



SightLine

APPLICATIONS

ICD-FFC-Camera Interfaces

PN: ICD-FFC-Camera Interfaces

9/18/2018

**Contact:**

Web: sightlineapplications.com

Sales: sales@sightlineapplications.com

Support: support@sightlineapplications.com

Phone: +1 (541) 716-5137

Export Controls

Exports of SightLine products are governed by the US Department of Commerce, Export Administration Regulations (EAR); classification is ECCN 4A994. The [export summary sheet](#) located on the support/documentation page of our website outlines customers responsibilities and applicable rules. SightLine Applications takes export controls seriously and works to stay compliant with all export rules.

Copyright and Use Agreement

© Copyright 2018, SightLine Applications, Inc. All Rights reserved. The SightLine Applications name and logo and all related product and service names, design marks and slogans are the trademarks, and service marks of SightLine Applications, Inc.

Before loading, downloading, installing, upgrading or using any Licensed Product of SightLine Applications, Inc., users must read and agree to the license terms and conditions outlined in the [End User License Agreement](#).


All data, specifications, and information contained in this publication are based on information that we believe is reliable at the time of printing. SightLine Applications, Inc. reserves the right to make changes without prior notice.

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

1 Overview 1

 1.1 Available Adapter Boards 1

 1.2 Associated Documents 1

 1.3 Hardware Compatibility 1

 1.4 Sightline Software Requirements 1

2 Safe Device Handling 2

3 Thermal Management 2

 3.1 Gap Pads 2

4 Camera Connector J7x 2

5 SLA-FFC-TAU 3

6 SLA-FFC-DRS 4

7 SLA-FFC-QUARK 5

8 SLA-FPC-BOSON 6

9 Cables 7

10 Questions and Additional Support 7

List of Figures

Figure 1: SLA-FFC-TAU Board 3

Figure 2: SLA-FFC-TAU Connector Callouts 3

Figure 3: SLA-FFC-DRS Board 4

Figure 4: SLA-FFC-DRS Connector Callouts 4

Figure 5: SLA-FFC-QUARK Board 5

Figure 6: SLA-FFC-QUARK Connector Callouts 5

Figure 7: SLA-FPC-BOSON Board 6

Figure 8: SLA-FPC-BOSON Connector Callouts 6



List of Tables

Table 1: J7x Main Camera Connector 2

Table 2: SLA-FFC-TAU Connector Descriptions 3

Table 3: SLA-FFC-DRS Connector Descriptions 4

Table 4: SLA-FFC-QUARK Connector Summary 5

Table 5: SLA-FPC-BOSON Connector Callouts 6

Revision History

Date	Description
9/19/2018	Added VIOSEL information to table 1.
6/19/2018	Updated ICD to new format. Added SLA-FPC-BOSON board.



1 Overview

This document describes power requirements, thermal management, interface specifications, and connector pinouts for SLA-FFC and SLA-FPC camera interface boards. Camera interface boards can be connected to the appropriate OEM adapter board using a COTS FFC cable. Design files are also available for customers to build their own boards. Contact [Sales](#) for the latest boards available.

1.1 Available Adapter Boards

[SLA-FFC-TAU](#) [SLA-FFC-QUARK](#)

[SLA-FFC-DRS](#) [SLA-FPC-BOSON](#)

1.2 Associated Documents

[ICD-1500-OEM](#): Describes power requirements, thermal management, interface specifications, and connector pin-outs for the 1500-OEM and 1500-AB accessory board.

[ICD-1500 Adapter Boards](#): Describes interface specifications, and connector pin-outs for the 1500-OEM associated camera interface boards.

[ICD-3000-OEM](#): Describes power requirements, thermal management, interface specifications, and connector pin-outs for the 3000-OEM.

[ICD-3000 Adapter Boards](#): Describes interface specifications, and connector pin-outs for the 3000-OEM associated camera interface boards.

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

 *Links to additional associated board EANs are in each section.*

1.3 Hardware Compatibility

Standard Ethernet network or serial connection to the SightLine hardware.

1.4 Sightline Software Requirements

 **IMPORTANT:** The Panel Plus software version should match the firmware version running on the board.



2 Safe Device Handling

⚠ CAUTION: To prevent damage to hardware boards, use the following Electro Static Discharge (ESD) guidelines:

- 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 Thermal Management

3.1 Gap Pads

When possible, some form of thermally conductive material for filling gaps between hot components and heat sink should be used. Examples such as the [Bergquist](#) VO Ultra Soft are recommended. Do not use gap pads in conjunction with thermal grease.

