



SLA-2100-OEM Hardware Reference Manual

March 5, 2013

ITAR

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Overview

Document describes the SLA-2100-OEM hardware and accessories. The SLA-2100-OEM will be exactly the same length and width and have the same hole pattern as the SLA-2000-OEM.

SLA-2100-OEM

Board Summary

Dimensions	3.375" x 2.875" x 0.55"
Weight	47g
Voltage	8 – 15 VDC, 7W continuous

Table 1: SLA-2100-OEM Physical Characteristics

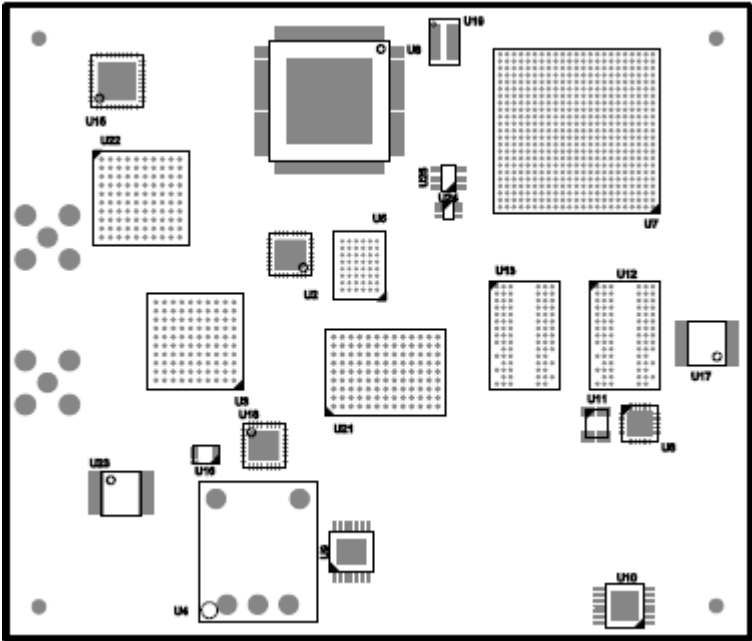


Illustration 1: SLA-2100-OEM TOP: DSP & ICs

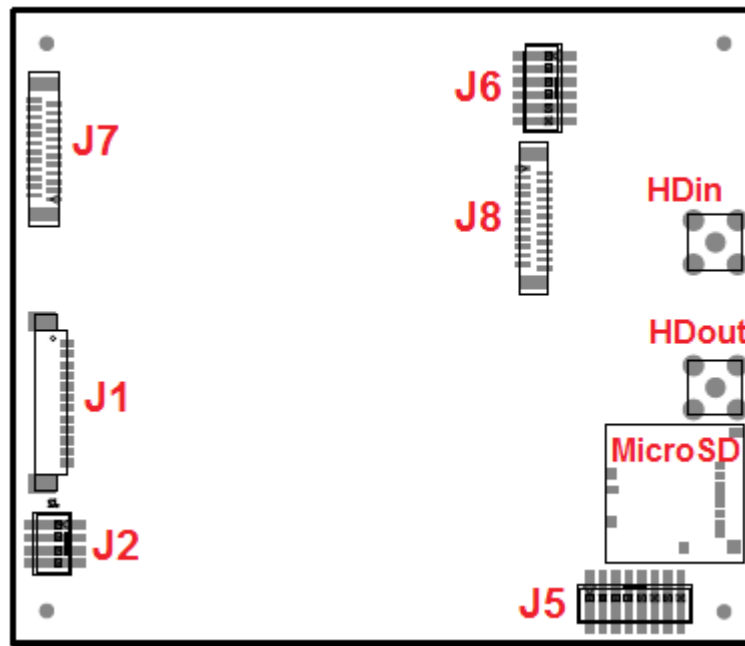


Illustration 2: SLA-2100-OEM BOTTOM. Connectors

Connector Summary

Label	Connector	Description
J1	Molex 53398-1271	DSP JTAG
J2	Molex 874370443	Ethernet
J3	SMA (5-1814832-1)	HD-SDI In
J4	SMA (5-1814832-1)	HD-SDI Out
J5	Molex 874370843	Power, Serial 1, Serial 2
J6	Molex 874370643	Analog Vin0, Vin1, Vout
J7	FPC 2-1734742-4	Digital Video In
J8	FPC 2-1734742-4	Digital Video Out
U14		Micro SD Slot

