ICD-1750-OEM

2023-05-25

Exports: Export Summary Sheet

EULA: End User License Agreement

Web: sightlineapplications.com

Sales: sales@sightlineapplications.com

Support: support@sightlineapplications.com

Phone: +1 (541) 716-5137

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 remind the user of something. Supplementary information aids in the use or understanding of the equipment or subject, which is not critical to system use.

Revision History

Date	Description
2023-05-28	Updated Serial Ports Software Cross Reference table with Linux locations.
2023-04-28	Preliminary draft created.

1 Overview

Describes power requirements, thermal management, interface specifications, and connector pinouts for the 1750-OEM video processing board.

> ⚠ **CAUTION:** Any customer modifications to SightLine OEM and adapter boards will void the warranty and can potentially damage the board. Before attempting any modifications, please contact Support.

1.1 Additional Support Documentation

Additional Engineering Application Notes (EANs) can be found on the Documentation page of the SightLine Applications website.

The Panel Plus User Guide provides a complete overview of settings and dialog windows. It can be accessed from the Help menu of the Panel Plus application.

The 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 Downloads page.

1.2 Sightline Software Requirements

Panel Plus software and firmware versions:

1750-OEM requires Panel Plus and Firmware 3.6.x and higher.

ⓘ **IMPORTANT:** Starting with 3.6.x software and above, only the 4000 and 1700 platforms will be supported. The 1500 and 3000 platforms will continue to be supported in 3.5.x software. Some features in 3.6.x and above may not be available on 1500 and 3000 platforms.

ⓘ **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 Safe Device Handling

> ⚠ **CAUTION:** To prevent damage to hardware boards, disconnect all input power to OEMs and adapter boards before connecting or disconnecting cables including all FFC, FPC, KEL, HDMI, MIPI, and round wire (Molex) cables.
>
> ⚠ **CAUTION:** To prevent damage to hardware boards, 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 1750-OEM Overview

The 1750-OEM has 10 connectors and one microSD card slot. Connectors are used to connect power, Ethernet, Serial ports, MIPI input, HDMI output, USB3, and digital video in (with the use of a 3000-adapter board).

3.1 1750-OEM Specifications

Revision:	B2
Dimensions:	45.0 mm (1.77 inch) x 33.3 mm (1.31 inch)
Weight:	16.93 grams
Voltage (VIN):	8V to 15V DC (12V nominal)[1]
Power:	3W with 12V nominal DC input
Drawing:	1750-OEM
STEP File:	1750-OEM STEP
Rev History:	B2: Initial production release.

Figure 1: 1750-OEM

All 1750-OEM board mounting holes support M2 screws (0.086 dia.).

3.2 Interface Protocol

The 1750-OEM shares the same interface protocol as other SightLine video processing boards. The protocol is a packet-based command and control interface. The protocol document is available from the SightLine website.