4 Camera Connector J7x

ⓘ IMPORTANT: For specific camera connector pinout descriptions, refer to the manufacturer's instructions and design recommendations.

Table 1: J7x Main Camera Connector

Pin	Description	Pin	Description
1	Camera TX	2	Camera RX
3	NC	4	NC
5	Ground	6	Digital Data 13
7	Digital Data 12	8	Digital Data 11
9	Digital Data 10	10	Digital Data 9
11	Digital Data 8	12	Digital Data 7
13	Digital Data 6	14	Digital Data 5
15	Digital Data 4	16	Digital Data 3
17	Digital Data 2	18	Digital Data 1
19	Digital Data 0	20	Ground
21	Pixel Clock Out	22	Frame Valid
23	Line Valid	24	NC
25	NC	26	VIOSEL out (to OEM)*
27	+5V Camera power in	28	+5V Camera power in
29	Ground	30	Ground

* VIOSEL out must match the camera voltage level for Digital Data, Pixel Clock, Line Valid and Frame Valid signals. This is +3.3V level for most cameras. This is used by the 1500-OEM for level translation.



5 SLA-FFC-TAU

Revision: A

Dimensions: 1.50 in x 1.50 in (38.10 mm x 38.10 mm)

Weight: 5 grams

Drawing: [SLA-FFC-TAU](#)
[SLA-FFC-TAU Exploded](#)

STEP File: [SLA-FFC-TAU STEP](#)

Rev History:

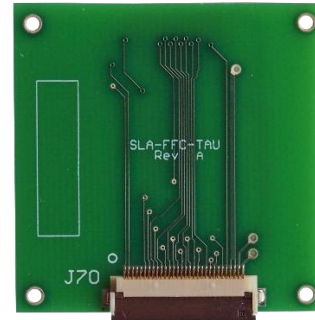


Figure 1: SLA-FFC-TAU Board

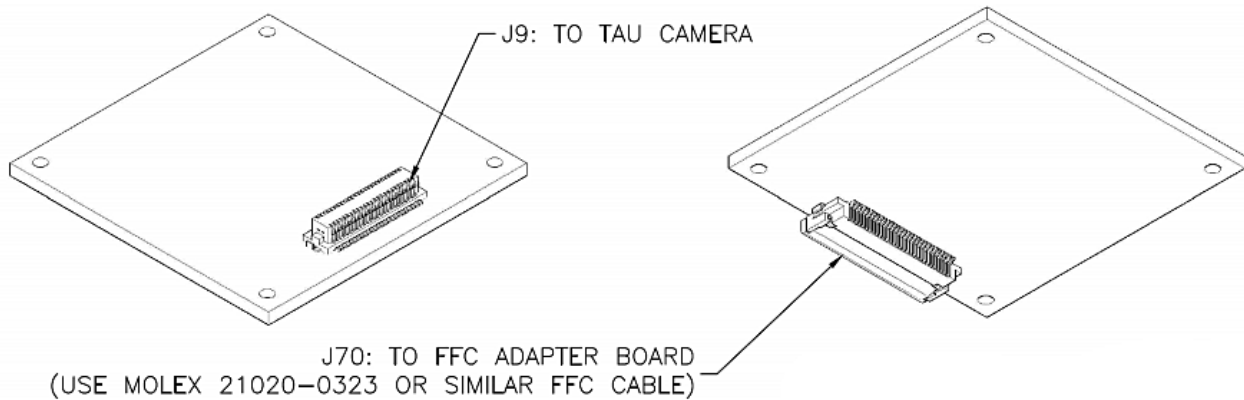


Figure 2: SLA-FFC-TAU Connector Callouts

Table 2: SLA-FFC-TAU Connector Descriptions

Label	MFG Part Number	Mates with:
J9	DF12B-50DS-0.5V(86)	FLIR TAU Camera
J70	FH12-30S-0.5SH(55)	FFC Cable (Molex 21020-0323)



6 SLA-FFC-DRS

The SLA-FFC board provides an interface to DRS Tamarisk cameras.

