



# SightLine

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APPLICATIONS

## **EAN-Camera Compatibility**

PN: EAN-Camera-Compatibility

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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 specific information that will assist with setup and configuration procedures and/or prevents damage to the hardware components.



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## 1 Overview

This document covers third party cameras that are currently supported by SightLine. It also covers 1500 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.

### 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.

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 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.



## 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
<b>Analog Cameras Supported</b>					
<b>Generic Models</b>					
	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			✓
<b>Digital Cameras Supported</b>					
<b>Airborne Innovations</b>					
<b>AGS720P</b>	Generic Digital	2	720p30	✓	✓
<b>GoPro</b>					
<b>Hero 3+ Black</b>	Generic Digital	2	720p30, 720p60	✓	✓
<b>Hero 3 White</b>	Generic Digital	2	720p30, 1080p30	✓	✓
<b>Hitachi</b>					
<b>DI-SC120R</b>	Hitachi 720p	2,4	720P30	✓	✓
<b>DI-SC110</b>	Hitachi 720p	2,4	720P30		
<b>JAI Go Series</b>					
<b>GO-2400M</b>	G8 16-bit input	2,4	GO-2400-PMCL		✓
<b>L3 Communications</b>					
<b>NightWarrior</b>	Generic Digital	2,3	MWIR cooled 640x480	✓	
<b>Sony</b>					
<b>EH3150</b>	Sony FCB-EH	2,4	EH3150 - 720p30	✓	✓
<b>EH6300</b>	Sony FCB-EH	2,4	EH6300 - 720p30, 1080p30	✓	✓
<b>EH6500</b>	Sony FCB-EH	2,4	EH6500 - 720p, 1080p30	✓	✓
<b>EV7500</b>	Sony FCB-EV	2,4	EV7500 - 720p30, 1080p30	✓	✓
<b>EV7100</b>	Sony FCB-EV	2,4	EV7100 - 720p30, 1080p30	✓	✓
<b>EX1010</b>	Analog	2	720(640)x480 @ 29.97 fps	✓	✓
<b>Tamron</b>					
<b>MP1010M-VC</b>	Generic Digital	2,4	MP1010M (compact block) - supports 720p and 1080p	✓	✓



(Digital Cameras Supported continued)

Camera or Type	Panel Plus Setting	Adapter Types	Definition and Support	1500	3000
<b>Digital Cameras Supported</b>					
<b>DRS</b>					
<b>Tamarisk 320</b>	DRS Tam 320 8-bit	2,3	320x240 sensor array	✓	✓
	DRS Tam 320 14-bit	2,3	320x240 sensor array	✓	✓
<b>Tamarisk 640</b>	DRS Tam 640 8-bit	2,3	640x480 sensor array	✓	✓
	DRS Tam 640 14-bit	2,3	640x480 sensor array	✓	✓
<b>Zafiro 640</b>	Generic Digital	2,3	Both 8 and 14-bit support	✓	✓
<b>FLIR</b>					
<b>Tau 320</b>	Tau 320 8-bit	1,2,3	320x240 8-bit support	✓	✓
<b>Tau 320</b>	Tau 320 14-bit	1,2,3	320x240 14-bit support	✓	✓
<b>Tau 336</b>	Generic Digital	1,2,3	336x256 or 320x256 (8 and 14-bit)	✓	✓
<b>Tau 640</b>	FLIR Tau 640 8-bit	1,2,3	640x480 8-bit support	✓	✓
<b>Tau 640</b>	FLIR Tau 640 14-bit	1,2,3	640x480 14-bit support	✓	✓
<b>Quark 336</b>	Generic Digital	2,3	336x256 or 320x256 (8 and 14-bit)	✓	✓
<b>Quark 640</b>	Generic Digital	2,3	640x480 8-bit 14-bit support	✓	✓
<b>Photon HRC</b>	Generic Digital	2	640x480 8-bit 8 and 14-bit support	✓	
<b>Neutrino</b>	Generic Digital	2	MWIR 8 Bit or 14-bit digital data via: Camera Link, CMOS, BT-656	✓	✓
<b>Boson</b>	Generic Digital	2	256x320 8-bit or 16-bit support	✓	✓
<b>Xenics</b>					
<b>XTM-640</b>	Analog only	n/a	BT.656 PAL/NTSC	✓	
<b>Sentech</b>					
<b>STC-HD233</b>	Generic Digital	2	720p60, 1080p30/60	✓	✓
<b>Sofradir</b>					
<b>LEO MW640</b>	Generic Digital	2,4	640x512	✓	✓



### 3 1500-OEM FPGA Support

The 1500-OEM has a separate FPGA that is 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 2.

