applications product line. The IDD is also available as a local download on the [Software Download](#) page.

[EAN-Digital-Video-Configuration](#): Describes how to configure the SightLine hardware for digital video input. Tables for basic acquisitions settings are included for the 1500-OEM and 3000-OEM video processing boards.

Panel Plus User Guide: Provides descriptions of all the settings in the Panel Plus application. (Located in the Panel Plus application in the *Help* menu.)

For a complete list of all the camera support EANs, go to the [Documentation](#) download page » Camera Configuration and Digital Video Input Support.

1.2 Software Compatibility

Windows 7, 8, or 10 required for use with the Panel Plus software.

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.



2 Supported Cameras and Drivers

Table 1 lists specific cameras and drivers that have been developed for cameras supported by SightLine. If a specific camera driver is not available, support may be possible using SightLine's Generic Digital driver. Contact [Support](#) for more information.


Adapter Type Definitions			
Direct connection to SLA board	Interface board available	Multiple interface boards	External power adapter
1	2	3	4

Table 1: Camera Compatibility Table

Camera or Type	Panel Plus Setting	Adapter Types	Definition and Support	1500	3000
Analog Cameras Supported					
Generic Models					
	NTSC	2	480i/30 - NTSC analog is 29.97 fps	✓	✓
	PAL	2	480i/25 - PAL analog is 25 fps	✓	✓
	BT656 NTSC	2			✓
	BT656 PAL	2			✓
Digital Cameras Supported					
Airborne Innovations					
AGS720P	Generic Digital	2	720p30	✓	✓
GoPro					
Hero 3+ Black	Generic Digital	2	720p30, 720p60	✓	✓
Hero 3 White	Generic Digital	2	720p30, 1080p30	✓	✓
Hitachi					
DI-SC120R	Hitachi 720p	2,4	720P30	✓	✓
DI-SC110	Hitachi 720p	2,4	720P30		
JAI Go Series					
GO-2400Mono	G8 16-bit input	2,4	1080P (2 tap 8-bit monochrome)		✓
GO-5000Color	Bayer	2,4	1080P (2 tap 8-bit Bayer)		✓
GO-5101Color	Bayer	2,4	1080P (2 tap 8-bit Bayer)		✓
Imperx Bobcat					
B1921Color	Bayer	2,4	1080P		✓
Intertest (Sony FCB compatible)					
XBC-KZ10	Generic Digital	2,4	720P/1080P	✓	✓
KT&C (Sony FCB compatible)					
ATC-HZ7810LC	Generic Digital	2,4	720P/1080P	✓	✓
L3 Communications					
NightWarrior	Generic Digital	2,3	MWIR cooled 640x480	✓	



(Digital Cameras Supported continued)

Sony					
EH3150	Sony FCB-EH	2,4	EH3150 - 720p30	✓	✓
EH6300	Sony FCB-EH	2,4	EH6300 - 720p30, 1080p30	✓	✓
EH6500	Sony FCB-EH	2,4	EH6500 - 720p, 1080p30	✓	✓
EV7500	Sony FCB-EV	2,4	EV7500 - 720p30, 1080p30	✓	✓
EV7100	Sony FCB-EV	2,4	EV7100 - 720p30, 1080p30	✓	✓
EX1010	Analog	2	720(640) x480 @ 29.97 fps	✓	✓
 All Sony FCB-EH models will work with the FCB-EH settings: FCB-EV models with the FCB-EV settings. Some models may support only 720P mode. Sony FCB-ER models are not compatible.					
Tamron					
MP1010M-VC	Generic Digital	2,4	MP1010M (compact block) - supports 720p and 1080p	✓	✓
Camera or Type	Panel Plus Setting	Adapter Types	Definition and Support	1500	3000
Digital Cameras Supported					
DRS					
Tamarisk 320	DRS Tam 320 8-bit	2,3	320x240 sensor array	✓	✓
	DRS Tam 320 14-bit	2,3	320x240 sensor array	✓	✓
Tamarisk 640	DRS Tam 640 8-bit	2,3	640x480 sensor array	✓	✓
	DRS Tam 640 14-bit	2,3	640x480 sensor array	✓	✓
Zafiro 640	Generic Digital	2,3	Both 8 and 14-bit support	✓	✓
FLIR					
Tau 320	Tau 320 8-bit	1,2,3	320x240 8-bit support	✓	✓
Tau 320	Tau 320 14-bit	1,2,3	320x240 14-bit support	✓	✓
Tau 336	Generic Digital	1,2,3	336x256 or 320x256 (8 and 14-bit)	✓	✓
Tau 640	FLIR Tau 640 8-bit	1,2,3	640x480 8-bit support	✓	✓
Tau 640	FLIR Tau 640 14-bit	1,2,3	640x480 14-bit support	✓	✓
Quark 336	Generic Digital	2,3	336x256 or 320x256 (8 and 14-bit)	✓	✓
Quark 640	Generic Digital	2,3	640x480 8-bit 14-bit support	✓	✓
Photon HRC	Generic Digital	2	640x480 8-bit 8 and 14-bit support	✓	
Neutrino	Generic Digital	2	MWIR 8 Bit or 14-bit digital data via: Camera Link, CMOS, BT-656. Interface same as Tau but with separate 12V cooler power connection.	✓	✓
Boson	Generic Digital	2	256x320 8-bit or 16-bit support	✓	✓
Xenics					
XTM-640	Analog only	n/a	BT.656 PAL/NTSC	✓	
Sentech					
STC-HD233	Generic Digital	2	720p60, 1080p30/60	✓	✓
Sofradir					
LEO MW640	Generic Digital	2,4	640x512	✓	✓



