# 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.*

## Contents

**List of Tables**

# 1 Overview

This document covers 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.

[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.

[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 SightLine Software Requirements

ⓘ **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-5000C**olor | Bayer | 2,4 | 1080P (2 tap 8-bit Bayer) | | ✓ |
| **GO-5101C**olor | Bayer | 2,4 | 1080P (2 tap 8-bit Bayer) | | ✓ |
| **Imperx Bobcat** | | | | | |
| **B1921C**olor | 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** **MP1110M-VC** | Generic Digital | 2,4 | MP1010M/1110M (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 5 or 12 to supply standard camera support. FPGA versions suggested for supported cameras 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 Versions**

| Camera | FPGA Version |
|---|---|
| Analog (NTSC and PAL) | Any |
| Hitachi SC120R | 5 or 12 |
| Sony EH and EV Series | 12 (or 5 on Revision C) |
| HDMI | 5 or 12 |
| FLIR Tau2, Quark and Neutrino | 5 or 12 |
| DRS Tamarisk | 5 or 12 |
| FLIR Photon | 6 |
| L3 Night Warrior | 6 |
| Tamron MP1010M | 7 |
| Airborne Innovations AGS720P | 10 |
| FLIR Boson | 11 |
| CameraLink 16-bit | 12 |
| Quantum Imaging QI-SCD15-M1 | 12 |

📄 *FPGA version 8 supports some GPIO functionality. For FPGA version support for the 1550-EAB 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 | 1.8 lx |
| | 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.

**Table 5: 1500-OEM Adapter Board Kits**

| 1500-OEM Adapter Board Kits | Description | Serial Passthrough Supported | External Power Required |
|---|---|---|---|
| SLA-KIT-1500-CL | Camera Link® interface board with 1500-OEM mounting hardware. | Yes | Yes |
| SLA-KIT-1500-FFC-DRS | *DRS camera interface board and SLA-FFC board with cable and mounting hardware. | Yes | No |
| SLA-KIT-1500-FFC-TAU | *TAU camera interface board and SLA-FFC board with cable. The 1500-OEM can connect directly to the Tau camera. See EAN-FLIR-Cameras. | Yes | No |
| SLA-KIT-1500-FFC-QUARK | *Quark camera interface board and SLA-FFC board with cable. | Yes | No |
| SLA-KIT-1500-HIT | Hitachi camera interface board, camera interface cable and mounting hardware with 12v power adaptor and extension. | Yes | Yes |
| SLA-KIT-1500-SONY | Sony camera interface board, camera interface cable, and 12v Power adaptor and extension. | Yes | Yes |
| SLA-KIT-1500-HDMI | HDMI interface board with 1500-OEM mounting hardware. | Yes (separate onboard connector) | Yes |
| SLA-KIT-1500-FPC-BOSON | *Boson camera interface kit for 1500-OEM video processor and FLIR camera. | Yes | No |
| SLA-KIT-1500-FPC-DRS | *DRS camera interface kit for 1500-OEM video processor and DRS camera. | YES | No |
| SLA-KIT-1500-FPC-AGS | Airborne Innovations camera interface kit for 1500-OEM video processor and AGS-270P. | Yes | No |

*Kit includes an OEM connection board and camera connection board.*

**Table 6: 3000-OEM Adapter Board Kits**

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

*Kit includes an OEM connection board and camera connection board.*

ⓘ **IMPORTANT:** Running the latest version of the SightLine firmware ensures compatibility. For the 1500-OEM please be sure to check Table 2 for FGPA 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.