Uses Standard SMA connectors for HD-SDI

All Molex connectors are 1.50 Pico-SPOX series

LED Summary

Label	Location	Color	Function
D1	BOT	Green	PIC Power-up Initialization Complete
D2	BOT	Green	DSP Software Initialization Complete
D3	BOT	Green	3.3V Power
D4	BOT	Green	Ethernet Active

Test Point Summary

Label	Location	Purpose
TP1	BOT	I2C SDA
TP2	BOT	I2C SCL
TP3	BOT	V0CK0
TP4	BOT	VI
TP5	BOT	HI

GPIO Summary

No external GPIO available

I2C Address

Address	Part Label	Description
0x9A	U18	Dual UART RX/TX1, RX/TX2, GPIO
0x98	U2	Dual UART GPIO
0x90		Temp Sensor
0xB8, 0xB9		Quad Video Decoder
0x54, 0x55		Video Encoder

Connector J1: DSP JTAG

Connector	53398-1271
Mates with	51021-1200
SightLine Cable	SLA-CAB-T005 SLA-CAB-C1512

Connector J2: Ethernet

Connector	Molex 874370443 (4-POS)
Mates with	Molex 0874390400
SightLine Cable	SLA-CAB-D0604 (Molex to Molex) SLA-CAB-T002 (Molex to RJ45)

Pin	Description
1	TX+
2	TX-
3	RX+
4	RX-

Connector J3: HD-SDI In

Connector	SMA (5-1814832-1)
Mates with	
SightLine Cable	NA

Connector J4: HD-SDI Out

Connector	SMA (5-1814832-1)
Mates with	
SightLine Cable	NA

Connector J5: Power, Serial 1, Serial 2

POWER – 8V to 15 DC

RX & TX - 5V RS-232C Level

NOTE: Board is available in 3.3V TTL level

Connector	MOLEX 874370843 (8-POS)
Mates with	MOLEX 87439-0800
SightLine Cable	SLA-CAB-D0608 (Molex to Molex) SLA-CAB-T000 (Molex to Phoenix/2X DB9)

Pin	Description
1	Power In

2	Ground
3	TX 1
4	RX 1
5	DGND
6	TX 2
7	RX 2
8	DGND

Connector J6: Analog In, Analog Out

Connector	MOLEX 874370643 (6-POS)
Mates with	MOLEX 87439-0600
SightLine Cable	SLA-CAB-D0606 (Molex to Molex) SLA-CAB-T001 (Molex to RCA)

Pin	Description
1	Analog Video Output (Vout)
2	AGROUND
3	Analog Video Input 0 (Vin0)
4	AGROUND
5	Analog Video Input 1 (Vin1)
6	AGROUND

Connector J7: Digital Video Input

Connector	2-1734742-4
Mates with	
SightLine Cable	SLA-CAB-FC24

Video Port 2 on DSP

Pin	Description		Pin	Description	
1	DGND		13	D07	
2	CLK0		14	D08	
3	CLK1		15	D09	
4	CTL0		16	DGND	
5	CTL1		17	D12	
6	CTL2		18	D13	
7	DGND		19	D14	
8	D02		20	D15	
9	D03		21	D16	
10	D04		22	D17	
11	D05		23	D18	
12	D06		24	D19	