3 1500-OEM FPGA Support

The 1500-OEM has a separate FPGA that is not part of the System-On-Module (SOM) board. It is programmed at build time with version 6 to supply standard camera support. FPGA versions and descriptions are shown in [Table 3](#).

For in-system updates on the 1500-OEM Rev E boards, firmware 2.22.18 or higher is required. For more information see [EAN-FPGA Firmware Update 1500-OEM](#).

Table 2: 1500-OEM Board Revision FPGA Programming Methods

1500-OEM Revision	FPGA Programming Methods
Revision C [LEGACY]	FPGA programming is done externally. It requires 1500-AB, SLA-CAB-1512 cable, and a special FPGA programmer.
Revision E	Supports on system (on board) FPGA updates as well as external FPGA programming.

Table 3: 1500-OEM FPGA Supported Versions

FPGA Version	Support Cameras
5	Analog (NTSC and PAL), FLIR Tau 2 and Quark, DRS Tamarisk, Hitachi SC120R, Sony EH and EV series
6	Analog (NTSC and PAL), FLIR Tau 2, Quark, and Photon, DRS Tamarisk, Hitachi SC120R, Sony EH and EV Series, L3 Night Warrior
7	Analog (NTSC and PAL), Tamron
8	Analog (NTSC and PAL), FLIR Tau 2, Quark, DRS Tamarisk, Hitachi SC120R*
9	Analog (NTSC and PAL), AGS Camera (Aptina/Bayer)
10	Analog (NTSC and PAL), High 8-bits of 12-bits for Aptina Bayer, all above except the DRS in 8-bit mode
11	Analog (NTSC and PAL), FLIR Boson
12	Quantum SWIR, Camera Link 16-bit

*FPGA version 8 supports some GPIO functionality. For more information, contact [Support](#).



4 Camera Lens Compatibility

The following table lists camera lens control compatibility supported by SightLine's Command and Control protocol.

Table 4: Lens Compatibility

Manufacturer	Camera Model	Zoom	Min FOV	Horizontal Pixels Per Degree (Video)	Weight	Minimum Illumination
Sony	FCB-EH3150	12X	4.6	278	150g	0.3 / 1.2 lx
	FCB-EH6300	20X	2.9	662	260g	0.5 / 1.7 lx
	FCB-EH6500	30X	2.1	914	265g	0.5 / 1.7 lx
	FCB-EV7500	30X	2.3	835	260g	0.35 / 1.4 lx
	FCB-EV7100	10X	7.6	37	210g	0.35 / 1.4 lx
	MA130	52°x29°	52	253	2.2g	6 lx
	MA131	26°x15°	26	74	9.5g	4 lx
	MA133	115°x62°	115	17	8.7g	6 lx
	Hitachi	DI-SC120R	30X	3.2	400	250g
DI-SC110		18x				
Tamron	MP1010M-VC	10.5X	6.5	295	70g	1.0 lx
	SC001					

5 Camera and Lens Serial Communication

5.1 SightLine Lens Control and Serial Passthrough

Presently Lens Control and Serial Passthrough features are mutually exclusive and should be used independently of each other. From the *Lens Control* tab in Panel Plus, there is an option to disable serial passthrough for serial ports.

1500-OEM board: Camera interface boards extend serial port 2 to the serial interface of the supported camera.

Serial Port:

Commonly used for:

- 0** SightLine Command and Control from autopilot or similar.
- 1** External lens control for camera with no built-in lens.
- 2** Camera control including cameras with built in lens (see [Table 4](#)).