3.3 Functional Block Diagram

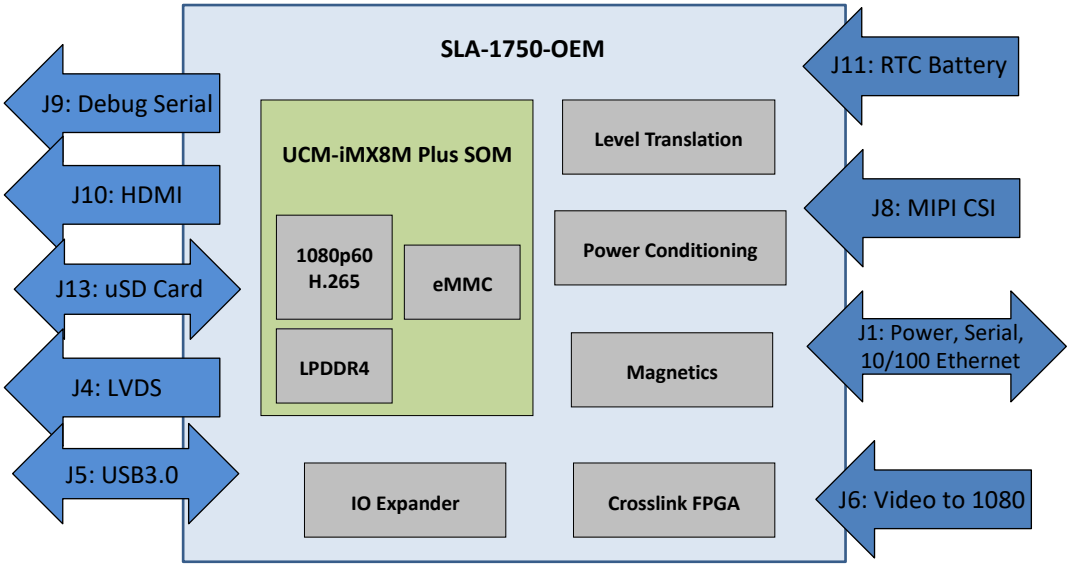

Figure 2: 1750-OEM Hardware Block Diagram

3.4 Customer Integration - Key Points

- ✓ Provide a sufficient heat sink for the i.MX 8M processor and other major components. Close attention to heatsinking is critical. See the Thermal Management section for more information.
- ✓ Expose Ethernet port (on J1) to an accessible connector for debug, command and control, and firmware update capability.

[1] A slightly extended input voltage range is possible with some tradeoffs. Contact Support for more information if this is relevant to your application.

- ✓ For in-system recovery, it is recommended to expose the USB programming/debugging port to a system accessible connector.
- ✓ If you are designing a custom system interface board with the 1750-SOM contact SightLine Hardware Engineering prior to design for assistance.

4 Thermal Management

4.1 Heatsink Guidelines

ⓘ **IMPORTANT:** Close attention to heatsinking is critical.

SightLine screens and certifies all 1750-OEM units through the component temperature range of -40° to 85°C.

All hardware requires some form of mechanical heatsink.

Customers must design a heatsink in conjunction with their system integration effort. It should provide a direct conducted path to a significant thermal mass (the wall of a gimbal or housing) or use an active cooling (fans) that has proven to be successful in cases where a full thermal analysis is not performed.

The 1750-OEM typical power consumption is less than 3 W @ 12V. System settings provide an option for a low power mode with no video output, see EAN-Performance-and-Latency for more information.

ⓘ **IMPORTANT:** The internal temperature, reported in Panel Plus, should not exceed +85°C (185°F) or the SOM processor will start to reduce clock speed and eventually shut down. Internal high temperatures for extended periods can cause permanent damage.

4.2 Gap Pads

Use some form of thermally conductive material for filling gaps between the hot components and the heat sink. Examples such as the TGlobal TG-A6200 Ultra Soft Thermal Conductive Pad (6W/mK or higher) are recommended.

The compression of the pad allows for greater mounting tolerances. The compression of the gap pad also provides additional support for the board and does not require as much force to maintain contact.