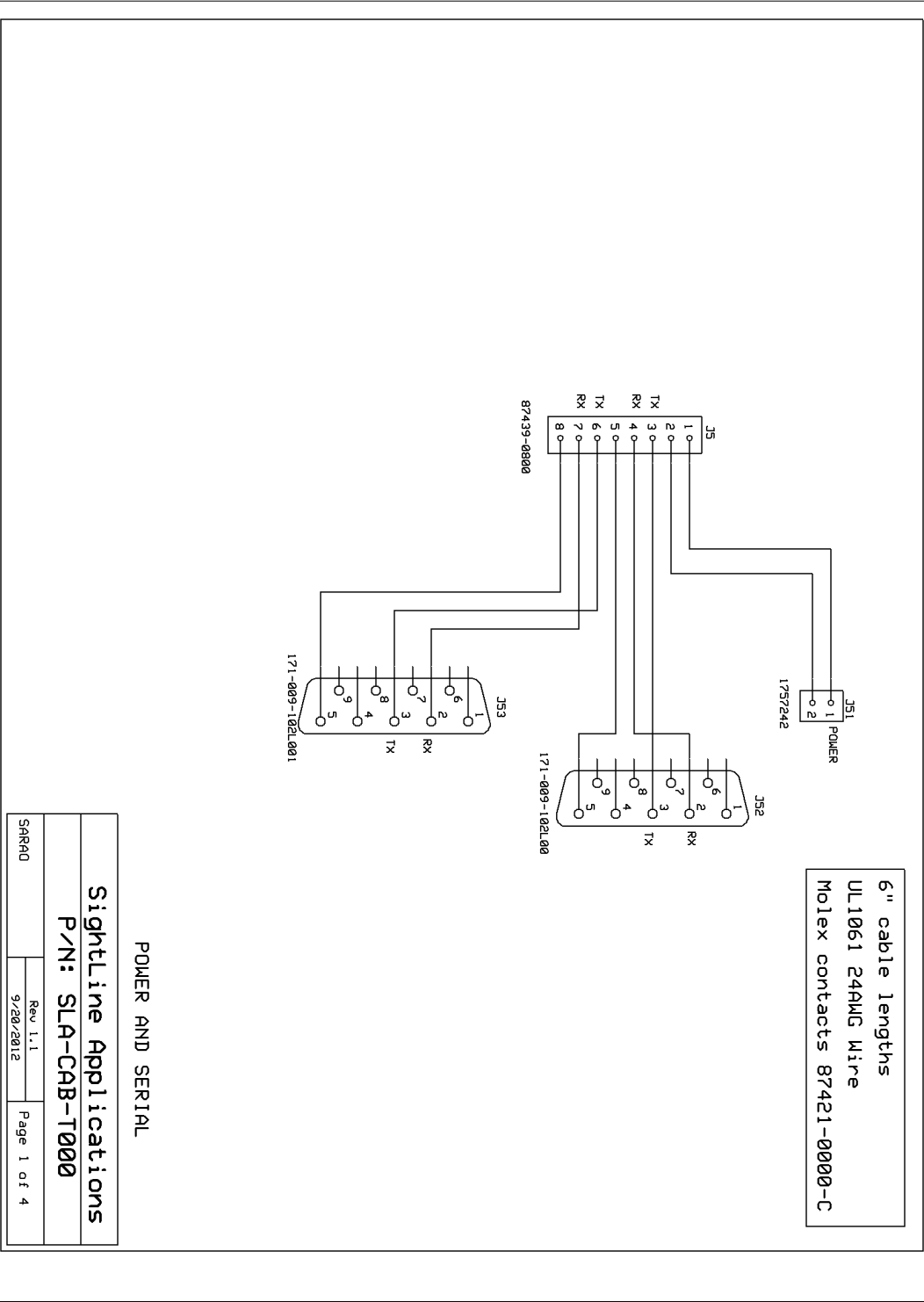
Connector J8: Digital Video Output

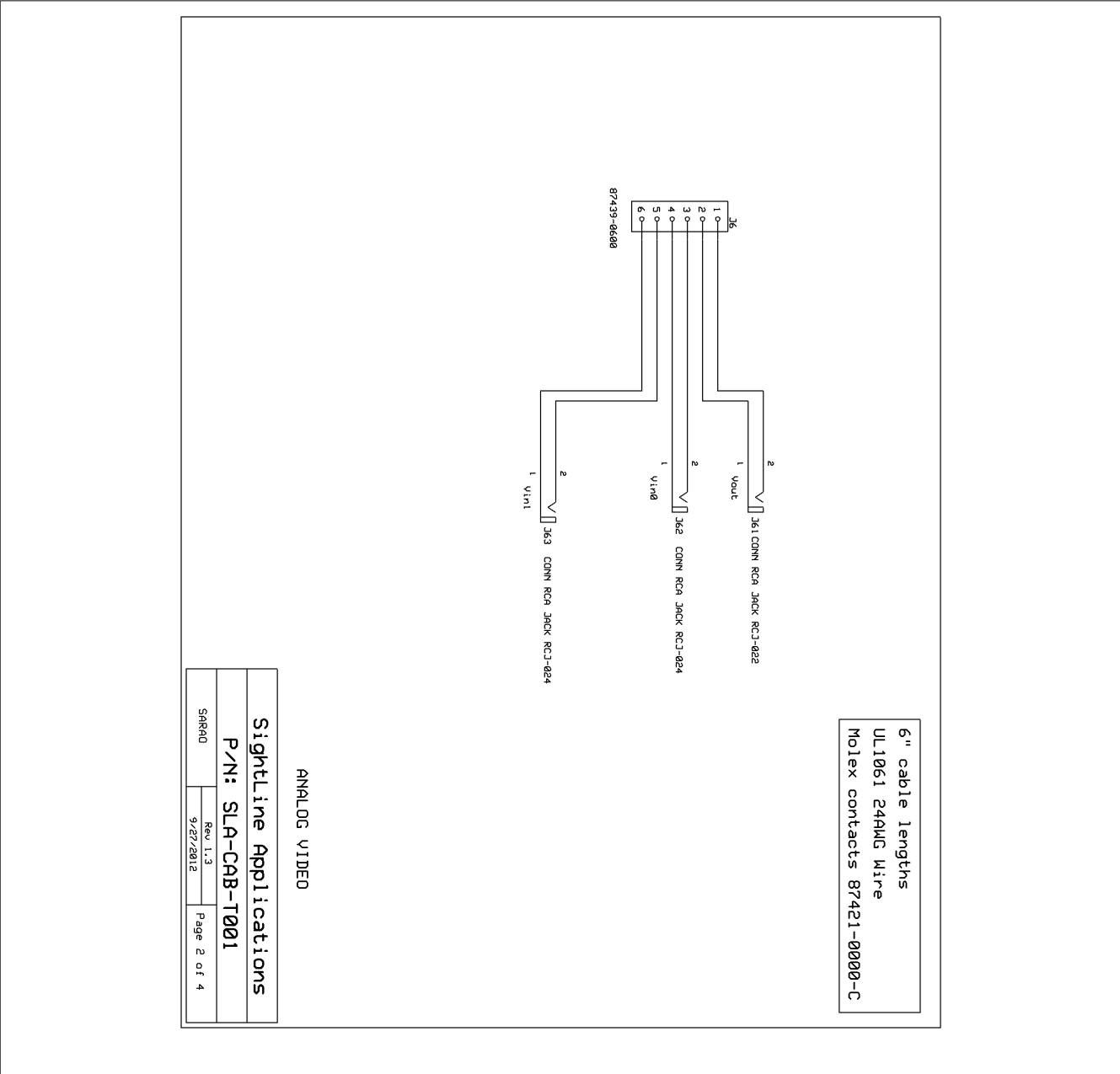
Connector	2-1734742-4
Mates with	
SightLine Cable	SLA-CAB-FC24