**Table 2: FPGA Supported Versions**

1500-OEM Revision	FPGA Version	Support Cameras
Hardware Programmer		Hardware and software required for updating FPGA programming:
Revision C	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
Onboard Updates		In system FPGA system updates:
Revision E	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

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

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



## 4 Camera Lens Compatibility

The following table lists camera lens compatibility for cameras supported by SightLine.

### 4.1 SightLine Lens Control and Serial Passthrough

Presently these features are mutually exclusive and need to be used (defined) 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.

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.

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

Table 3: 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 Adapter Board Kits

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

**Note:** The adapter types shown in [Table 1](#) provide guidelines for specific cameras that require external power and more than one interface board.

**Table 4: 1500-OEM Adapter Board Kits**

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



Table 5: 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 MCX connectors, and mounting hardware	Yes	No	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-FFC-BOSON	BOSON camera interface kit for 3000-OEM video processor	Yes	Yes	No
SLA-KIT-3000-FFC-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 SLA board firmware ensures compatibility. For the 1500-OEM please be sure to check [Table 2](#) for FPGA version support.

## 6 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](#).

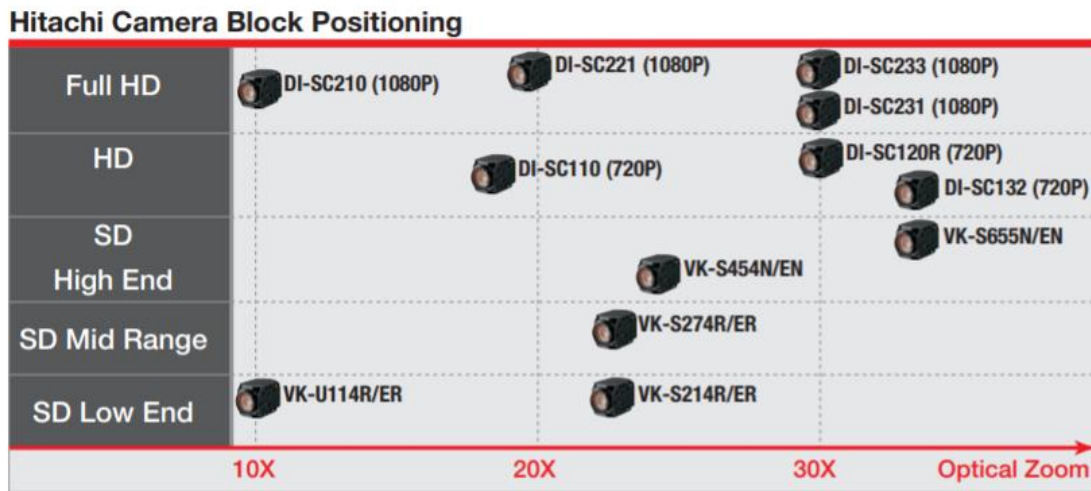


## Appendix

### A.1 Hitachi SC-120R Camera

The Hitachi SC-120R camera is being phased out by Hitachi. The only compatible camera is the SC-110R, which has less zoom. The SC-120R and SC-110R are CCD cameras. All other Hitachi block cameras are CMOS cameras that have rolling shutter effects.

**ⓘ IMPORTANT:** The Hitachi camera models shown in the Figure 1 have different connectors and cables than the SC-120/110R and are not compatible with the SightLine Hitachi adapter boards.



### Cables

Type	Models
Molex 9 pin FFC cable	VK-S454N/EN, VK-S655N/EN
Molex 30 pin micro-coax cable	VK-S454N/EN, DI-SC220, VK-S655N/EN
Molex 40 pin micro-coax cable	DI-SC110, DI-SC120R
KEL 30 pin micro-coax cable	DI-SC132, DI-SC210, DI-SC221, DI-SC231, DI-SC233

Hitachi offers a variety of cable lengths for analog and HD camera blocks with Molex flat flex and/or micro-coax connectors. For assistance with KEL cables, please contact your local KEL representative.

Figure 1: Hitachi Camera Models Chart