5 Connector Descriptions

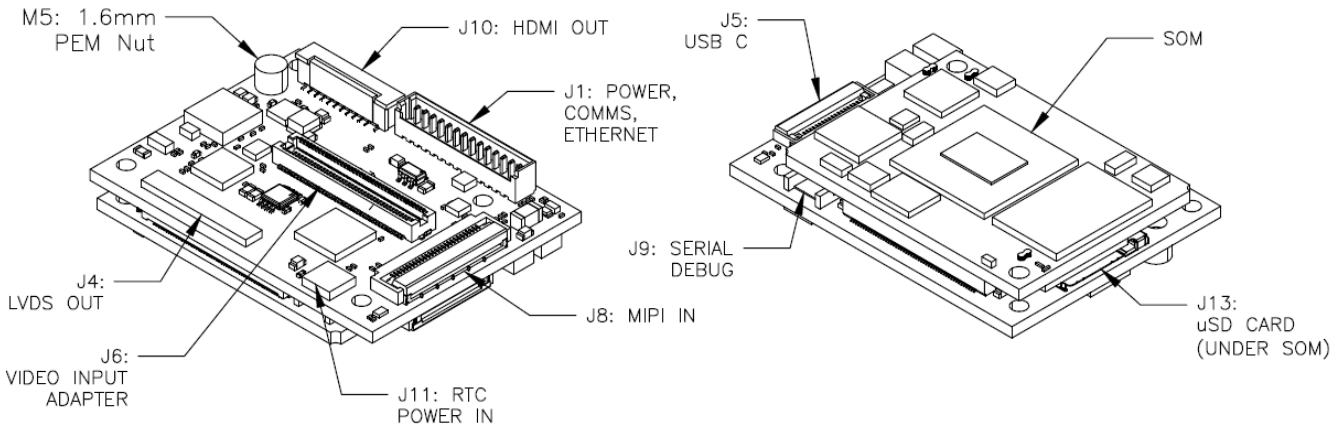

Figure 3: 1750-OEM Connector Descriptions

Table 1: Connector Descriptions

Connector	Description	Mates with:
J1: Power, Comms, Ethernet	Power In, 2xUART ports, Ethernet	14-Pin Molex Plug
J4: LVDS Out	LVDS, 5V Power Out, Serial (at LVDS levels)	KEL 30-Pin Micro-Coax
J5: USB FPC	USB 3.0 over FPC cable	USB FPC Cable
J6: Video Input Adapter	Camera Input Adapter connection	80-Pin Hirose
J8: MIPI 1	MIPI Port, I^2C-6 (Digital Video in 1, serial ports, w/adapter board)	Sightline Cable SLA-CAB-MIPI-02
J9: Serial Debug*	System recovery and debug serial port	3-Pin JST
J10: HDMI OUT	HDMI Output (FFC)	Sightline Cable SLA-CAB-HD10
J11: RTC Power In	Real Time Clock power supply	2-Pin JST
J13: MicroSD	MicroSD card slot	Standard uSD card
P1, P2: SOM	i.MX8M Plus SOM Connectors	i.MX8M Plus SOM

**The debug serial port is exposed on J9 should be reserved for debugging only. Debug serial port is 3.3V TTL.*

5.1 Connector J1: Power, Comms, Ethernet

Connector: Molex 14POS, 53047-1410 Mates with: Molex 12POS Housing, 51021-1200

Table 2: J1 - Power, Comms, Ethernet Pinout

Pin	Signal	Description
1	GND	GROUND
2	TX3	3.3V TTL UART TX
3	RX3	3.3V TTL UART RX
4	GND	GROUND
5	TX1	3.3V TTL UART TX
6	RX1	3.3V TTL UART RX
7	GND	GROUND
8	VIN	POWER SUPPLY INPUT TO OEM
9	VIN	POWER SUPPLY INPUT TO OEM
10	GND	GROUND
11	ETH0_N	ETHERNET PAIR 0, NEGATIVE LEG
12	ETH0_P	ETHERNET PAIR 0, POSITIVE LEG
13	ETH1_P	ETHERNET PAIR 1, POSITIVE LEG
14	ETH1_N	ETHERNET PAIR 1, NEGATIVE LEG

Ethernet supports full duplex.

Supports 10/100BASE-T only.

The 1750-OEM is configured with onboard Ethernet magnetics.

5.2 Connector J4: LVDS

Connector: KEL 30pos, USL00-30L-A Mates with: KEL 30-pos micro-coax

Table 3: J4 - LVDS Pinout

Pin	Signal	Description
1	LVDS0_D3_P	LVDS DATA
2	LVDS0_D3_N	LVDS DATA
3	LVDS0_CLK_P	LVDS CLOCK
4	LVDS0_CLKN	LVDS CLOCK
5	LVDS0_D2_P	LVDS DATA
6	LVDS0_D2_N	LVDS DATA
7	LVDS0_D1_P	LVDS DATA
8	LVDS0_D1_N	LVDS DATA
9	LVDS0_D0_P	LVDS DATA

(LVDS Pinout table continued)

10	LVDS0_D0_N	LVDS DATA
11	GROUND	GROUND
12	GPIO1	GPIO
13	GPIO0	GPIO
14	P5V	5V POWER OUT
15	P5V	5V POWER OUT
16	P5V	5V POWER OUT
17	P5V	5V POWER OUT
18	P5V	5V POWER OUT
19	GROUND	GROUND
20	GROUND	GROUND
21	GROUND	GROUND
22	GROUND	GROUND
23	GROUND	GROUND
24	GROUND	GROUND
25	P5V	5V POWER OUT
26	RX_N	UART RX NEGATIVE LEG AT LVDS LEVEL
27	RX_P	UART RX POSITIVE LEG AT LVDS LEVEL
28	GROUND	GROUND
29	TX_N	UART TX NEGATIVE LEG AT LVDS LEVEL
30	TX_P	UART TX POSITIVE LEG AT LVDS LEVEL

5.3 Connector J5: USB 3.0

Connector: Hirose FH52-18S-0.5SH (99) Mates with: SLA-USB-FPC

Table 4: USB 3.0

Pin	Description
1	GND
2	USB1_TX_N
3	GND
4	USB1_TX_P
5	GND
6	USB1_RX_N
7	GND
8	USB1_RX_P
9	GND
10	GND
11	GND
12	USB1_D_P
13	GND
14	USB1_D_N
15	GND
16	GND
17	USB1_VDD
18	USB1_VDD

USB 5V output can source 900mA max. 5V is also used for MIPI interface boards connected on J8, as well as LVDS cameras on J4.