Video Port 0 on DSP

Pin	Description		Pin	Description	
1	DGND		13	D7	
2	CK0		14	D8	
3	CK1		15	D9	
4	HI		16	DGND	
5	VI		17	D12	
6	FI		18	D13	
7	DGND		19	D14	
8	D2		20	D15	
9	D3		21	D16	
10	D4		22	D17	
11	D5		23	D18	
12	D6		24	D19	

Sample Cable Drawings





2' 6" cable lengths (approx.)
Molex contacts 87421-0000-C

ETHERNET

SightLine Applications
P/N: SLA-CAB-T002

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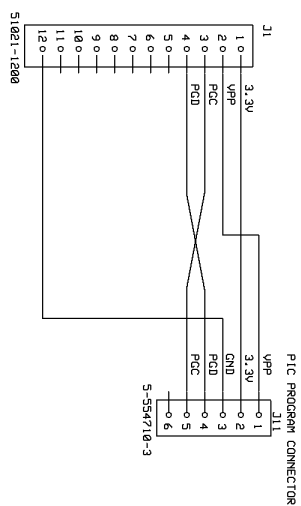
TIA/EIA-568B

87439-0400

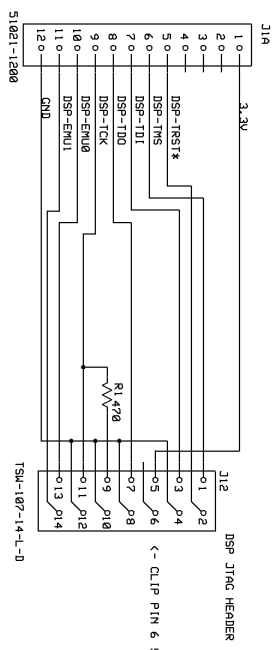
TWISTED PAIRS

TX+ TX- RX+ RX-
White-Orange Orange White-Green Green

1 2 3 4 5 6 7 8
RJ-45



6" cable lengths
26AWG wire
Molex contacts 50079-800



JTAG & PIC DEBUG

Sightline Applications

P/N: SLA-CAB-T004 & SLA-CAB-T005

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Reference History

2012-OCT-16	Updated Cable specifications Added weight
2012-AUG-22	Preliminary Document

CONTACTS

SightLine Applications, LLC
1004 EUGENE STEET
HOOD RIVER, OR 97031

SightLine Applications, LLC
2828 SW CORBETT AVE #215
PORTLAND, OR 97201

Sales sales@sightlineapplications.com
General info@sightlineapplications.com

www.sightlineapplications.com