- Revision:** A
- Dimensions:** 0.99 in x 0.94 in (25.14 mm x 23.87 mm)
- Weight:** 2.5 grams
- Drawing:** [SLA-FFC-DRS](#)
[SLA-FFC-DRS Exploded](#)
- STEP File:** [SLA-FFC-DRS STEP](#)
- Rev History:**



Figure 3: SLA-FFC-DRS Board

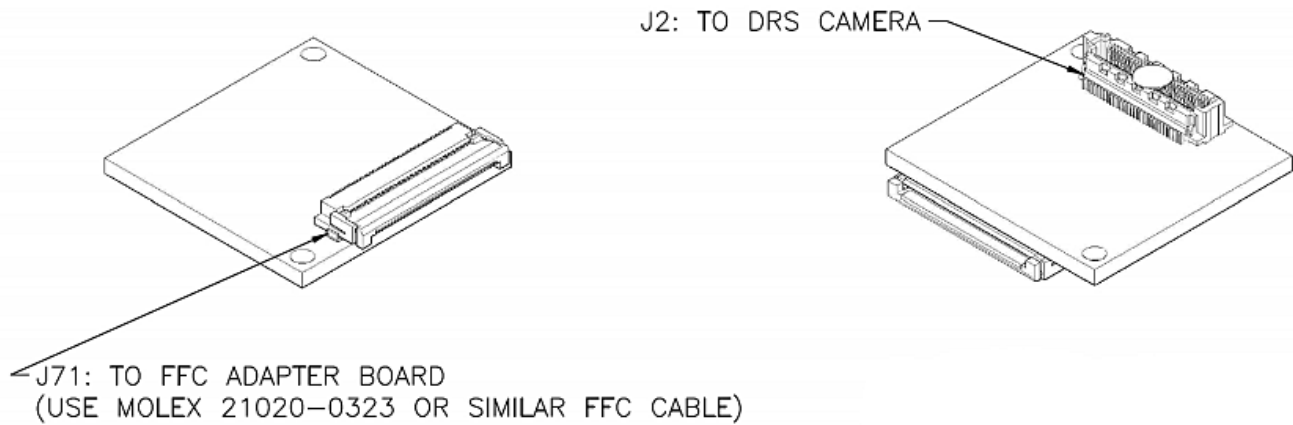


Figure 4: SLA-FFC-DRS Connector Callouts

Table 3: SLA-FFC-DRS Connector Descriptions

Label	MFG Part Number	Mates with:
J2	SS4-30-3.00-1-L-D-K-TR	DRS Tamarisk camera
J71	FH12-30S-0.5SH(55)	FFC Cable (Molex 21020-0323)



7 SLA-FFC-QUARK

Revision: A

Dimensions: 0.87 in x 0.87 in (22.09 mm x 22.09 mm)

Weight: 2.3 grams

Drawing: [SLA-FFC-QUARK](#)
[SLA-FFC-QUARK Exploded](#)

STEP File: [SLA-FFC-QUARK STEP](#)

Rev History:

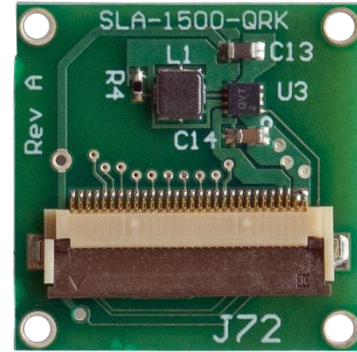


Figure 5: SLA-FFC-QUARK Board

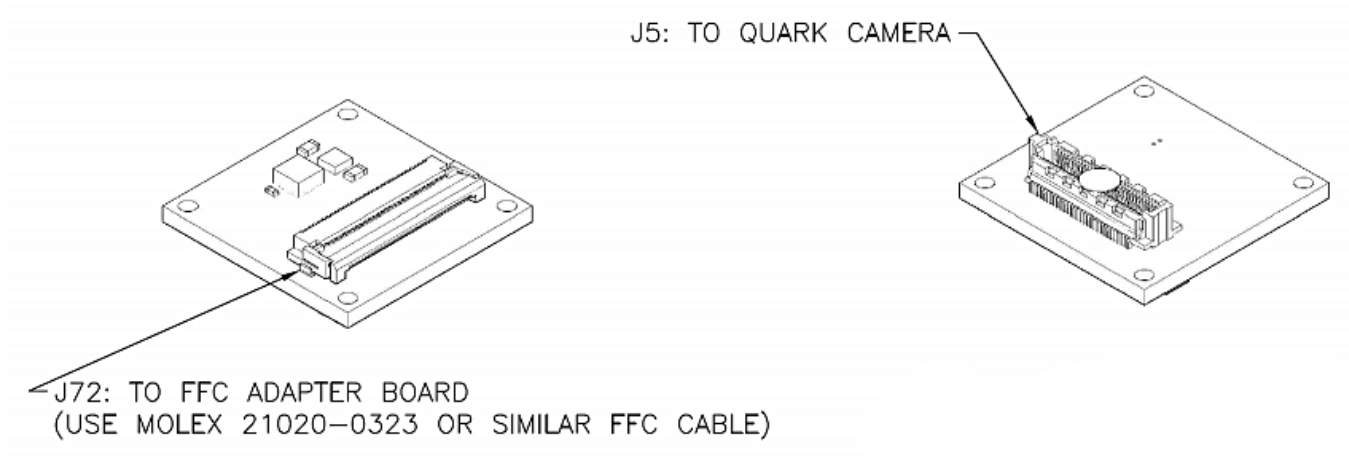


Figure 6: SLA-FFC-QUARK Connector Callouts

Table 4: SLA-FFC-QUARK Connector Summary

Label	MFG Part Number	Mates with:
J5	SS4-30-3.00-1-L-D-K-TR	FLIR Quark camera
J72	FH12-30S-0.5SH(55)	FFC Cable (Molex 21020-0323)