CAUTION: Do NOT connect an external 5V power source to the USB connector. Damage to the OEM may occur.

5.4 Connector J6: 3000/1750 Video Adapter Input

Connector: DF12NB(3.0)-80DP-0.5V(51) Mates with: DF12NB(3.0)-80DS-0.5V(51)

Column key for notes column below (data bit locations):

Y = luminance **CbCr** = Chrominance **G** = Grayscale bits.

Table 5: 1750-OEM (J6) Pinout

Pin	Description	Notes	Pin	Description	Notes
2	VIN_BCLK	Alternate Pixel Clock	1	VIN_**A**CLK	Pixel Clock
4	Ground		3	Ground	
6	VIN_D22		5	VIN_D23	
8	VIN_D20		7	VIN_D21	
10	VIN_D18		9	VIN_D19	
12	VIN_D16		11	VIN_D17	
14	Ground		13	Ground	
16	VIN_D14	**Y**6, **G**14	15	VIN_D15	**Y**7, **G**15
18	VIN_D12	**Y**4, **G**12	17	VIN_D13	**Y**5, **G**13
20	VIN_D10	**Y**2, **G**10	19	VIN_D11	**Y**3, **G**11
22	VIN_D8	**Y**0, **G**8	21	VIN_D9	**Y**1, **G**9
24	Ground		23	Ground	
26	VIN_D6	**CbCr**6, **G**6	25	VIN_D7	**CbCr**7, **G**7
28	VIN_D4	**CbCr**4, **G**4	27	VIN_D5	**CbCr**5, **G**5
30	VIN_D2	**CbCr**2, **G**2	29	VIN_D3	**CbCr**3, **G**3
32	VIN_D0	**CbCr**0, **G**0	31	VIN_D1	**CbCr**1, **G**1
34	NC		33	Ground	
36	NC		35	NC	
38	NC		37	NC	
40	NC		39	NC	
42	Reserved	Leave floating	41	NC	
44	Ground		43	Ground	
46	NC		45	VIN_HSYNC	Horizontal Sync
48	NC		47	VIN_VSYNC	Vertical Sync
50	NC		49	VIN_FLD	Field
52	NC		51	VIN_DE	Optional
54	Ground		53	Ground	
56	Passthrough ground		55	Passthrough VIN	See J1*
58	Passthrough ground		57	Passthrough VIN	See J1*
60	Passthrough ground		59	Passthrough VIN	See J1*
62	Passthrough ground		61	Passthrough VIN	See J1*
64	Ground		63	Ground	
66	TX2	3.3V TTL	65	RX2	3.3V TTL
68	I2C5_SDA_3V3	I2C5 SDA (/dev/i2c-4)	67	I2C5_SCL_3V3	I2C5 SCL (/dev/i2c-4)
70	GPIO5_IO1	GPIO1 (3.3V)	69	GPIO4_IO31	GPIO0 (3.3V)
72	GPIO4_IO30	GPIO3 (3.3V)	71	GPIO4_IO22	GPIO2 (3.3V)
74	GPIO4_IO28	GPIO5 (3.3V)	73	GPIO5_IO2	GPIO4 (3.3V)
76	+3.3V (out)		75	+3.3V (out)	
78	Ground		77	Ground	
80	+1.8V (out)		79	+1.8V (out)	

**Passthrough power available. Max voltage = VIN (See VIN Specifications). Max Current = 1.2A spread across four power and ground pins.*

5.5 Connector J8: MIPI Port (FFC Connector)

The MIPI port provides an interface directly connecting MIPI cameras to the 1750-OEM. This port provides camera power and camera configuration through I^2C.

For details on supported MIPI cameras and formats see EAN-MIPI-Cameras.

The MIPI port can also be used to connect SightLine Video Input adapter boards through the 1750-MIPI adapter board. For details on the 1750-MIPI and Video Input Boards, see ICD-Adapter-Boards.