3000-OEM board: Dependent on the connector used on the 3000-IO board. For the VIN0 (J6) connector, serial port 2 is extended. For the VIN1 (J7) connector, serial port 3 is extended.

When defining lens control for the camera it is important to disable the corresponding serial port in the serial port configuration (passthrough) settings.



6 Adapter Board Kits

The following tables list camera adapter board kits for the 1500-OEM and 3000-OEM video processing boards.


 *The adapter types shown in Table 5 and Table 6 provide guidelines for specific cameras that require external power and use more than one interface board.*

Table 5: 1500-OEM Adapter Board Kits

1500-OEM Adapter Board Kits	Description	OEM Direct Connect Option	Serial Passthrough Supported	External Power Required
SLA-KIT-1500-CL	Camera Link® interface board with 1500-OEM mounting hardware	Yes	Yes	Yes
SLA-KIT-1500-FFC-DRS	DRS camera interface board and a SLA-FFC board with cable and mounting hardware	No	Yes	No
SLA-KIT-1500-FFC-TAU	TAU camera interface board and a SLA-FFC board with cable	Optional	Yes	No
SLA-KIT-1500-FFC-QUARK	Quark camera interface board and a SLA-FFC board with cable	No	Yes	No
SLA-KIT-1500-HIT	Hitachi camera interface board, camera interface cable and mounting hardware with 12v power adaptor and extension	Yes	Yes	Yes
SLA-KIT-1500-SONY	Sony camera interface board, camera interface cable, and 12v Power adaptor and extension	Yes	Yes	Yes
SLA-KIT-1500-TAM	Tamron camera interface board, camera interface cable, and 12v power adaptor and extension	Yes	Yes	Yes
SLA-KIT-1500-TAU	TAU interface board with 1500-OEM mounting hardware	Yes	Yes	Yes
SLA-KIT-1500-HDMI	HDMI interface board with 1500-OEM mounting hardware	Yes	Yes (separate onboard connector)	Yes
SLA-KIT-1500-FPC-BOSON	Boson camera interface kit for 1500-OEM video processor and FLIR camera	Yes	Yes	No
SLA-KIT-1500-FPC-AGS	Airborne Innovations camera interface kit for 1500-OEM video processor and AGS-270P	Yes	Yes	No



Table 6: 3000-OEM Adapter Board Kits

3000-OEM Adapter Board Kits	Description	OEM Direct Connect Option	Serial Passthrough Supported	External Power Required
SLA-KIT-3000-AB	Analog input board with two SMA connectors, and mounting hardware	Yes	No	No
SLA-KIT-3000-CL	Camera Link interface board with SDR connector, and mounting hardware	Yes	Yes	No
SLA-KIT-3000-HDSDI-IN	HDSDI input board with MCX connector, MCX-BNC cable, and mounting hardware	Yes	Yes (separate onboard connector)	No
SLA-KIT-3000-HDMI	HDMI interface board with mounting hardware	Yes	Yes (separate onboard connector)	No
SLA-KIT-3000-HIT	Hitachi camera interface board, camera interface cable and mounting hardware	Yes	Yes	No
SLA-KIT-3000-SONY	SONY camera interface board, camera interface cable and mounting hardware	Yes	Yes	No
SLA-KIT-3000-FFC-DRS	DRS camera interface board and a SLA-FFC board with cable, and mounting hardware	Yes	Yes	No
SLA-KIT-3000-FFC-TAU	TAU camera interface board and a SLA-FFC board with cable, and mounting hardware	Yes	Yes	No
SLA-KIT-3000-FFC-QUARK	Quark camera interface board and a SLA-FFC board with cable, and mounting hardware	Yes	Yes	No
SLA-KIT-3000-FFC-TAM	Tamron camera interface board and a SLA-FFC board with cable, and mounting hardware	Yes	Yes	No
SLA-KIT-3000-FPC-BOSON	BOSON camera interface kit for 3000-OEM video processor	Yes	Yes	No
SLA-KIT-3000-FPC-AGS	Airborne Innovations camera interface kit for SLA/SLE-3000-OEM video processor and AGS-270P	Yes	Yes	No

ⓘ IMPORTANT: Running the latest version of the SightLine firmware ensures compatibility. For the 1500-OEM please be sure to check [Table 2](#) for FPGA version support.

7 Questions and Additional Support

If you are still having issues and require additional support, please contact [Technical Support](#). Additional support, documentation and Engineering Application Notes (EANs) can be found on the Support pages of the SightLine Applications [website](#).