8 SLA-FPC-BOSON

Revision: B
Dimensions: 0.83 in x 0.83 in (21.08 mm x 21.08 mm)
Weight: 2.3 grams
Drawing: [SLA-FFC-BOSON](#)
STEP File: [SLA-FFC-BOSON STEP](#)
Rev History: B: Corrected routing.

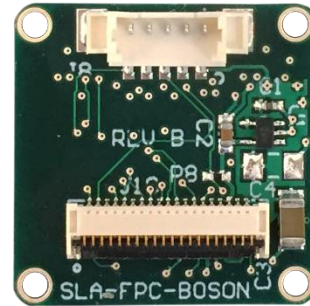


Figure 7: SLA-FPC-BOSON Board

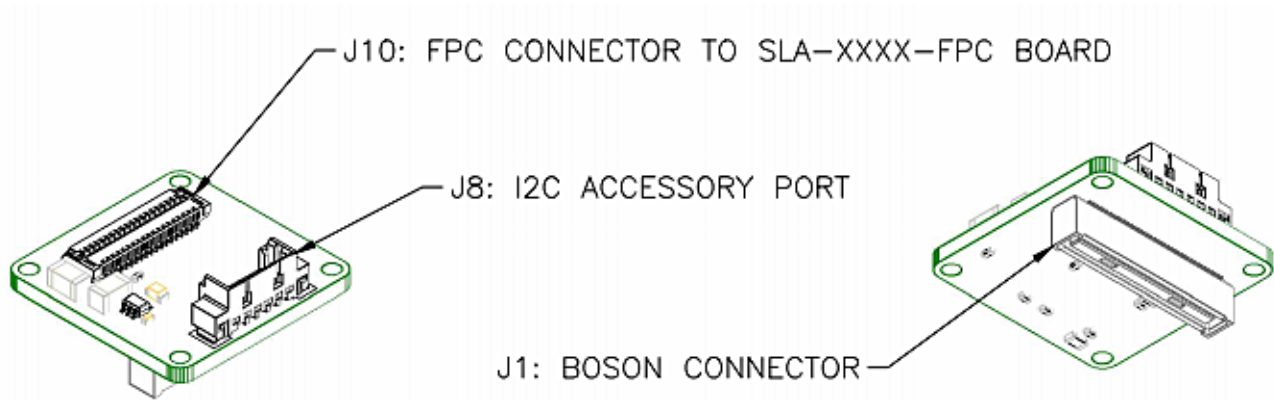


Figure 8: SLA-FPC-BOSON Connector Callouts

Table 5: SLA-FPC-BOSON Connector Callouts

Label	MFG Part Number	Mates with:
J1	DF40HC-(4.0)-80DS-0.4V(51)	Boson camera
J8	53398-0571	Molex 51021-0500 (housing) and 0500588000 (terminals)
J10	501912-3990	Molex 15015-0439, SLA-CAB-FPC04



9 Cables

SLA-FFC boards are designed to work with MOLEX 21020-0323 0.50mm Pitch Premo-Flex™ FFC jumper, same side contacts (type A), 30 circuits, 0.127 m cable length, 0.27 mm cable thickness, Tin (Sn) plating.

Longer and shorter cables have also been tested with positive results.

SightLine part number: SLA-CAB-FF06

MFG part number: MOLEX 21020-0323

Cable description: CABLE FFC 30POS 0.50MM 5 inch

SLA-FPC boards are designed to work with MOLEX 15015-02=439 Premo-Flex™ 39 Position FPC Cable 0.012-inch (0.30 mm) Pitch, 2.000-inch (50.80 mm), 4.000-inch (101.60 mm), or 6.000-inch (152.40 mm) length.

SightLine part number: SLA-CAB-FPC02, SLA-CAB-FPC04, SLA-CAB-FPC06

MFG part number: MOLEX 15015-0239, 15015-0439, 15015-0639

Cable description: CABLE FFC 39POS 0.30MM

10 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](#).