Connector: Hirose 28POS, FH41-28S-0.5SH(050) Mates with: Sightline Cable SLA-CAB-MIPI-02

The mating cycle rating for this connector is 20 cycles.

Table 6: MIPI Port (J8)

Pin	Description	Pin	Description
2	D3+	1	GND
4	GND	3	D3-
6	D2-	5	D2+
8	CLK+	7	GND
10	GND	9	CLK-
12	D1-	11	D1+
14	D0+	13	GND
16	GND	15	D0-
18	GPIO4_IO26_1V8	17	GPIO5_IO0_1V8
20	I2C6_SCL_1V8 (400 kHz) (/dev/i2c-5)	19	GND
22	GND	21	I2C6_SDA_1V8 (400 kHz) (/dev/i2c-5)
24	GPIO4_IO27_1V8	23	GPIO5_IO5_1V8
26	VCC_5V	25	VCC_5V
28	GND	27	VCC_5V

Limit power supplied over FFC cable to 6.75 watts (1.35A @5V).

5.6 Connector J9: Debug Serial Port

Connector: Molex 8POS, 53398-0871 Mates with: Molex 8POS Housing, 51021-0800

Table 7: Extra Serial/GPIO

Pin	Signal	Description
1	GND	
2	UART2_TXD	3.3V TTL DEBUG UART
3	UART2_RXD	3.3V TTL DEBUG UART

5.7 Connector J10: HDMI Output Video (FFC Connector)

Connector: Amphenol 20POS, 62674-201121ALF Mates with: Sightline Cable SLA-CAB-HD10

Table 8: HDMI

Pin	Description	Pin	Description
2	HDMI_C_5VOUT*	1	HDMI_C_5VOUT*
4	HDMI_DDC_SDA_5V	3	HDMI_C_HPD_5V
6	HDMI_CEC_3V3	5	HDMI_DDC_SCL_5V
8	GND	7	GND
10	HDMI_TXC_p	9	HDMI_TXC_N
12	HDMI_TX0_N	11	GND
14	GND	13	HDMI_TX0_P
16	HDMI_TX1_P	15	HDMI_TX1_N
18	HDMI_TX2_N	17	GND
20	GND	19	HDMI_TX2_P

**Not intended for customer use.*

HDMI output:

- Compliant with HDMI v2.0 output.
- See the SLA-HDMI-SDI section in ICD-Adapter-Boards for details on the HDMI to HDSDI converter compatible with this HDMI output.
- FFC Ribbon cable and HDMI connectors: ChenYang Elec.

The HDMI output format is specified by the resolution and format specified through Panel Plus. The HDMI output ignores any EDID HDMI format information in the external HDMI sink device. Supported HDMI formats are defined in SLAVideoDisplay (0xA4) in the IDD.

5.8 Connector J11: Real Time Clock Power In

Connector: JST 2POS, BM02B-ACHLKS-GAN-ETF Mates with: JST 2POS Housing

Table 9: J50 – Power Connector

Pin	Description	Description
1	VIN	1.6 to 3.6V supply
2	GND	Ground

IMPORTANT: R72 must be removed in order to use the RTC function. Not removing R72 will lead to a short circuit on any battery/supply connected to J10.

5.9 Connector J13: MicroSD

Push the microSD into place. To eject it push it again. The socket is rated up to 10,000 mating cycles and has 3.3 mm card eject length.

Recommended microSD card types and previously tested models are discussed in the EAN-File-Recording document.

5.10 Connectors P1 and P2: i.MX8M Plus SOM Connectors

See associated SOM documentation for SOM connector pinouts.

6 Additional I/O

6.1 LED Summary

Label	Color	Function
D1	Amber	Ethernet PHY Link Indicator
D2	Green	GPIO5_IO20 LED, Indicates power to system and general SOM functionality.

6.2 Serial and I2C Ports

All serial ports are 3.3V TTL. When using a SightLine adapter board with a 3-pin connector, use the CAB-03xx for easy break out to either a pig tail, Molex-to-Molex, or DB-9 connector.

Table 10: 1750-OEM Serial Port Summary

Hardware Name	Notes
Serial Port 0B	Routed to LVDS Port
Serial Port 1	General Purpose (Available on J1 Pins 2:3)
Serial Port 2	Debug port
Serial Port 2B	Routed to Camera Input Mezzanine (CAM0)
Serial Port 3	General Purpose (Available on J1 Pins 2:3)
Serial Port 4	These serial ports are available when attaching an SLA-1750-MIPI board to the MIPI port on J9. See the SLA-1750-MIPI section in the ICD-Adapter-Boards. Serial Port 6 is reserved for Cam1.
Serial Port 6	
Serial Port 7	

Table 11: Serial Ports Hardware Reference - 1750-OEM

Serial Ports	Serial 0B			Serial 1			Serial 2			Serial 2B			Serial 3		
	Connector, Pin			Connector, Pin			Connector, Pin			Connector, Pin			Connector, Pin		
Hardware Reference	Rx	Tx	level	Rx	Tx	level	Rx	Tx	level	Rx	Tx	Level	Rx	Tx	level
1750-OEM	J4, 30&29	J4, 27&26	LVDS	J1, 6	J1, 5	3.3V	J9, 3	J9, 2	3.3V	J6, 65	J6, 66	3.3V	J1, 3	J1, 2	3.3V

Table 12; I2C Ports

Hardware Name	Notes
I2C-5 (/dev/i2c-4)	Routed to on-board J6 FPGA and 3000-Input mezzanine
I2C-6 (/dev/i2c-5)	Routed to MIPI connector and to IO expander that generates UART serial ports for the 3000-Input mezzanine boards, as well as the LVDS port

6.2.1 Serial Ports Software Cross Reference

Table 13: Serial Ports Software Cross Reference - 1750-OEM

Hardware Reference	Connector	Serial Port	Linux Location	Use Cases*	Cam ID
1750-OEM	J1	Serial 0	/dev/ttymxc0 or /dev/ttySLA_00	SightLine Video Protocol (SVP) / other protocol types / user defined / other	
	J9	Serial 1	/dev/ttymxc1 or /dev/ttySLA_01	Debug port	
	J6	Serial 2	/dev/ttySC1 or /dev/ttySLA_02	Camera control / pass through / protocol types / other	Cam 0
	J1	Serial 3	/dev/ttymxc2 or /dev/ttySLA_03	User defined / protocol types / other	
	J8	Serial 6	/dev/ttyMAX12 or /dev/ttySLA_06	MIPI	Cam 1
	J4	Serial 8	/dev/ttySC0 or /dev/ttySLA_08	LVDS	

**See Set Port Configuration for common Protocol Types or EAN-Ethernet-and-Serial-Communication.*

6.2.2 Serial Port and I2C Speed and Data Limits

Serial ports 2 and 8 are controlled over an I^2C bus using an I^2C to serial bridge chip, while the other serial ports are native from the processor. All serial ports can communicate at speeds up to 921.6kbps. The I^2C bus default speed is 400 kHz. The 1750 I^2C-5 bus speed can be changed from the default 400 kHz to 1 MHz, but care must be taken to ensure that all devices on the I^2C bus support this speed. See EAN-GPIO-and-I2C for assistance on setting the I^2C bus speed.

Table 14: I²C and Serial Port Speed Summary

Ports	Default Bus Speed
1, 2, 3, 4, 6, 7	115.2kbps
0B, 2B	115.2kbps
I2C-6	400 kHz (cannot be set to 1MHz)
I2C-5	400 kHz

CAUTION: The I²C bus is shared by a small number of peripherals on the 1750-OEM. Setting I²C to 1MHz can cause system instability or crashes.

The following camera I/F boards are known to be incompatible with 1MHz clock when placed on the 4000-MIPI adapter connected to J8:

- SLA-3000-HDSDI (Rev C or older, rev C1 is compatible)
- SLA-3000-HDMI
- SLA-3000-AB
- SLA-3000-FPC with Airborne camera
- SLA-3000-FPC with SLA-FPC-LI board
- Some custom I/F boards

CAUTION: Some boards are checked by software and will not switch to 1MHz. Other boards cannot be checked by software. It is the responsibility of the user to avoid incompatibilities and resulting system crashes.

7 i.MX 8M Plus Applications Processor MIPI Interface

13.5.1.2 Features:

- Compliant to MIPI CSI2 Specification V1.3 except for C-PHY feature
- YUV420, YUV420 (Legacy), YUV420 (CSPS), YUV422 of 8-bits and 10-bits
- RGB565, RGB666, RGB888
- RAW6, RAW7, RAW8, RAW10, RAW12, RAW14
- Support 1 to 4 lanes of D-PHY
- Interfaces
- Supports both continuous and non-continuous (LP-HS) MIPI clock.

8 GPIO

8.1 GPIO Software Cross Reference

All GPIO pins have both a schematic name (e.g., GPIO1) as well as a Linux port name that can be used for control through the operating system (e.g., GPIO129). GPIO pins are referenced by schematic name and Linux port name, e.g., GPIO1 (Linux GPIO129).

GPIOs are used to identify the camera adapter board address attached to connectors J6 (1750-OEM) or J8 (J10 on SLA-4000-MIPI board). See the Camera Input Adapter Board ID table in ICD-Adapter-Boards for a list of camera input adapter boards and IDs. See Connector Descriptions for more general-purpose IO information.

Table 15: GPIO Software Cross Reference - 1750-OEM

Connector, Pin	GPIO Port Hardware Name	Bank	Bank Position	Linux location (Bank-1)*32+Bank Pos	Description	Customer Use
J6, P69	GPIO4_IO31	4	31	/sys/class/gpio127	Used to detect Board ID*	Usable after bootup*
J6, P70	GPIO5_IO1	5	1	/sys/class/gpio129	Used to detect Board ID*	Usable after bootup*
J6, P71	GPIO4_IO22	4	22	/sys/class/gpio118	Used to detect Board ID*	Usable after bootup*
J6, P72	GPIO4_IO30	4	30	/sys/class/gpio126	Used to detect Board ID*	Usable after bootup*
J6, P73	GPIO5_IO2	5	2	/sys/class/gpio130	General Purpose*	Available*
J6, P74	GPIO4_IO28	4	28	/sys/class/gpio124	General Purpose*	Available*
Customer Use	GPIO5_IO19	5	19	Undefined	User defined	Can be exposed to J1 Pin 1 for customer use through a board modification but is not exposed by default.

**See individual adapter boards for board ID summary and additional uses. Not all GPIOs are available with all adapter boards.*

8.2 Advanced GPIO

The GPIO information shown in Table 16 is intended to be used as a starting point for customers designing their own carrier boards and custom applications. They are not intended to be user accessible.

Other GPIOs not shown in this table or other GPIO software reference tables are not available for customer use. Please contact SightLine Support for more information.

Table 16: Advanced GPIO Descriptions - 1750-OEM

Connector, Pin	GPIO Port Hardware Name	Description
NA	GPIO9_FPGA	FPGA communication with 1750-SOM
NA	GPIO10_FPGA	FPGA communication with 1750-SOM
NA	LVDS_GPIO0	LVDS communication with 1750-SOM
NA	LVDS_GPIO1	LVDS communication with 1750-SOM

9 Camera Naming Convention

Connector:	Appears in software as:
J6 (3000-Adapter board 80 Pin)	Camera 0 (Cam 0)
J8 (MIPI - 28 pin Basler style)	Camera 1 (Cam 1)
J5 USB3 (USB camera)	Camera 2 (Cam 2)

10 Video Input Port J6 Details (Cam 0)

When acquiring video, a set of adapter boards are available to convert popular video signals to parallel digital video for input to the J6 video input port. For specific details see ICD-OEM-Camera-Side-Interfaces. Parallel video can be acquired using an adapter board that accepts FFC and FPC cable types. Mating adapter boards are available that attach to specific camera types (Boson, Airborne, etc.). For more information see the ICD-OEM-Camera-Side-Interfaces for cable instructions and precautions.

See the *Video Input Port J6 Details (Cam 0)* section in ICD-4000-OEM for camera input details and supported formats. The 1750-OEM processor will support the same interfaces and formats as the 4000-OEM except BT.656, which is not currently supported on the 1750-OEM.

11 MIPI Port J8 (Cam 1)

The MIPI port provides an interface directly connecting MIPI cameras to the 4000-OEM. This port provides camera power and camera configuration through I 2C. For details on supported MIPI cameras and formats see EAN-MIPI-Cameras.

The MIPI port can also be used to connect SightLine Video Input adapter boards through the 4000-MIPI adapter board. For details on the 4000-MIPI and Video Input Boards, see ICD-OEM-Camera Side-Interfaces.

The MIPI port supported cameras and formats are the same as the 4000-OEM. See the *MIPI Port J9 (Cam 1)* section in the ICD-4000-OEM for details.

12 Questions and Additional Support

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